PROJECT MANUAL

MONROE CITY SCHOOL BOARD
Martin Luther King Jr. Junior High School
Outdoor Learning Pavilions
1709 Parkview Drive
Monroe, Louisiana 71202

THE ARCHITECTURE ALLIANCE GROUP LLC

ARCHITECTURE • DESIGN/BUILD • CONSTRUCTION MANAGEMENT

Date
August 1, 2024
Architect's Project Number
12-MLKOLP24

SET NUMBER

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ADVERTISEMENT FOR BID NOTICE

Sealed Bids will be received by the Purchasing Manager at Monroe City School Board, 2006 Tower Drive, Monroe, LA 71201, or electronically by online submission at www.bidexpress.com, until 10:00 A.M., CST on Tuesday, August 27, 2024, at which time they will be publicly opened and read aloud for:

Monroe City School Board
Martin Luther King Jr. Junior High School
Outdoor Learning Pavilions
1709 Parkview Drive
Monroe, Louisiana 71202

Bid Number: **MC25-03**

Complete Bidding Documents for this project are available in electronic form and may be obtained from the Architect, Bid Express, Monroe City School Board website to all Bonafide Prime Bidders. Awarded Contractor will be responsible for reproduction costs for construction purposes of additional construction documents prints. Questions about this procedure shall be directed to the Architect at:

The Architecture Alliance Group, L.L.C. (TA2G)
2002 Auburn Avenue
Monroe, Louisiana 71201
Telephone: (318) 737-7791

The project is classified as Building Construction or Specialty. All bids must be accompanied by bid security equal to five percent (5%) of the base bid and all additive alternates and must be in the form of a certified check, cashier's check or bid bond written by a company licensed to do business in Louisiana, countersigned by a person who is under contract with the surety company or bond issuer as a licensed agent in this State and who is residing in this state. No Bid Bond indicating an obligation of less than five percent (5%) by any method is acceptable. This project will follow the Davis-Bacon Act wage rates.

The successful Bidder will be required to furnish a performance and payment bond written by a company licensed to do business in Louisiana and shall be countersigned by a person who is contracted with the surety company or bond issuer as agent of the company or issuer, and who is licensed as an insurance agent in this State, and who is residing in this State, in an amount equal to the 100% of the contract amount.
No bid may be withdrawn for a period of thirty (30) days after receipt of bids, except under the provisions of Act 111 of 1983.

A **mandatory pre-bid conference** will be August 20, 2024, at 9:00 A.M. at the MLK campus job site at the rear of school to discuss the project. Bids shall be accepted only from Prime Bidders who attend the Mandatory Pre-bid Conference. Subcontractors are welcome to attend.

The Owner reserves the right to reject any and all bids.

MONROE CITY SCHOOL BOARD

_____
President – Jennifer Haneline

ATTEST: _____
Rev. Sam Moore, III, Superintendent

8/1/24, 8/8/24, 8/15/24 (Publication Dates)

INSTRUCTIONS TO BIDDERS

ARTICLE 1

DEFINITIONS

1.1 The Bidding Documents include the following:

Notice to Bidders
Instructions to Bidders
Louisiana Public Bid Form
General Conditions of the Contract for Construction, AIA Document 201, 2017 edition
Supplementary Conditions
Contract between Owner and Contractor, AIA Document A101, 2017 edition
Bid Bond Form
Anti-Collusion Form
Deviation Form
Attestation
Equal Opportunity Form
Bid Reference Form
MCSB DJE Policies
MCSB DJEAA Policies
Davis Bacon Act (Current Addition)
Addenda issued during the bid period and acknowledged in the Bid Form.
Specifications, Divisions 1 thru 16 & dated August 1, 2024
Drawings Nos. T1.01 thru E1.02 of 12 sheets dated August 1, 2024.

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

1.21 AIA Document A101-2017; In Section 6.2 Binding Dispute Resolution; The Litigation in a court of competent jurisdiction will be the method of binding dispute resolution.

1.22 AIA Document A101-2017; The contract terms, including the date of commencement of the work, date of substantial completion, contract sum owed and additional terms have not yet been determined and therefore are not specified. The apparent low bidder that has been awarded the project after the public bid will be issued these contract terms including construction time, notice to proceed, substantial completion, and liquidated damages per the construction documents and specifications.

1.3 Addenda are written or graphic instruments issued by the Architect prior to the

openings of bids which modify or interpret the bidding documents by additions, deletions, clarifications, corrections and prior approvals.

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

1. 5 Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described as the Base, to which Work may be added for sums stated in Alternate Bids.

1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to the amount of the Base Bid if the corresponding change in project scope or materials or methods of construction described in the Bidding Documents is accepted.

1.7 A Bidder is one who submits a Bid for a prime contract with the Owner for the Work described in the proposed Contract Documents.

1.8 Sub-bidder is one who submits a bid to a Bidder for materials and/or labor for a portion of the Work.

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

ARTICLE 2

BIDDER'S REPRESENTATION

2.1 Each Bidder by making his bid represents that:

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

2.1.2 He has visited the site and has familiarized himself with the local conditions under which the Work is to be performed. This is critical due to the amount of different locations and different type of restrooms

2.1.3 His Bid is based upon the materials, systems and equipment described in the Bidding Documents as advertised and as modified by Addenda. Contractor shall not rely on any verbal instructions during bidding unless issued in written Addendum.

2.2 The Bidder must be fully qualified under any state or local licensing law for Contractors in effect at the time and at the location of the Work before

submitting his bid. In the State of Louisiana, Revised Statutes 37:2150, et seq. will be considered, if applicable. The Contractor shall be responsible for determining that all of his Sub-bidders or prospective Sub-contractors are duly licensed in accordance with law.

ARTICLE 3

BIDDING DOCUMENTS

3.1 Copies

3.1.1 Complete Bidding Documents for this project are available in electronic form. They may be obtained with charge/deposit from Monroe City School Board.

3.1.2 Complete sets of Bidding Documents shall be used in preparing bids; neither the Owner nor the Architect assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The Owner or Architect in making the Bidding Documents available on the above terms, do so only for the purpose of obtaining bids on the Work and do not confer a license or grant for any other use.

3.2 Interpretation or Correction of Bidding Documents

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

3.2.2 Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at the pre-bid conference to reach him at least ten days prior to the date for receipt of bids.

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

3.3 Substitutions

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

3.3.2 No substitution will be considered unless written request for approval has been submitted by the proposer and has been received by the Architect at least seven (7) days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final. All manufacturer's information shall be mailed or emailed. Absolutely no "faxed" information or request shall be considered.

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

3.4 Addenda

3.4.2 Addenda will be posted and made available from TA2G Architecture Firm to all plan holders.

3.4.2 Printed Copies are not available from the Architect but arrangements can be made to obtain them through most reprographic firms. Plan holders are responsible for their own reproductive costs during construction.

3.4.3 Addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening bids, excluding Saturdays, Sundays, and any other legal holidays; however, if the necessity arises to issue and addendum modifying plans and specifications within the seventy-two hour (72) period prior to the advertised time for the opening of bids, then the opening of bids shall be extended exactly one week, without the requirement of re-advertising.

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

ARTICLE 4

BIDDING PROCEDURE

4.1 Form and Style of Bids

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

4.1.2 All blanks on the bid form shall be filled in by typewriter or manually in ink.

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

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

4.1.5 Bidders are cautioned to complete all alternates should such be required in the Bid Form. Failure to submit alternate prices will render the Proposal incomplete and shall reject entire bid.

4.1.6 Bidder shall make no additional stipulation on the bid form nor qualify his bid in any other manner.

4.1.7 The Bid shall include the legal name of Bidder and statement whether Bidder is a sole proprietor, a partnership, a corporation, or any other legal entity, and the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid submitted by an agency shall have a current Power of Attorney attached certifying agent's authority to bind Bidder.

4.1.8 On any bid in excess of fifty thousand dollars ($50,000.00), the Contractor shall certify that he is licensed under R. S. 37:2l50-2l63 and show his license number on the bid above his signature of his duly authorized representative.

4.2 Bid Security

4.2.1 No bid shall be considered or accepted unless the bid is accompanied by bid security in the amount of not less than five percent (5%) of the Base Bid and all additive alternates. The bid security shall be in the form of a certified check or cashier's check drawn on a bank insured by the Federal Deposit Insurance Corporation, or a bid bond written by a surety company licensed to do business in Louisiana, countersigned by a person who is under contract with the surety company or bond issuer as a licensed agent in this state and who is residing in this state and accompanied by appropriate power of attorney and in favor of the Monroe City School Board.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded the Work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Contract Documents, within fifteen (l5) days after written notice that the

instrument is ready for his signature.

Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as penalty.

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

4.3 Submission of Bids

Bids shall be submitted to Monroe City School Board on August 27, 2024 @ 10:00 A.M.

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4.3.1 Bids shall be sealed in an opaque envelope and will be received until the time specified and at the place specified in the Notice to Bidders. It shall be the specific responsibility of the Bidder to deliver his sealed bid to Monroe City School Board. Late delivery of a bid for any reason, including late delivery by United State Mail, or express delivery shall disqualify the bid. The bid envelope shall be identified on the outside with the name of the project, and the name, address, and license number of the Bidder.

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

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

4.3.4 Oral, telephonic or telegraphic Bids or modifications to bids are invalid and will not receive consideration. Owner will not consider notations written on outside of Bid Envelope which have the effect of amending the Bid. Bids maybe received via bidexpress.com as indicated in notice to bidders advertisement.

4.4 Modification or Withdrawal of Bid

4.4.1 A bid may not be modified, withdrawn or cancelled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his Bid, except in accordance with Act 111 of 1983 which states, in part, "Bids containing patently obvious mechanical, clerical or mathematical

error may be withdrawn by the Contractor if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight hours of the bid opening excluding Saturdays, Sundays and legal holidays".

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

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

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

ARTICLE 5

CONSIDERATION OF BIDS

5.1 Opening of Bids

5.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the Base Bids and Alternates, if any, will be made available to Bidders.

5.2 Rejection of Bids

5.2.1 The Owner shall have the right to reject any or all Bids and in particular to reject a Bid not accompanied by any required bid security or data required by the Bidding Documents or a Bid in any way incomplete or irregular.

5.3 Acceptance of Bid

5.3.1 The Owner reserves the right to reject any and all bids.

5.3.2 It is the intent of the Owner, if he accepts any Alternates, to accept them in the order in which they are listed in the bid form. Determination of the low Bidder shall be on the basis of the sum of the Base Bid and the Alternates accepted. However, the Owner shall reserve the right to accept alternates in any order which does not affect determination of the low Bidder.

5.3.3 It is the intent of the Owner to award a contract to the lowest responsible Bidder in accordance with the requirements of the Bidding Documents, and if the bid does not exceed the funds available.

ARTICLE 6

POST-BID INFORMATION

6.1 Submissions

6.1.1 At the pre-construction conference, the Contractor shall submit the following information to the Architect.

6.11.1 A designation of the Work to be performed by the Contractor with his own forces.

6.1.1.2 A breakdown of the contract cost into the 16 Divisions of the C.S.I. No payments will be made to the Contractor until this is received. The proprietary names and the suppliers of principal items or systems of material and equipment proposed for the Work.

6.1.1.3 A list of names of all Subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work. This shall be required no later than three (3) business days after receipt of bids.

6.1.2 The Contractor will be required to establish to the satisfaction of the Architect and the Owner the reliability and responsibility of the proposed Subcontractors to furnish and perform the Work described in the Sections of the Specifications pertaining to such proposed Subcontractor's respective trades.

6.1.3 The Architect will notify the Contractor if either the Owner or the Architect, after due investigation, has reasonable and substantial objection to any person or organization on the Contractor's list of proposed Subcontractors. If there are objections, the Contractor shall submit alternative Subcontractor(s) for their approval.

6.1.4 Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner and the Architect must be used on the Work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner and the Architect.

ARTICLE 7

PERFORMANCE AND PAYMENT BOND

7.1 Bond required

7.11 The Contractor shall furnish and pay for a performance and payment bond written by a company licensed to do business in Louisiana in an amount equal to 100% of the Contract amount. Surety must be listed currently on the U. S. Department of Treasury Financial Management Service List (Treasury List) as approved for an amount equal to or greater than the contract amount, or must be an insurance company domiciled in Louisiana or owned by Louisiana residents. If surety is qualified other than by listing on the Treasury list, the contract amount may not exceed fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance and may not exceed the amount of $500,000. However, a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A. M. Best's Key Rating Guide shall not be subject to the $500,000 limitation, provided that the contract amount does not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide nor fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance. The Bond shall be signed by the surety's agent or attorney-in-fact and countersigned by a person who is under contract with surety as a licensed agent in this State, and who is residing in this State.

7.2 Time of Delivery and Form of Bond

7.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the Contract.

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

ARTICLE 8

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

8.1 Form to be Used

8.11 Form of the contract to be used shall be Standard Form Of Agreement Between Owner And Contractor, AIA Document A101.

8.2 Award

8.2.1 Before award of the contract, the successful bidder shall furnish to the Owner a certified copy of the minutes of the corporation or partnership meeting which authorized the party executing the bid to sign on behalf of the Contractor.

ARTICLE 9

COMPLETION TIME AND LIQUIDATED DAMAGES

9.1 The completion of the Contract must be within the time stated in this section, subject to such extensions as may be granted under Paragraph 8.3, "Delays and Extensions of Time" in the General Conditions and the Supplementary Conditions, or the Contractor will be subject to pay to the Owner Liquidated Damages in the amount as stated in this section.

If the Contractor shall neglect, fail, or refuse to complete the Work within the time specified for Substantial Completion in the Contract, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner, as liquidated damages and not as a penalty, the sum of $500.00 per day for each calendar day beyond the dates set forth in the Notice to Proceed Letter that the Contractor fails to achieve Substantial Completion for the Project. The said amount is fixed and agreed on by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the true value of the damages which the Owner will sustain by failure of the Contractor to complete the Work on time, such as loss of revenue, service charges, interest charges, delays caused to other construction activities of Owner by failure to perform this Contract, and other damages, some of which are indefinite and not susceptible of easy proof, said amount is agreed to be a reasonable estimate of the amount of damages which the Owner will sustain and said amount shall be deducted from any monies due or that may become due to the Contractor, and if said monies are insufficient to cover said damages, then the Contractor shall pay the amount of the difference.

The construction completion time is (120) One Hundred Twenty Days from the Notice to Proceed Letter.

ARTICLE 10

MANDATORY PRE-BID CONFERENCE

10.1 A mandatory pre-bid conference shall be held at the project site for general contractors / prime bidders only as described in the Notice to Bidders. The purpose of the mandatory pre-bid conference is to familiarize Bidders with the requirements of the Project and the intent of the Contract Documents, and to receive comments and information from interested Bidders.

10.2 Any revision of the Bidding Documents made as a result of the mandatory pre-bid conference shall not be valid unless included in an Addendum.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Monroe City School Board
2006 Tower Drive
Monroe, Louisiana 71201

Monroe City School Board
Martin Luther King Jr. Junior High School
Outdoor Learning Pavilions
Monroe, Louisiana 71202

BID FOR: Monroe City School Board; MC25-03

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by:
(TA2G) The Architecture Alliance Group, LLC and dated: August 1, 2024.

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

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

_____ Dollars ($ _____)

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

Alternate No. 1 Not Applicable *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 2 Not Applicable *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 3 Not Applicable *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

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

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

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

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

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

Articles, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1. THE CONTRACT DOCUMENTS

In Subparagraph 1.1.1 delete the third sentence, and add the following sentence:

The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE [REFER TO *R.S. 38:2317*]

1.5.1 Delete the first sentence of the paragraph.

1.5.1 In the third sentence: delete the remainder after the word “publication”.

ARTICLE 2

OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 Delete this paragraph.

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

ARTICLE 3

CONTRACTOR

3.4 LABOR AND MATERIALS

3.4.2 Delete this paragraph.

3.4.3 Delete this paragraph and substitute with the following:
Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner's requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner's property, as determined by the Owner, shall be removed from the Project at the Owner's request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner's property pursuant to this paragraph. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

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

3.7.1 Delete Subparagraph 3.7.1

3.7.2 In paragraph 3.7.2, replace the word "public" with the word "Owner".

Delete Subparagraph 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to L.R.S. 8:671 et seq., R.S. 49:213.1 et seq., and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

3.8 ALLOWANCES

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

3.8.1 Allowances shall not be made on any of the Work unless indicated on construction documents and specifications.

3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph: Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.10.1 Add the following: For projects with a contract sum greater than $1,000,000.00, the Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e. where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment will be made until this schedule is received.

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

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

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

3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

ARTICLE 4

ARCHITECT

4.1 GENERAL

Delete Subparagraph 4.1.1 and substitute the following:

4.1.1 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

4.1.3 Delete the words: "as to whom the Contractor has no reasonable objection and"

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 In the first sentence, delete the phrase: "the date the Architect issues the final Certificate for Payment" and replace with the phrase "final payment is due, and with the Owner's concurrence, from time to time during the one year period for correction of Work described in Section 12.2."

4.2.2 In the first sentence, after the phrase: "become generally familiar with"; insert the following: "and to keep the Owner informed about."

In the first sentence, after the phrase "portion of the Work completed", insert the following: "to endeavor to guard the Owner against defects and deficiencies in the Work,"

4.2.10 Add the following sentence to the end of Subsection 4.2.10:

There will be no restriction on the Owner having a Representative.

4.2.11 Add the following sentence to the end of Subsection 4.2.11:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

4.2.14 Insert the following sentence between the second and third sentences of Subsection 4.2.14:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

ARTICLE 5

SUBCONTRACTORS

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

Delete Subparagraph 5.2.1, and substitute the following:

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

Delete Subparagraph 5.2.2 and substitute the following:

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

Delete Subparagraph 5.2.3 and 5.2.4 and add the following:

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

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Subparagraphs 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7

CHANGES IN THE WORK

7.1 GENERAL

Add the following paragraph:

7.1.4 As part of the pre-construction conference submittals, the contractor is to submit the following prior to the commencement of Work:

Fixed job site overhead cost itemized with documentation to support daily rates. Bond Premium Rate with supporting information from the General Contractor's carrier. Labor Burden by trade for both Subcontractors and General Contractor. Internal Rate Charges for all significant company owned equipment.

Failure to submit this information as part of the pre-construction submittals shall prohibit the Contractor from claiming these items as costs on any change order issued on the project.

7.2 CHANGE ORDERS

Delete Subparagraph clause 7.2.1, and substitute the following paragraphs:

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

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

7.2.2.1 Wages paid direct labor personnel, delineating a labor burden markup for applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes.

7.2.2.2 Cost of all materials and supplies, including the identification of each item and its cost including taxes.

7.2.2.3 Identify each necessary piece of machinery and equipment and its individual cost including taxes.

7.2.2.4 Increases in insurance premiums for those forms of insurance required by Article 11 of these Supplementary Conditions and only for those forms.

7.2.2.5 Bond costs.

Credit will not be required for Overhead and Profit.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due job-site and home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 25% of the direct cost of any portion of Work:

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, except credit will not be required for Overhead and Profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit will only be computed on the net extra cost to the Contractor.

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

7.2.4.1 When all of the Work is General Contract Work; 15% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 15% markup on the Cost of the Work for Subcontractor's Overhead and Profit, plus 10% markup on the Cost of the Work, not including the Subcontractor's Overhead and Profit markup, for General Contractor's Overhead and Profit.

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

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

7.2.4.4 Subcontract cost shall consist of the items in 7.2.2 above plus Overhead and Profit as defined in 7.2.4.

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

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

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

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

7.2.7 The Contractor will be due extended fixed job-site overhead for time delays only when complete stoppage of Work occurs causing a contract completion extension, and the Contractor is unable to mitigate financial damages through replacement Work. The stoppage must be due to acts or omissions solely attributable to the Owner. In all cases the Contractor is to notify the Architect in writing as required by Article 15.1.2. Reasonable proof may be required by the architect that alternate Work could not be performed. Reasonable proof may be required by the Architect that the stoppage affected the Completion Date.

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

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

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

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

Cost of supervision not specifically required by the Change Order.

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

7.3 CONSTRUCTION CHANGE DIRECTIVES

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

7.3.7 Delete the following from .1 of the list: "fringe benefits required by agreement or custom,"

Delete the following from .4 of the list: "permit fees,"

Delete the following from .5 of the list: "and field office personnel"

7.3.9 Delete Subparagraph 7.3.9 and substitute the following:

Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs.

ARTICLE 8

TIME

8.1 DEFINITIONS

Add the following:

8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

8.2 PROGRESS AND COMPLETION

Add to Subparagraph 8.2.1 the following:

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

Delete Subparagraph 8.2.2

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 In the first sentence after the words Owner pending delete the words: "mediation and arbitration" and add the word: "litigation" and delete the last word: "determine" and add the following: "recommend, subject to Owner's approval of Change Order. If the claim is not made within the limits of Article 15, all right for future claims for that month are waived."

ARTICLE 9

PAYMENTS AND COMPLETION

9.2 SCHEDULE OF VALUES

Delete Subparagraph 9.2 and substitute the following:

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

9.2.1 The attached Schedule of Values Format shall be used. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.

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

9.3 APPLICATIONS FOR PAYMENT

Delete Subparagraph 9.3.1 and clause 9.3.1.1 and 9.3.1.2 and substitute the following:

9.3.1 Monthly, the Contractor shall submit to the Architect an Application & Certificate for Payment on the AIA Document G702-1992, accompanied by AIA Document G703-1992, and supported by any additional data substantiating the Contractor's right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials,

suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per R.S. 38:2248:

9.3.1.1 Projects with Contract price up to $500,000.00 – 10% of the Contract price.

9.3.1.2 Projects with Contract price of $500,000.00, or more – 5% of the Contract price.

9.3.1.3 No payment will be made until the revised schedule required by Section 3.10.1 is received.

The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety and invoice for retainage.

Delete Subparagraph 9.3.2 and substitute the following:

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

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Subparagraph 9.5.1.7: Delete the word "repeated".

Delete Subparagraph 9.5.3

9.6 PROGRESS PAYMENTS

Delete Subparagraph 9.6.1 and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within twenty days.

9.6.2 Delete the phrase: "no later than seven days" from the first sentence.

After the end of the second sentence, add the following:

R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of

1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty.

9.6.4 Delete the first two sentences of Subparagraph 9.6.4 and add the following to the end of the Subparagraph:

Pursuant to La. R.S. 38:2242, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder of mortgages of the parish where the Work has been done. When the Owner receives original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum.

9.7 FAILURE OF PAYMENT

Delete Subparagraph 9.7

9.8 SUBSTANTIAL COMPLETION: Delete this section and substitute the following:

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the project is substantially complete in accordance with this Subparagraph.

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

9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Contractor has executed the entire school restroom renovations. The entire school will be required to be complete for final substantial. Prior to inspection by the Architect, the Contractor shall notify the Architect that the project is ready for inspection by the State Fire Marshal's office or roofing manufacturer inspector. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the

Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

9.8.4 When the Architect determines that the project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the 45 day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Letter for Recommendation of Acceptance incorporating the punch list and submit it to the Owner. Upon approval of the Letter for Recommendation of Acceptance by Owner, the Architect will issue a Substantial Completion of the Building Contract which shall establish the Date of Substantial Completion. The Contractor will record the Substantial Completion with the Clerk of Court in the Parish in which the Work has been performed. If the Substantial Completion has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor's expense. All additive change orders must be processed before issuance of the Substantial Completion. The Owner will not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Substantial Completion.

9.8.6 Warranties required by the Contract Documents shall commence on the date of the Substantial Completion of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner's responsibility on the Date of Substantial Completion.

9.8.7 If all punch list items have not been completed by the end of the thirty (30) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not completed

the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1 Delete paragraph and substitute the following:

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

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 After the first sentence, add the following:

If the Architect does not find the Work acceptable under the Contract Documents, the Architect shall make one additional inspection; if the Work is still not acceptable, the Architect, and each of the Architect's principal consultants, shall be paid $175.00/hour for their time at the project site, for each additional inspection, to be withheld from the unpaid funds remaining in the Contract sum. The payment shall be made by the Owner and deducted from the construction contract funds.

9.10.4 Replace with the following:

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

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

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

9.10.4.3 Terms of special warranties required by the Contract Documents.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

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

10.3 HAZARDOUS MATERIALS

10.3.1 In the first sentence after (PCB) add: "or lead"

10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: "The Contract time shall be extended appropriately."

10.4 EMERGENCIES

Delete Subparagraph 10.4 and substitute the following:

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

ARTICLE 11

INSURANCE AND BONDS

Delete all of Paragraphs 11.1, 11.2 and 11.3 and substitute the following:

INSURANCE REQUIREMENTS FOR NEW CONSTRUCTION, ADDITIONS AND RENOVATIONS

11.1 The Contractor shall purchase and maintain without interruption for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

The following insurance policies shall name the owner as an additional insured.

11.2 MINIMUM SCOPE AND LIMITS OF INSURANCE

11.2.1 Worker's Compensation

Worker's Compensation insurance shall be in compliance with the Worker's Compensation law of the State of Louisiana. Employers Liability is included with a minimum limit of $500,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of $1,000,000. A.M. Best's A+ insurance company rating requirement may be waived for Worker's compensation coverage only.

11.2.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

The aggregate loss limit must apply to each project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

Type of Construction	Projects up to $1,000,000	Projects over $1,000,000 up to $10,000,000	Projects over $10,000,000
New Buildings:			
Each Occurrence Minimum Limit	$1,000,000	$2,000,000	$4,000,000

Per Project Aggregate	$2,000,000	$4,000,000	$8,000,000

Renovations: The building(s) value for the Project provided by Owner.

Each Occurrence Minimum Limit	$1,000,000**	$2,000,000**	$4,000,000**
Per Project Aggregate	2 times per occur limit**	2 times per occur limit**	2 times per occur limit**

**While the minimum Combined Single Limit of $1,000,000 is required for any renovation, the limit is calculated by taking 10% of the building value and rounding it to the nearest $1,000,000 to get the insurance limit. Example: Renovation on a $33,000,000 building would have a calculated $3,000,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to $3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is $10,000,000 regardless of building value. The per project aggregate limit is then calculated as twice the per occurrence limit.

11.2.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

11.2.5 Builder's Risk

The General Contractor is to provide Builders' Risk Insurance to protect the Owner, Contractor, and their Subcontractors as their interest may appear. The policy is subject to $1000 deductible per claim for loss or damage which deductible will be paid by the Contractor.

Builder's Risk Insurance shall be in an amount equal to the greater of the fully-completed project value or the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad

Form Causes of Loss (extended, if necessary, to include the perils of wind, earthquake, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects' and engineers' fees necessary to provide plans, specifications and supervision of Work for the repair and/or replacement of property damage caused by a covered peril, not to exceed 10% of the cost of the repair and/or replacement.

Provide a copy of this policy to Owner for their files.

11.3 OTHER INSURANCE PROVISIONS

11.3.1 The policies are to contain, or be endorsed to contain, the following provisions:

11.3.1.1 Worker's Compensation and Employers Liability Coverage

11.3.1.1.1 The insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

11.3.1.2 General Liability Coverage

11.3.1.2.1 The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (current form approved for use in Louisiana), or equivalent, is to be used.

11.3.1.2.2 The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance.

11.3.1.2.3 The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.

11.3.1.3 Builder's Risk

The policy must include an endorsement providing the following:
In the event of a disagreement regarding a loss covered by this policy which may also be covered by an Owner' self-insurance or commercial property policy, Contractor and its insurer agree to follow the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make written demand for an appraisal of the matter in disagreement. Within 20 days of receipt of written demand, the Contractor's insurer and either ORM or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers will select a competent and impartial umpire. The appraisers will then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of the loss that must be borne by each policy. If the two appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of the loss. Each insurance company agrees that the decision of the appraisers and the umpire if involved will be binding and final and that neither party will resort to litigation. Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

11.3.1.4 All Coverages

11.3.1.4.1 Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Owner. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.

11.3.1.4.2 Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

11.3.1.4.3 The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

11.3.1.4.4 Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

11.3.2 ACCEPTABILITY OF INSURERS

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best's rating of A+:VI or higher. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M.

Best rating and shall submit another certificate of insurance as required in the contract.

11.3.3 VERIFICATION OF COVERAGE

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Owner before Work commences and upon any contract renewal thereafter. The Certificate Holder must be listed as follows:

Name of Owner
Owner Address
City, State, Zip
Attn: Project # _____

In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision endorsement for each insurance policy. The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Owner, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

11.3.4 SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

11.3.5 WORKER'S COMPENSATION INDEMNITY

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees will have no cause of action against, and will not assert a claim against, the Owner, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the Owner, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the Owner, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

11.3.6 INDEMNIFICATION/HOLD HARMLESS AGREEMENT

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the Owner, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the Owner, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

11.4 PERFORMANCE AND PAYMENT BOND

Add the following Subparagraph 11.4.3:

11.4.3 RECORDATION OF CONTRACT AND BOND [38:2241A(2)]

The Contractor shall record within thirty (30) days the Contract Between Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed.

ARTICLE 12

UNCOVERING AND CORRECTION OF WORK

12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

12.2.2 AFTER SUBSTANTIAL COMPLETION

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences: If the Contractor fails to correct nonconforming Work within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety.

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences: If the Contractor fails to correct Work covered by warranties within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the warranty Work within the stipulated time period and

fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety.

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Delete all after the word “located”.

13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete “Except as … 13.2.2”

Delete paragraph 13.2.2

13.4 RIGHTS AND REMEDIES

Add the following clause 13.4.3

13.4.3 The Fourth Judicial Court in and for the Parish of Ouachita, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

13.5 TESTS AND INSPECTIONS

In Subparagraph 13.5.1, delete the second sentence and substitute the following:

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

Delete the last sentence of Subparagraph 13.5.1

13.6 INTEREST

Delete Paragraph 13.6

13.7 TIME LIMITS ON CLAIMS

Delete Paragraph 13.7 (See L.R.S. 38:2189).

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete clause 14.1.1.4

In Subparagraph 14.1.3, after the word "profit" add the following: "for Work completed prior to stoppage".

14.2 TERMINATION BY THE OWNER FOR CAUSE

Add the following clause:

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

14.2.3 Add the following sentence:

Termination by the Owner shall not suspend assessment of liquidated damages against the Surety.

14.2.5 Add the following Subparagraph:

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

ARTICLE 15

CLAIMS AND DISPUTES

15.1 CLAIMS

In the first sentence of Subparagraph 15.1.1, after the word "money", add the phrase: "extension of time,"

15.1.2 Add the following to the end of the paragraph: A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.

15.1.3 In the second sentence of the Subparagraph, delete "the decisions of the Initial Decision Maker" and replace with: "his/her decision".

Delete Paragraph 15.1.5.2 and substitute the following:

If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within twenty-one (21) days from the last day of the month shall prohibit any future claims for adverse days for that month.

15.1.5.3 Add the following Subparagraph:

The following are considered reasonably anticipated days of adverse weather on a monthly basis:

January	11 days	July	6 days
February	10 days	August	5 days
March	8 days	September	4 days
April	7 days	October	3 days
May	5 days	November	5 days
June	6 days	December	8 days

The Contractor shall ask for total adverse weather days. The Contractor must ask the same month of adverse weather days with his application of payment. Any other days will not be accepted. The Contractor's request shall be considered only for days over the allowable number of days stated above.

Note: Contract is on a calendar day basis.

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word "will" and replace with: "shall always".

In the second sentence, delete the phrase: "unless otherwise indicated in the Agreement."

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

In the third sentence, delete: "unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered."

15.2.5 In the middle of the first sentence, delete all after the phrase: "rejecting the Claim".

In the second sentence, delete the phrase: "and the Architect, if the Architect is not serving as the Initial Decision Maker."

In the third sentence, delete all after: "binding on the parties" and add the following: "except that the Owner may reject the solution or suggest a compromise or both."

15.2.6 Delete Paragraph.

Delete Subparagraph 15.2.6.1

15.3 MEDIATION

Delete Article 15.3

15.4 ARBITRATION

Delete Article 15.4

15.5 EQUAL OPPORTUNITY (Add this Section)

15.5.1 The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contract shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

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

BID BOND
FOR

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

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

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

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

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

_____

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

_____ _____

PRINCIPAL (BIDDER) SURETY

BY: _____ BY:_____

AUTHORIZED OFFICER-OWNER-PARTNER AGENT OR ATTORNEY-IN-FACT(SEAL)

ANTI-COLLUSION CERTIFICATION

The bidder certifies that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same product and that this bid is in all respects bona fide, fair and not the result of any act of fraud or collusion with another person or firm engaged in the same line of business or commerce. The bidder understands collusive bidding is a violation of Federal Law and that any false statement hereunder constitutes a felony and can result in fines, imprisonment, as well as civil damages. The bidder also understands that failure to sign this statement will make the bid non-responsive and unqualified for award.

_____ _____

(Signature) (Date)

_____

(Name of Company)

_____ _____

(Notary) (My term expires)

DEVIATION FORM

If the undersigned Bidder intends to deviate from the specifications set forth by utilizing any difference materials, items, treatments, finishes, tailoring details, under construction, etc., contrary to those listed as standards in the specifications, then the Bidder must list all deviations on this form. In the event that there are no deviations, then the Bidder shall enter NO DEVIATIONS on this form. The Bidder then assures the Buyer of their full compliance with the specifications and conditions set forth.

FAILURE TO LIST SUCH DEVIATION, IN DETAIL, WILL RESULT IN DISQUALIFICATION OF THE BIDDER.

Approved _____ Disapproved _____

Submitted for Consideration _____

Bidder _____
(Print Name)

Bidder's Signature _____

ATTESTATIONS

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

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

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

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:23)

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

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

LA. R.S. 38:2212.10 Verification of Employees

C. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.

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

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

_____

NAME OF BIDDER NAME OF AUTHORIZED SIGNATORY OF BIDDER

_____

_

DATE TITLE OF AUTHORIZED SIGNATORY OF BIDDER

_____

SIGNATURE OF AUTHORIZED
SIGNATORY OF BIDDER

EQUAL OPPORTUNITY AND ASSURANCE STATEMENT

PROJECT: _____

Contractor agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1972, and Designer agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Contractor agrees not to discriminate in its employment practices and will render services under this contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, disabilities.

_____
Contractor Name

_____ _____
Signature Date

_____
Title

MONROE CITY SCHOOL BOARD
BIDDER/CONTRACTOR REFERENCES

References

List below three current/past customers and local governmental entities for whom you have provided equivalent goods/services:

Company Name: _____

Contact Person: _____ Title: _____

Telephone: _____ Fax: _____

Project Description: _____

Date of Project: ____/____/____ Project Value: _____

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Company Name: _____

Contact Person: _____ Title: _____

Telephone: _____ Fax: _____

Project Description: _____

Date of Project: ____/____/____ Project Value: _____

==========

Company Name: _____

Contact Person: _____ Title: _____

Telephone: _____ Fax: _____

Project Description: _____

Date of Project: ____/____/____ Project Value: _____

"General Decision Number: LA20240042 01/05/2024

Superseded General Decision Number: LA20230042

State: Louisiana

Construction Type: Building

County: Ouachita County in Louisiana.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

|_____|_____|

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 01/05/2024

ASBE0053-001 09/04/2023

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 31.54	9.74

ELEC0446-008 09/01/2023

	Rates	Fringes
ELECTRICIAN	$ 27.65	1.25%+13.18

ELEV0079-002 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC	$ 47.97	37.335+a+b

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday After Thanksgiving Day and Christmas Day.

b. VACATION: 6% for under 5 years based on regular hourly rate for all hours worked.
8% for over 5 years based on regular hourly rate for all hours worked.

ENGI0406-002 07/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Crane)	$ 23.46	8.35

CRANE PREMIUMS:
50-150 Tons $1.75
Over 150 Tons $2.25

IRON0623-021 01/01/2023

	Rates	Fringes
IRONWORKER (REINFORCING AND STRUCTURAL)	$ 33.25	12.22

PAIN1244-011 12/01/2021

	Rates	Fringes
PAINTER (Spray)	$ 18.83	9.48

PLUM0060-003 06/05/2023

	Rates	Fringes
PIPEFITTER	$ 31.70	13.85

ROOF0317-001 12/01/2022

	Rates	Fringes
ROOFER	$ 23.04	9.34

SHEE0214-013 09/01/2017

	Rates	Fringes
SHEET METAL WORKER (Excluding HVAC Duct Installation)	$ 26.19	14.19

SULA2012-027 09/22/2014

	Rates	Fringes

BRICKLAYER.....$ 20.00 0.00

CARPENTER.....$ 16.31 ** 0.52

CEMENT MASON/CONCRETE FINISHER...$ 15.59 ** 0.00

LABORER: Common or General.....$ 12.37 ** 0.00

LABORER: Mason Tender - Brick...$ 12.17 ** 0.00

OPERATOR:
Backhoe/Excavator/Trackhoe.....$ 19.33 2.09

PAINTER (Brush and Roller).....$ 18.30 8.91

PLUMBER.....$ 23.72 8.30

SHEET METAL WORKER (HVAC Duct
Installation Only).....$ 19.83 0.00

TILE SETTER.....$ 20.00 0.00

TRUCK DRIVER: Dump Truck.....$ 17.26 0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their

own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing

this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

SECTION 01010 - SUMMARY OF WORK

PART ONE - GENERAL

WORK COVERED BY CONTRACT DOCUMENTS

The work of this Contract comprises the furnishing of all labor, materials, services, equipment, appliances, taxes and insurance required in conjunction with, or properly incidental to, the construction:

MONROE CITY SCHOOL BOARD
MCSB Martin Luther King Jr. Junior High School
Outdoor Learning Pavilions
1709 Parkview Drive
Monroe, Louisiana 71202

Including but not limited to:

Temporary construction, furnishing and connections of utilities, construction of pavements, sidewalks, site drainage, general construction, electrical and mechanical, all in strict accordance with Construction Documents prepared by The Architecture Alliance Group, LLC, 2002 Auburn Avenue, Monroe, Louisiana 71202.

CONTRACT

One (1) Contract will be awarded.

The project is TAX EXEMPT. All questions shall be directed to Owner, Monroe City School Board.

Provide must follow the Davis Bacon Act Wages for Ouachita Parish.

CONTRACTORS USE OF PREMISES

Use of site is exclusive and complete for execution of work as shown and designated on drawings and specified.

The Contractor shall confine his operations and be responsible for all activities within these areas described above.

The Contractor will be required to go outside the Property Lines for work connected with the entrances, exits, and utilities.

Take precautions to protect all existing items shown on the drawings.

Do not unreasonably encumber site with materials and equipment.

The Contractor shall take full responsibility for protection and safekeeping of his materials and equipment stored at site.

The General Contractor shall have the full authority and right to fence, or otherwise secure around areas of new construction for purposes of providing the necessary safety and material security during the entire contract period. Access to aforementioned fenced area shall be by the Contractor's authorized personnel only and the Contractor shall have the right to deny access by unauthorized personnel and to provide watchman for enforcement of same.

PART TWO - PRODUCTS

MATERIALS AND PRODUCTS

All materials and products shall be new and free from defects. Only the materials and products specified in the contract Documents, Addenda or Change Order will be accepted on the job. SEE SECTION 01600 - MATERIALS AND EQUIPMENT.

PART THREE - EXECUTION

COMPLETION TIME

Contractor shall furnish sufficient forces, construction plant and equipment, and work such hours, including weekends and night shifts as may be necessary to insure completion of work in accordance with Construction Schedule. The project construction time is (210) Two Hundred Ten Days as described in the Instruction to Bidders.

Liquidated damages clause in Instruction to Bidders.

PROJECT COORDINATION

Contractor shall staff job with Project Manager qualified to perform construction scheduling, shop drawings, orderings materials and their timely delivery. Coordinate Construction Operations included in various sections of the specifications to assure efficient and orderly installation of each part of the work. Coordinate Construction Operations included under different sections that depend on each other for proper installation, connection, and operation. Project manager assigned to the job shall not be disassociated with the project without the consent of Owner and Architect.

Contractor shall submit and furnish an updated Construction Schedule at each monthly meeting. Contractor's Application for Payment shall be withheld until contractor has

submitted an updated schedule.

CONSTRUCTION SUPERVISION

Contractor shall staff job on-site with full time job Superintendent qualified to perform all job site coordination. The Job Superintendent shall remain at the job site the full duration of the project until all Punch List items are complete. Job Site Superintendent shall not be removed from the site without the consent of the Owner and Architect.

EXECUTION

All work and inspections of fire alarm, fire suppression, automatic sprinkler and fire extinguishing systems or portable fire extinguishers shall be performed by a State of Louisiana certified agent.

The contractor shall notify the District Office for inspection of all completed fire and/or smoke barrier walls before any construction is installed that would conceal such construction and prevent a proper inspection. Access to random selected areas may be required by the inspector at time of final inspection if this notification is not given.

Provide detailed instructive cut sheets of the fire penetration sealing system used to the inspector at time of inspection. Random selective sampling by the Contractor will be observed by the inspector.

QUALITY OF WORKMANSHIP

Contractor shall perform work with craftsman knowledgeable and capable of delivering a quality built structure. All surfaces shall be erected true, straight, plumb and level. Any surface found to be unsuitable shall be corrected at Contractor's expense.

END OF SECTION 01010

SECTION 01025 – ALLOWANCES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements governing Contract allowances.

1 Allowances as set forth in the Specifications are to be used as compensation for items as set forth in this Section. The amounts listed in the schedule and/or Specifications are to be included in the base bid and shall be listed separately in the Schedule of Values and Application for Payment.

1.02 RELATED SECTIONS

A. A201 – General Conditions

1.03 ALLOWANCES

A. Use the allowances only as authorized for construction purposes and only by an approved schedule of values form that indicate the amounts to be charged to the respective allowance amount.

B. The allowance amount includes the Contractor and Subcontractor material, shipping, delivery, installation, profit, overhead and markup.

1.04 ALLOWANCE DISBURSEMENT

A. CONTRACTOR shall submit a request for allowance disbursement on a pay request line items schedule of values. Include all substantiating and/or required data along with the request.

B. ALLOWANCES – IF SCHEDULED

C. CONTINGENCY ALLOWANCES

Use the contingency allowance only as directed for the Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

The Contractor's related costs for products and equipment ordered by the Owner under the contingency allowance, are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

Change Orders authorizing use of funds from the contingency will include Contractor's related costs and reasonable overhead and profit margins.

At Project closeout, credit unused amounts remaining in the contingency allowance to the Owner will be issued by Change Order.

PART 2 - PRODUCTS - (Not Applicable)

PART 3 - EXECUTION

3.01 SCHEDULE OF ALLOWANCES

Examine products covered by an allowance promptly upon delivery for damage or defects.

PREPARATION

Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

SCHEDULE OF ALLOWANCES

Allowance No. 1: Include a contingency allowance of $50,000.00 for use according to the Owner's instructions. The total allowance to be used is $50,000.00 that should be included in the base bid. If allowance is not used, it will be credited to owner thru a change order.

END OF SECTION 01025

SECTION 01200 - PROJECT MEETINGS

PART ONE - GENERAL

RELATED WORK SPECIFIED ELSEWHERE

Bidding requirements, general conditions of the contract, supplementary conditions, pertinent portions of sections in Division 1 of the Project Specifications and the drawings shall apply to the work of this Section.

WORK INCLUDED

Attendance by General Contractor and Subcontractors all listed conferences and meeting schedule by the Owner or Architect and all other concerned parties to coordinate work efforts and/or circumvent or solve any potential problems.

PRE-CONSTRUCTION CONFERENCE

After notification that the Contract has been executed, the Architect shall arrange with the Owner, School Staff and Contractor and conduct a pre-construction conference to be held at the project site. The Contractor shall be responsible to see that his principal subcontractors are in attendance and shall furnish to the Architect, Owner and User Agency:

1. The Schedule of Values
2. List of subcontractors and material suppliers
3. The construction schedule.

MONTHLY MEETING

The Contractor, principal subcontractors, and material suppliers shall meet with representatives of the Owner, School Staff and the Architect at the building site or at some other designated meeting place on campus monthly or as necessary to maintain an optimum degree of communication between all parties. Contractor shall submit and furnish an updated Construction Schedule at each monthly meeting. Contractor's Application for Payment shall be withheld until contractor has submitted updated schedule.

PART TWO – PRODUCTS; N/A

PART THREE – EXECUTION; N/A

END OF SECTION 01200

SECTION 01340 - SUBMITTALS & SHOP DRAWINGS

PART ONE - GENERAL

RELATED WORK SPECIFIED ELSEWHERE

Bidding and/or Negotiation Requirements, General Conditions of the Contract, Supplementary Conditions, pertinent portions of sections in Division 1 of the Project Specifications and the Drawings shall apply to the Work of this Section.

WORK INCLUDED

Submit Subcontractor Information Data, Shop Drawings, Product Data, Samples and Schedule of Values as required by Contract Documents in accordance with requirements specified herein.

SUBCONTRACTOR INFORMATION DATA

SCOPE: Furnish "Subcontractor Information Data" found under General Contractor Documents, as printed in these Specifications, within 48 hours of Bid Date.

SHOP DRAWINGS

Where Shop Drawings are required for submittal under individual sections, drawings shall be submitted and presented in clear and thorough manner as follows:

A. Drawings: Provide Shop Drawings with all information required in accordance with submittal requirements found under individual sections of Project Manual Specifications.
B. Details: Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.
C. Required Number: One (1) set in reproducible form (sepias) and four (4) sets of prints.

Architect will mark any corrections and comments on reproducible sepia and return mark up sepia and one (1) copy of prints to the contractors.

If directed, submit one (1) set of correct Shop Drawings in reproducible form (sepias).

Note: Begin no fabrication or work which requires submittals until the architect checks submittals and shop drawings for compliance with design requirements.

PRODUCT DATA

Where Product Data, brochures, descriptive literature, color charts, etc. are required for submittal under individual sections, submit as follows:

A. Preparation:
   1. Clearly mark each copy to identify pertinent products or models.
   2. Show performance characteristics and capacities.
   3. Show dimensions and clearances required.
   4. Show wiring or piping diagrams and controls.

B. Required Number: Submit six (6) copies.

SAMPLES

Where samples are required for submittal under individual sections, submit as follows:

A. Office Samples: Samples shall be of sufficient size and quantity to clearly illustrate.
   1. Functional characteristics of product, with integrally related parts and attachment devices.
   2. Full range of color, texture and pattern.

B. Required Number: Submit three (3) copies.

SUBMISSION REQUIREMENTS

Make Submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in Work.

Submittals shall contain the following information:

A. Date of submission and dates of any previous submissions.
B. Project Title and Architect's Commission Number.
C. Names of:
   1. Contractor
   2. Supplier
   3. Manufacturer
D. Identification of product by Project Manual Specification section number.
E. Field dimensions, clearly identified as such.
F. Applicable standards, such as A.S.T.M.
G. Identification of deviations from Contract Documents.
H. Contractor’s stamped, signed and dated as to his review and approval.
   (NOTE: Architect shall not review shop drawings until Contractor has made his review and approval.)

RESUBMISSION REQUIREMENTS

Make any corrections or changes in submittals required by Architect and resubmit until approved. Resubmission requirements are same as notes above for submissions with following addition requirements:

A. Shop Drawings and Product Data:
   1. Revise initial changes or data, and resubmit.
   2. Indicate any revisions on resubmittals.
   3. Indicate any changes which have been made other than those requested by Architect.

B. Samples: Submit new samples as required for initial submittal.

ARCHITECT DUTIES

Architect shall check submittals and shop drawings for "compliance with design requirements" only.

Architect to review submittals with reasonable promptness and in accord with schedule. Architect to approval stamp and initial or signature, and indicate approval of submittal or requirements for resubmittal. Architect to return to Contractor for distribution, or for resubmission.

PART TWO - PRODUCTS

NOT APPLICABLE

PART THREE - EXECUTION

NOT APPLICABLE

END OF SECTION 01340

SECTION 01400 - TESTING LABORATORY SERVICE

PART ONE - GENERAL

SELECTION & PAYMENT

The Owner will engage and pay for the services of an independent testing laboratory to perform inspection and tests of materials and construction as defined in the General Conditions.

TEST METHODS

Test and inspections shall be conducted in accordance with the latest standards of ASTM or other recognized authorities.

TEST REPORTS

The laboratory shall promptly submit written reports of each test and inspection made to the Owner, Architect, Engineer, Contractor and to such other such parties the Owner may specify.

EVENT OF LABORATORY TEST AND INSPECTIONS

The Architect will recommend to the Owner the type and number of tests to be performed on the project. The Contractor shall be advised of the number and type of test to be performed by the Testing laboratory. The Contractor is responsible for supplying concrete that meets the concrete design mixes specified under Division 3 of the Contract Document.

COOPERATION OF CONTRACTOR

The Contractor shall cooperate and:

A. Make available, without cost, samples of all materials to be tested in accordance with applicable standard specifications.

B. Furnish such nominal labor and sheltered working space as is necessary to obtain samples at the project.

C. Advise the laboratory of the identity of materials sources and instruct the suppliers to allow test or inspections by the laboratory.

D. Notify the laboratory sufficiently in advance of operations to allow for completion of initial tests and assignment of inspection personnel.

E. Notify the laboratory sufficiently in advance of cancellation of required testing operations. The Contractor shall be responsible to the laboratory for changes due to failure to notify if requirements for testing are cancelled.

PART TWO - PRODUCTS

NOT APPLICABLE

PART THREE - EXECUTION

NOT APPLICABLE

SECTION 01500 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART ONE - GENERAL

RELATED WORK SPECIFIED ELSEWHERE

Bidding requirements, General Conditions of the Contract, Supplementary Conditions, pertinent portions of sections in Division 1 of the Project Specifications and the drawings shall apply to the work of this section.

WORK INCLUDED

Contractor shall visit the site and ascertain for themselves the existing conditions affecting the work.

PERSONAL INVESTIGATIONS

All Bidders on portions of this work must inform themselves fully as to the location of the improvements, location and availability of utilities, local ordinances, the use of streets, maintenance of lights, payment of fees and permits, and all other factors entering into the work so that they may have a comprehensive conception of all the conditions to be encountered, as lack of information will not relieve the Bidder of the responsibility that he assumes.

EXISTING UTILITIES AND SUB-SURFACE ITEMS

The drawings indicate all known existing above ground and sub-surface items and utilities in the vicinity of new construction. Other unknown items and utilities may be existing in the vicinity of construction, and neither the Owner or the Architect assume any responsibility for the failure to show such items or utilities, or to have shown the known items in their exact location. If these existing items or utilities interfere with the new construction, the Contractor shall at his option, either (1) abandon such existing items and install new utilities outside the building construction, or (2) replace existing utilities with new material acceptable to the Architect. Payment for this work shall be based on unit prices, if they are included in the bidding documents; if not included, payment shall be in accordance with paragraph 12.2.1 of the General Conditions of the Contract.

ARCHITECTURAL OBSERVATION

The work shall be carried on under the observation of the Architect and/or his authorized representative. No concrete shall be placed unless the architect or his representative is present. In general, no work shall be covered until it has been inspected and approved by the Architect And/or his representative.

INTERPRETATION OF DRAWINGS & SPECIFICATIONS

The Architect, as the originator of the Drawings and Specifications, shall be deemed the sole judge of the Drawings and Specifications, and the intent thereof; and his decision shall be final and binding on all parties concerned.

CORRELATION & INTENT

If there should be any discrepancy between scale and dimensions, figured dimensions shall over-ride scale dimensions. Although plans are drawn to scale, as indicated, and dimensions are given, in the case of remodeling or reconstruction work, or in fitting in the case of remodeling or reconstruction work, or in fitting work to measurements of existing conditions, the Contractor shall work to measurements of existing construction.

PERMITS AND LICENSES

The Contractor shall procure all necessary permits and licenses and shall observe and abide by all applicable laws, ordinances, and regulations by the Local and State governments and by the Federal government.

CODES

Whenever a specific code is referred to herein, then this code is hereby made a part of the Contract, inasmuch as any portion is applicable to this project, except as same may be herein modified.

PROJECT LIMIT LINES

Contract Limit Lines are indicated, in general, on the drawings. All work under this contract is limited within the general area as bounded by said Contract Limit Lines, Contractor shall not be required to go beyond these specific Contract Limit Lines unless the Designer determines that such action is required to complete the intent of the project documents, or access or connection to required utilities are required.

PROJECT SITE

The area under this Contract, and assigned to the Contractor for his operations, is indicated on the drawings by "Contract Limit Lines" and is hereby designated as the Project Site. The Contractor shall assume responsibility for the security and protection of these areas during the entire construction Contract period inclusive of protection of all materials, property, vegetation, and utilities within the Project Site.

Any material stored shall be stored within the "Contract Limit Lines", unless other areas are

authorized for storage of the materials by Architect or Owner.

SPOIL MATERIALS

Spoil materials at project site free of debris and roots may be utilized for required backfill material. Location for deposition materials within Project Limit Lines shall be directed by the Architect. Contractor shall be responsible to remove from site and legally dispose of all debris and excess excavated material not required for fill.

DEBRIS

Contractor shall not be allowed to accumulate debris on site for an extended period of time. Contractor shall be responsible to remove from site and legally dispose of all accumulated debris daily.

ACCESS TO AREAS

Contractor shall have free and permissible vehicular and pedestrian access to project site at all times. See Construction Schedule Section 01010 Summary of Work.

SITE SECURITY

The General Contractor shall have the full authority and right to fence, or otherwise secure the around areas of new construction for purposes of providing the necessary safety and material security during the entire contract period. Access to aforementioned fenced area shall be by the Contractor's authorized personal only and the Contractor shall have the right to deny access by unauthorized personnel and to provide watchman for enforcement of same.

SEPARATE CONTRACTS

The Owner may award separate contracts on this project for equipment, furniture, etc. This Work as indicated and specified shall be included under a single base bid, and alternates as indicated.

CONSTRUCTION SCHEDULE

A twenty-four hour notice shall be given to the Owner prior to temporarily disconnecting any major utilities which would affect normal operation of any other structures on the campus.
See Section 01010 - Summary of Work - for required Construction Schedule.

TEMPORARY CONTROLS & PERMITS

SCOPE

Unless otherwise called for herein, all temporary facilities for construction purposes called for in the documents as well as other related temporary work necessary and required to complete the project shall be provided by contractor and they shall be removed by him at the completion of the project. Obtain and pay for all permits and licenses required by City, Parish, State and Federal authorities.

TEMPORARY SCAFFOLDS, STAGING AND SAFETY DEVICES

Provide, erect, maintain, and remove when no longer required; all scaffolding, staging, platforms, temporary runways, guards, bracing, shoring, sheet piling, lights, warning signs, fences, barricades, railings, covers, drop cloths, etc., as required by local, state, and federal codes, or laws, for the protection of property, workmen, and the public, both on and adjacent to the construction site. The construction, inspection and maintenance of the above items shall comply with all safety codes and regulations as applicable to the project. All temporary provisions shall be the responsibility of the General Contractor. Adequate provision shall be made to minimize the amount of noise and dust annoyance. Any damage caused by his operations shall be the responsibility of the General Contractor. Provide personal safety equipment for authorized visitors. Provide and maintain warning lights and signs as necessary to prevent damage or injury. Keep warning lights burning from dusk to dawn. Maintain all items in good, safe condition throughout the duration of the project.

Contractors bidding on this job are advised that the provisions of 40 U.S.C. 333, as implemented by the Regulations of the Secretary of Labor, 36, F.R. 7339-7410 apply to this Contract and the successful Bidder will be required to comply therewith.

TEMPORARY LIGHTING

Make the necessary arrangements and provide all temporary lighting required during the entire construction period.

Provide a minimum of three (3) watts per square foot of temporary lighting in each room to insure proper application and inspection of finishes. Lighting in each space shall be arranged to provide reasonably uniform overall lighting.

Permanent wiring and installed fixtures existing and/or new, may be used, provided they are adequately protected, cleaned and re-lamped with new lamps at time of inspection for substantial completion. All temporary lighting shall be kept in safe and operating condition throughout construction period.

COLD WEATHER PROTECTION AND TEMPORARY HEAT

Provide for all cold weather protection, temporary heat and fuel as necessary to carry on the work expeditiously during inclement weather to protect all work and materials against injury from dampness and cold, to dry out the building and to provide suitable working conditions for the installation and curing of materials, all until acceptance by the Owner.

TEMPORARY TOILET FACILITIES

Contractor shall provide and maintain an adequate number of temporary prefabricated chemical type toilets with proper enclosures as necessary for his use during construction. Keep such facilities in a sanitary condition, comply with all local and state health requirements and sanitary regulations, and remove same upon completion of the project, leaving the premises clean and sanitary.

TEMPORARY ELECTRICITY

The Owner will provide electricity during the construction period on the schools existing system. All connections are by General Contractor.

All necessary facilities, such as wiring, panel boards, outlets, switches, lamps, fuses, controls and accessories shall be provided by the Contractor. The materials used for temporary service shall not be used in the permanent system unless specific approval is given by the Architect. Contractor shall remove all temporary connections and items upon completion of project.

TEMPORARY WATER AND GAS

Contractor shall provide all required connections and materials, and shall remove same upon completion of the project.

SECURITY

Contractor shall be responsible for the guarding of the premises against theft, vandalism and unauthorized use and trespassing from beginning of construction until final acceptance of the project by the Owner.

PUMPING AND DRAINING

Keep working and storage areas free from water that could cause damage or that could interfere with progress of work.

Slope ground to drain surface water away from excavations and structures.
Pump or drain to designated points. Distribute discharge to prevent excessive erosion.
Replace eroded materials.

TEMPORARY FIELD OFFICE AND SHEDS

At all times, provide and maintain a watertight office for the use of the Architect, Contractor and Sub-Contractors. Provide temperature control during working hours as required by the season (air conditioning or heat). Office shall contain minimum of 120 sq. ft. of floor space with adequate lighting, file racks for storage of drawings, countertop (minimum 6'-0" x 2'-6"), storage shelves, two (2) stools and telephone. Provide lock with two (2) keys for Architect's use. Provide all necessary sheds with raised flooring for storage of equipment and materials.

CLEANING

Remove temporary work when need for its use has passed.

Clean spaces that were occupied by temporary work. Remove debris, rubbish and excess materials from site. Burning or burying not permitted on site.

Repair damages caused by installation or use of temporary facilities.

END OF SECTION 01500

SECTION 01600 - MATERIALS AND EQUIPMENT

RELATED WORK SPECIFIED ELSEWHERE

Bidding Requirements, General Conditions of the Contract, Supplementary Conditions, pertinent portions of sections in Division 1 of the Project Specifications and the Drawings shall apply to the Work of this Section.

WORK INCLUDED

Provide materials and equipment that are indicated and/or specified to be incorporated into Work as follows:

A. Conform to applicable specifications and standards.
B. Comply with size, make, type, and quality indicated and/or specified or as specifically approved in writing by Architect.
C. Manufactured and Fabricated Products:
    1. Design, fabricate and assemble in accordance with best engineering and shop practices.
    2 Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
    3. Two or more items of same kind shall be identical and by same manufacturer.
    4. Products shall be suitable for service conditions
    5. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved by Architect in Writing.
D. Do not use materials or equipment for any purpose other than that for which it is designed or is specified.

MANUFACTURER'S SPECIFICATIONS & PRODUCT NUMBERS

The Contractor is hereby advised of the following information extracted from Act 803, of the 1980 Regular Louisiana Legislative Session:

1. The name of certain brands, makes, manufacturers and definite specifications are included in the Contract Documents to denote the quality standard of the article desired and does not restrict bidders to the specific brand, make, manufacturer, or specification named. It is set forth to convey to prospective bidders the general style, type, character, and quality of article desired.

2. When in these Contract Documents a particular brand, make of material, device, or equipment is shown or specified, such brand, make of material, device or

equipment shall be regarded merely as a standard

3. If a potential supplier desires to submit for prior approval a particular product other than a product specified in the Contract Documents, he shall do so no later than seven (7) calendar days prior to the opening of bids. Within three (3) days, exclusive of holidays and week-ends, after such submission, the Architect shall furnish to both the public entity and the potential supplier written approval or denial of the product submitted.

MANUFACTURER'S INSTRUCTIONS

When Contract Documents require that installation of various products used in Project be installed in compliance with manufacturer's printed instructions, Contractor shall execute that portion of the Work as follows:

A. Obtain and distribute copies of such instructions to parties involved in each products installation including two (2) copies to Architect. Maintain one set of complete instructions at jobsite during installation. Include one complete set of instructions with Project Record Documents
B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformance with specified requirements.
    1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Architect for further instructions.
    2. Do not proceed with Work without clear instructions.
    3. Perform Work in accordance with manufacturers instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.
C. Manufacturer's printed installation instructions which, when specified and approved by Architect, shall become basis for inspecting and accepting or rejecting actual installation methods used on Work.

TRANSPORTATION AND HANDLING

Arrange deliveries of products in accordance with construction schedules, coordinate with Work and condition at Project site as follows:

A. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
B. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and that they are undamaged.
C. Provide equipment and personnel to handle product by methods to prevent soiling or damage to products or packaging.

STORAGE AND PROTECTION

Store products in accordance with manufacturer's instructions, with seals and labels intact and legible, as indicated in various other sections and as follows:

A. Store products subject to damage by elements in weathertight enclosures.
B. Main temperature and humidity within ranges covered by manufacturer's instructions.
C. Provide exterior storage as follows:
    1. Store fabricated products above ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
    2. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.
D. Arrange storage in manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions and that products are free from damage or deterioration.

Provide substantial covering as necessary to protect installed products from damage from traffic and/or subsequent construction operations. Remove when no longer needed.

GUARANTEE

The Contractor shall be required to guarantee all materials and workmanship furnished by himself or his subcontractors against any defects that may develop or be discovered within a period of one (1) year from the date of Final Acceptance.

Contractor shall promptly make any such corrections when called upon to do so by the Architect and/or Owner. Should the Contractor fail to so remedy any such defects within a reasonable length of time, the Owner shall have the right to make these corrections and charge same to the Contractor, and the Contractor by signing the Contract acknowledges that such charges are just, due and payable.

END OF SECTION 01600

SECTION 01700- CONTRACT CLOSEOUT

GENERAL

Comply with requirements in Divisions 1 - 16 and the various Technical Sections of the Specifications for Administrative Procedures in closing out the Work.

RELATED REQUIREMENTS IN OTHER PARTS OF THE PROJECT MANUAL

Fiscal provisions, legal submittals and additional administrative requirements.

Closeout submittals required of various trades: The respective sections of Specifications.

FINAL CLEANING

Employ skilled personnel, or professional cleaners, for final cleaning.

Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior finished surfaces including plumbing and electrical fixtures and mechanical equipment; polish surfaces so designated to shine finish.

Wash and shine glazing and mirrors.

Polish glossy surfaces to a clear shine.

Ventilating Systems: Clean permanent filters and replace disposable filters if units were operated during construction. Clean ducts, blowers and coils if units were operated without filters during construction.

Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.

SUBSTANTIAL COMPLETION

When Contractor considers the Work is substantially complete, he shall submit to Architect:

1. A written notice that the work, or designated portion thereof, is substantially complete.
2. A list of items to be completed or corrected.

Within a reasonable time after receipt of such notice, Architect will make an inspection to determine the status of completion.

When Architect concurs that the Work is substantially complete, he will:

A. Prepare a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect, with dollar value retainage for each work item.
B. Submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.
C. The Owner will supply a “beneficial occupy form” if required.

Owner may occupy the Project or designated portion of Project, under provisions stated in Beneficial Occupancy Form.

FINAL INSPECTION

When the Architect finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

CONTRACTOR'S CLOSEOUT SUBMITTALS TO ARCHITECT

PROJECT RECORD DOCUMENTS:

Refer to the General Conditions and Supplementary Conditions.

Contractor shall furnish to Architect one set of Record Documents including one set of construction drawings marked up to show "as built" conditions, incorporating all changes authorized during construction. (Architect shall delineate these changes to present reproducible documents to the Owner)

OPERATING & MAINTENANCE DATA, INSTRUCTIONS TO OWNER'S PERSONNEL:

Refer to Mechanical and Electrical and other applicable sections of the Project Manual.

Prior to Substantial Completion instruct Owner in the operation of all systems and equipment in accordance with manufacturer's recommendations and applicable sections of the Project Manual. Operating and maintenance manual shall constitute the basis for instruction.

SPARE PARTS & MAINTENANCE MATERIALS:

Refer to applicable sections of the Project Manual.

REQUIRED TESTS OF REGULATORY AGENCIES:

Submit certificate indicating that all required tests (water, etc.) of regulatory agencies have been complied with.

WARRANTIES & BONDS:

Furnish warranties and bonds specified in the various sections of the Specifications. Time of warranties to begin on date of Substantial Completion.

KEYS AND KEYING SCHEDULE:

Refer to Section 08710.

EVIDENCE OF PAYMENT AND RELEASE OF LIENS:

Certificate by Clerk of Court. Refer to Supplementary Conditions.

PART TWO - PRODUCTS

NOT APPLICABLE

PART THREE - EXECUTION

NOT APPLICABLE

END OF SECTION 01700

SECTION 01740 – WARRANTIES AND BONDS

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties.

Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.

General closeout requirements are included in Section "Project Closeout."

Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Sections of Divisions-2 through
-16.

Certifications and other commitments arid agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

WARRANTY REQUIREMENTS

Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The contractor is responsible for the cost of

replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service.

Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, or shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, r remedies.

Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

The Owner reserves the right to refuse to accept Work for the reject where a. special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

SUBMITTALS

Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's certificate of Substantial Completion designates a commencement ate for warranties other than the date of Substantial Completion or the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.

> When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within fifteen days of completion of that designated portion of the Work.

When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.

> Refer to individual Sections of Divisions-2 through –16 for specific content requirements, and particular requirements for submittal of special warranties.

Form of Submittal: At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, by the Contractor, subcontractor, supplier, or manufacture Organize the warranty documents into an orderly sequence based the table of contents of the Project Manual.

Bind warranties and bonds in heavy-duty, commercial quality durable 3-ring vinyl covered loose-leaf binders, thickness necessary to accommodate contents, and sized to receive 8-1/2" 11" paper.

Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and t name, address and telephone number of the installer.

Identify each binder on the front and the spine with the type or printed title "WARRANTIES AND BONDS, the Project title name, and the name of the Contractor.

When operating and maintenance manuals are required f warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

SCHEDULE OF WARRANTIES

Schedule: Provide warranties and bonds on products an installations as specified in the following Sections but not limited to:

- Architectural Products
- Mechanical Warranties
- Electrical Warranties

END OF SECTION 01740

SECTION 02110 - SITE CLEARING

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section includes the following:

- Removal of trees and other vegetation
- Removal of concrete
- Topsoil stripping, stockpiling and re-spreading
- Clearing and grubbing
- Removing above-grade improvements
- Removing below-grade improvements

PROJECT CONDITIONS

Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.

Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place.

Protect improvements on adjoining properties and on Owner's property.

Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

Provide Protection for Roots: Trees over 1-1/2" diameter that are cut during construction operations. Coat cut faces with an emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily

cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

SITE CLEARING

General: Remove trees, shrubs, grass ad other vegetation, improvement, or obstructions as required permitting installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. "Removal" includes digging out and off-site disposing of stumps and roots.

Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Satisfactory topsoil is reasonable free of subsoil, clay lumps, stones, and other objects over 2 inches in diameter, and without weeds, roots, foliage, and other objectionable material.

Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.

Remove heavy growths of grass from areas before stripping.

Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.

Stockpile topsoil in storage piles in areas indicated or directed. Construct storage piles to provide free drainage of surface water. Cover storage piles, if required, to prevent rain and wind erosion. Reuse top soil suitable for finish and fine grading.

Dispose of unsuitable or excess topsoil same as specified for disposal of waste material in area designated by Owner.

Clearing and Grubbing: Clear site of trees, shrubs and other vegetation, except for those indicated to be left standing.

Completely remove stumps, roots, and other debris protruding through ground surface.

Use only hand methods for grubbing inside drip line of trees indicated to remain.

Fill depressions caused by clearing and grubbing operations with satisfactory
soil material, unless further excavation or earthwork is indicated.

Place fill material in horizontal layers not exceeding 6 inches loose depth, and thoroughly compact to a density equal to adjacent original ground.

Removal of Improvements: Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction. Existing storm drainage shall be repaired as required.

DISPOSAL OF WASTE MATERIALS

Burning on Owner's Property: Burning is permitted on Owner's property as long at the Parish will allow burning and correct permits applicated.

Removal from Owner's Property: Remove waste materials, concrete, and unsuitable topsoil from Owner's property. All useable topsoil shall be placed on Owner's spoil area.

All items shall be disposed properly per Parish / City Ordinances and Codes.

END OF SECTION 02110

SECTION 02150 – SELECTIVE DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Demolition and removal of selected portions of building or structure.
   2. Demolition and removal of selected site elements.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, use of stairs, and locations of temporary partitions and means of egress.

B. Pre-demolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces, which might be misconstrued as damage caused by selective demolition operations.

1.4 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6 and NFPA 241.

D. Pre-demolition Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

A. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
B. Storage or sale of removed items or materials on-site is not permitted.
C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
    1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

F. Survey of Existing Conditions: Record existing conditions by use of measured drawings, and preconstruction photographs.

G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 ADDITIONAL REQUIREMENTS

A. Demolition: All existing work designated for removal, including but not limited to walls, floors, ceilings, mechanical equipment, etc., shall be disposed of by the Contractor. "Remove" shall mean completely and entirely from premises.

B. Terminating Utilities: The Contractor shall be responsible for terminating plumbing and electrical where items are removed, by dead-ending piping and wires in a safe, Code conforming and permanent manner.

C. Utility Shutdowns: Owner must receive a minimum of 48 hours for all utility shutdowns and the shutdown must be approved by Owner. Shutdowns should be scheduled for "off" hours or weekends.

D. Temporary Protection: During any required demolition of designated areas, Contractors shall provide adequate temporary protection and shall secure adjacent areas from dust and debris. All temporary partitions shall maintain existing fire ratings and required fire egress paths and exits. All emergency exit signs shall be fully operational during construction.

E. Patching and Repair: Where partitions or other work is noted to be removed, adjacent walls, ceiling, floors and finishes shall be replaced, patched and/or leveled, as required, to blend together and match existing.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.

B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Arrange to shut off indicated utilities with utility companies.
   2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
   3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

3.4 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities. Comply with requirements for access and protection specified in Division 1 Section "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.5 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly. Comply with requirements in Division 1 Section "Construction Waste Management."

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02150

SECTION 02200 - EARTHWORK

PART ONE -GENERAL

DESCRIPTION

Provide excavation, backfill and compaction as indicated on the drawings and specified herein.

Provide additional fill material as required to replace excavated dirt not meeting requirements specified herein.

Also included are all necessary shoring, bracing and drainage equipment.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:

Testing Laboratory Services: Section 01410
Grading: Section 02110 – Site Clearing
Concrete:Division 03100 thru 03300
Excavating & Backfilling for Plumbing, Mechanical & Electrical Work: See Respective
Sections

OUALITY ASSURANCE

Testing laboratory, employed by Owner, to perform in-place soil compaction tests and material for controlled fill.

SUBMITTALS

Contractor to submit testing laboratory report certifying that controlled fill material used on the project meets requirements of this Section.

JOB CONDITIONS

Contractor to contact “DOTTIE” prior to start of construction to locate all known utilities.

Verify location of all existing utilities shown on drawings. Before beginning machine cutting, hand excavate to determine exact depth of existing utilities. Contractor assumes full responsibility for maintaining all existing utility services through lines indicated to remain.

Active utilities shown on drawings shall be adequately protected from damage and removed or relocated only as indicated or specified. Where active utilities are encountered but not are shown on drawings, notify Architect and adequately protect and support until advised by the Architect. Inactive and abandoned utilities encountered in excavation operations shall be reported to the Architect. Remove, cap or plug as directed by the Architect. In absence of specified instructions, cap or plug or as required by local authorities.

PROTECTION

Protect utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by excavation operations.

PART TWO - PRODUCTS

FILL MATERIAL

All backfill material shall have a maximum liquid limit of 35 and a maximum plasticity index of 15.

Excavated material that is approved by Architect may be used for backfills. All unsuitable material, and all surplus excavated material not required for backfill shall be removed from the site. The location of dump and length of haul shall be the Contractor's responsibility.

Provide and place any additional fill material from off the site as may be necessary.

Submit samples of the fill material to the laboratory for testing (2) weeks in advance of the time of use.

Furnish written verification of the Classification prepared by an Independent Testing Laboratory, and obtain Architect's approval of material prior to starting this phase of the work.

In areas of the building where fill exceeds one foot, a geo-textile fabric shall be placed n subsoil prior to the placement of fill.

PART THREE - EXECUTION

EXCAVATION

The contractor shall strip the site of all organic material, any paving material, tree

roots and any other deleterious material. Site stripping shall be extended to a point 10 feet outside the foundation limits of the proposed building and from areas to be occupied by roads, walks, slabs and from areas that will receive cut and fill operations required to complete the site work specified on the drawings. The topsoil shall be placed in designated areas approved by Architect. Placement of the top soil shall not be placed in areas that will interfere with building or utility operations. All topsoil used on the project for finished grading shall be reasonably free from unsuitable subsoil excavation, debris, stones, roots or brush.

Areas where concrete or utilities or placed shall be excavated to the required depths, lines, and elevations as indicated or required for the project construction. Concrete excavations for footings, grade beams, shafts, or tie beams shall be of sufficient widths for the placement and removal of forms and to provide necessary room for proper compaction equipment to be used to insure proper soil compaction adjacent to these areas. Areas excavated for the placement of utilities shall be wide enough to provide for compaction of soil around each utility placed. The bottom of concrete structures and utilities shall be on firm undisturbed soil.

If the soil conditions require changes in the depth of the footings or other sub-surface work, such changes shall be made as directed by the Architect. Contractor shall not proceed with any changes that are not pre-authorized by the Architect or Owner. Testing laboratories used on the project shall notify the Architect of any possible soil condition that may require changes in the soil excavation.

Footings and foundations shall not be placed on disturbed soil. Footings and foundations shall be placed at the elevations shown on the drawings.

Provide and install the necessary shoring, cribbing, bracing, etc., as may be required to prevent caving and to protect adjacent buildings, property and the public. Bracing of all concrete footings, walls, piers, and beams shall be maintained until the newly placed concrete has reach sufficient strength to provide permanent support of itself or other types of construction.

All excavated areas shall be protected from both surface and ground water that may be encountered on the site during the construction period. Contractor shall provide and maintain all pumps and related equipment necessary to protect the excavated areas from water during the progress periods of the project. Contractor shall take precautions to protect, with barricades if necessary, excavated areas of the project.

BACKFILL

After completion of footings, piers, grade beams, or other work below the surface of the ground, all formwork shall be removed. Any imperfections in the concrete shall be repaired and the excavated areas shall be backfilled using select material

specified herein. The backfill shall be placed in six (6) inch horizontal layers to compaction requirements specified herein. Fill against grade beams and walls shall be placed only after the concrete has reached sufficient strength, as determined by strength tests or approval of the Architect, to withstand the pressure of the compaction equipment. Fill on both sides of the grade beams or walls shall be at the same time.

Place backfill and fill materials in layers not more than eight (8) inches in loose depth for material compacted by heavy compaction equipment and not more than four (4) inches in loose depth for material compacted by hand -operated tampers. Soil density requirements are specified herein this section.

Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the soil material. Compact each layer to the required percentage of maximum dry density or relative dry for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice.

Provide and place additional earth fill materials needed to bring existing site elevations to the finish grades indicated on the drawings for the construction of buildings, walks, paving and finished site grading elevations

COMPACTION

Provide standar proctor for compaction.

Upon completion of the stripping of the site and prior to filling operations beginning, the site shall be inspected by the Architect to determine if any soft areas exist in the areas to receive select fill. The Architect may request that the site be proof-rolled using equipment that will not create a pumping affect to the subsoils that will receive the fill material. The Architect or his Engineer shall be the determining factor as to whether the site shall be proof-rolled. No additional monies will be given to the contractor if proof-rolling the site is required. Any localized soft areas of the site that are determined to be removed shall be replaced as directed by the Architect. Contractor shall receive a change order for the removal and replacement of the soil if required.

All fill material under slabs and pavements shall be compacted to a density of *95%* in accordance with ASTM D1557 and ASTM D1558. Compact all other backfills to 90% density in accordance with ASTM *D1557.* The top eight (8) inches of existing soil after excavation shall be scarified and compacted to obtain 92 % density per *D1557* and D1558. Each compacted area shall be approved prior to the placement of the next lift of fill material.

LABORATORY TESTS OF COMPACTED FILL

See Section 01400

EXCESS & WASTE MATERIALS

Remove from site and legally dispose of waste materials, including excess soil, rock, trash and debris.

END OF SECTION 02200

SECTION 02276 – EROSION CONTROL REQUIREMENTS

PART 1 - GENERAL

DESCRIPTION

The work specified in this Section consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary.

Temporary erosion controls include, but are not limited to, grassing, mulching, setting, watering, and reseeding onsite surfaces and spoil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the Owner.

Temporary sedimentation controls include, but are not limited to silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the Owner.

Contractor is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

It shall be the responsibility of the Contractor to attain all permits and associated documentation necessary to provide a Storm Water Pollution Prevention Plan for the construction sites. (See drawings)

REFERENCE DOCUMENTS

State of Louisiana
City Building Code
Ouachita Parish
International Building Code.

PART 2 - PRODUCTS

EROSION CONTROL

Netting – fabricated of material acceptable to the Owner.

Straw mulch shall be utilized on all newly graded areas to protect areas against washouts and erosion. Straw mulch shall be comprised of threshed straw of oats, wheat, barley, or rye that is free from noxious weeds, mold or other objectionable material. The straw mulch shall contain at least 50 percent by weight of material to be 10-in. or longer. Straw shall be in an air-dry condition and suitable for placement with blower equipment.

SEDIMENTATION CONTROL

Bales – clean, seed-free cereal-hay type.

Netting – fabricated of material acceptable to the Owner.

Filter stone – crushed stone conforming to State D.O.T.D. Specifications.

Concrete block – hollow, non-load-bearing type.

Concrete – exterior grade not less than one inch thick.

SILT FENCE

Steel posts shall be a minimum of 5-ft in length, 2-1/2-in. by 2-1/2-in. by 1/4-in. angle post with self-fastening tabs and a 5-in. by 4-in. (nominal) steel anchor plate at bottom. 2-in. x 2-in. wood stakes with a minimum of 5-ft length may be used in lieu of steel posts.

Sow seed within twenty-four (24) hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.

Silt fence fabric shall be a woven, polypropylene, ultraviolet resistant material such as Mirafi 100X as manufactured by Mirafi, Inc., Charlotte, NC or equal.

Tie wires for securing silt fence fabric to wire mesh shall be light gauge metal clips (hog rings), or 1/32-in. diameter soft aluminum wire.

Prefabricated commercial silt fence may be substituted for built-in-field fence. Prefabricated silt fence shall be “Envirofence” as manufactured by Mirafi Inc., Charlotte, NC or equal.

PART 3 - EXECUTION

EROSION CONTROL

Minimum procedures for grassing are:

Scarify slopes to a depth of not less than six inches and remove large clods, rock, stumps, roots larger than 2-inch in diameter and debris.
Sow seed within twenty-four (24) hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.
Apply mulch loosely and to a thickness of between 3/4-inch and 1-1/2-inches.
Apply netting over mulched areas on sloped surfaces.

Roll and water seeded areas in a manner which will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.

SEDIMENTATION CONTROL

Install and maintain silt dams, traps, barriers, and appurtenances as shown on the approved descriptions and working drawings. Hay bales which deteriorate and filter stone which is dislodged shall be replaced.

Silt Fence Installation

Silt Fences shall be positioned as necessary to prevent off site movement of sediment produced by construction activities as directed by the Engineer.
Dig trench approximately 4-in. wide and 4-in. deep along proposed fence lines.
Drive metal-stakes, 6-ft on center (maximum) of wood stakes, 3-ft on center (maximum) at back edge of trenches. Stakes shall be driven 2-ft (minimum) into ground.
Hang 4 by 4 woven wire mesh on posts, setting bottom of wire in bottom of trench. Secure wire to posts with self-fastening tabs.
Hang filter fabric on wire carrying to bottom of trench with about 4-in. of fabric laid across bottom of trench. Stretch fabric fairly taut along fence length and secure with tie wires 12-in. O.C. both ways.
Backfill trench with excavated material and tamp.
Install pre-fabricated silt fence according to manufacturer's instructions.

Staging areas and access ways shall be surfaced with a minimum depth of 4-in. crushed stone.

MAINTENANCE AND INSPECTIONS

Inspections

Make a visual inspection of all sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to offsite areas or into the vent trench, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.

Device Maintenance

Silt Fences
Remove accumulated sediment once it builds up to one-half of the height of the fabric.
Replace damaged fabric or patch with a 2-ft minimum overlap.

Make other repairs as necessary to ensure that the fence is filtering all runoff directed to the fence.
Add crushed stone to access ways and staging area as necessary to maintain a firm surface free of ruts and mudholes.

PERFORMANCE

Should any of the temporary erosion and sediment control measures employed by the Contractor fail to produce results which comply with the requirements of the State of Louisiana and the City, Contractor shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

END OF SECTION 02280

SECTION 02500 - SITE DRAINAGE

PART ONE - GENERAL

DESCRIPTION

Provide site drainage, including concrete drainage structures, galvanized, asphalt coated metal pipe, and cast-iron frames and grates, as shown on the drawings and specified herein.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Earthwork: Section 02200
Cast-in-Place Concrete: Section 03300

QUALITY ASSURANCE

All products to meet specifications requirements.

Laboratory testing of controlled fill, compaction tests and concrete tests.

SUBMITTALS

Furnish certificates that products meet specification requirements.

JOB CONDITIONS

Pour no concrete unless ambient temperature is 40 degrees and rising.

Do not deposit concrete on wet or frozen ground.

PART TWO - PRODUCTS

MATERIALS

STORM DRAINAGE: As per 1992 edition of the “Louisiana Standard Specifications for Roads and Bridges”, sizes as indicated on drawings. Provide ADS HDPE Corrugated Plastic Pipe, HPStorm, Dual Wall Pipe Sure-Lok F477 Pipe by Hancor or equal. Joints shall be bell and spigot. Meets AASHTO M252, Type S; AASHTO M294, Type S; AASHTO MP7-97. Drawings may indicate exact type of piping.

PIPE FITTINGS: Provide fittings meeting AASHTO M252 Type S; ASSHTO M294 Type S; or MP7-97

CAST IRON FRAMES & GRATES:

Heavy-duty traffic shall be located in driveways or as indicated on drawings.

Standard Light-duty shall be located in the yard/grass areas as indicated on drawings.

SIDEWALK DRAIN: Shall be concrete and metal as indicated on drawings.

CONCRETE CATCH BASINS: Shall be concrete as indicated on drawings. (03300 – Cast-In-Place Concrete) Pre-Cast concrete catch basins will be accepted. Crack basin will be sent back and new ones delivered unless drawings indicate otherwise.

PART THREE - EXECUTION

INSPECTION

Verify locations and depths of all lines and other utilities before excavating for drainage system. (02200-Earthwork)

Verify finish elevations and flow lines of drainage structures and pipe to assure proper drainage of entire system.

INSTALLATION

Construct drainage structures as detailed.

Lay pipe to true and proper grades and alignment as shown on plans and as directed by the Architect, in a trench, the width of which is not less than twelve (12) nor more than eighteen (18) inches greater than the outside diameter of the pipe.

The bottom of the trench shall be shaped to fit the contour of the pipe for a depth equal to at least one-tenth (1/10) the outside diameter of the pipe.

Lay all pipe with the bell upstream.

Use carborundum saw to make all cuts in concrete pipe.

Apply joint material in a manner as recommended by manufacturer.

Wrap all joints with filter fabric prior to backfilling.

Do not backfill trench until pipe and joints are inspected and approved by Architect. Replace all damaged pipe and unsatisfactory joints.

Backfill and compact as specified in Section 02220.

PATCHING, FINISHING & CLEAN-UP

Patch and grout all exposed joints in pipe and drainage structure.

All concrete pipe edges to be neat and smooth.

Finish exposed cast-in-place concrete as specified.
Clean out drainage structures and grout bottom to slope to pipe. Clean all pipe.

Clean metal frames and gratings.

END OF SECTION 02500

SECTION 02520 - PORTLAND CEMENT CONCRETE PAVING & WALKS

PART ONE - GENERAL

DESCRIPTION

Provide portland cement concrete pavings and walks as indicated on the drawings and specified herein, including driveways, parking areas, curbs, walks, catch basins and inlets.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Testing Laboratory Service: Section 01410
Site Clearing: Section 02110
Earthwork: Section 02200
Site Drainage: Section 02500
Concrete Formwork: Section 03100
Concrete Reinforcement: Section 03200
Cast-in-Place Concrete: Section 03300

QUALITY ASSURANCE

All concrete paving work shall conform to the requirements of the Portland Cement Association's "Specifications for Plain and Reinforced Concrete", latest revisions, and American Concrete Institute's "Building Code Requirements for Reinforced Concrete", ACI 318, latest revision.

Testing laboratory, employed by Owner, shall perform testing of paving concrete. See Section 01410.

JOB CONDITIONS

Do not place concrete when ambient temperature is below 40 degrees F and falling; or 40 degrees F and above, but predicted to fall to 32 degrees F or below within 24 hours after termination of the pour.

Do not place concrete in rain or on frozen ground, or un-prepared.

PART 2 - PRODUCTS

MATERIALS

CONCRETE: In accordance with Section 03300, shall attain a compressive strength of 3500 psi in 28 days @ paving. Use 3000 psi in 28 days @ sidewalks and catch basins or as indicated on drawings.

REINFORCING STEEL: 6 x 6 x 6 gauge WWM (Mats) unless otherwise indicated on plans @ paving only. Use pre-cast concrete blocks 3" x 8" x thickness required for proper clearance of bottom layer of steel. Irregular or broken pieces not permitted. Concrete for blocks to be of same density as concrete in which it is placed. Steel chairs maybe used in lieu of concrete blocks.

EXPANSION JOINT MATERIAL: Pre-molded, non-extruding, bituminous saturated fiber board meeting requirements of ASTM D-1751 of thickness as indicated.

WOOD EXPANSION JOINTS: Provide ¾" redwood with plastic expansion cap to be removed for joint sealant.

FORMS: Either steel or wood, of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use forms that are straight and free of distortion and defects. Use flexible steel forms or laminated boards to form radius bends as required. Coat forms with a non-staining form release agent that will not discolor or deface the concrete surface.

METAL EXPANSION CAPS: Provide one for end of each dowel bar in expansion joints.
Design caps with one closed and a minimum length of 3" to allow bar movement of not less than 1".

JOINT SEALANT: Cold applied, two part, job mixed, self-leveling urethane compound conforming to Fed Spec. TT-S-00227 Type I, Class A, Service Temperature Range -40 degrees -180 degrees F. Accepted product "Sonolastic Paving Joint Sealer: by Sonneborn - Contech; "NR-l00" by Pecora Corp. Furnish in gray color.

SAND CUSHION: 2" thickness DOTD Designation TR 423 Class A-3 @ walks or as indicated on drawing otherwise. Provide 4" thickness @ foundation for leveling purposes.

Minimum requirements are not minimum average values. Minimum average values per roll are not an acceptable specification.

PARKING CURBS: Provide concrete 9" wide x 6" high x 6' long with 1 ½" chamfers @ top (each side) w/ 2-#3 bars continuous thru curb and anchor curb with #4 rods

(2'-0" length minimum- 3 per curb.) If indicated on plans.

PART THREE - EXECUTION

INSPECTION

Verify that all grading and earthwork are completed and sub-grade is at required elevation.

Check that sub-grade is level, compacted and free of excessive moisture or frost to receive sand base Sub-grade for paving shall be compacted to density specified in Section 02110.

Determine that manholes, area drains and other drainage structures are at required elevation and alignment. Verify proper drainage to all structures.

Install and securely fasten all embedded items before placing concrete.

Place and level sand cushion over sub-grade under all paving. Depth of cushion to be 2" under drives, parking and sidewalks, unless detailed otherwise.

FORMS

Set forms to required grades and lines, rigidly braced and secured. Clean forms after each use, and coat form with oil as often as required to ensure separation from concrete without damage. Do not remove forms before concrete has taken final set.

EXPANSION JOINTS

Set Expansion Joint material to required grades and lines, rigidly braced and secured to resist movement during concrete placement and to retain horizontal and vertical alignment.

Area within paving areas shall not exceed 20' x 20' without placement of expansion joints unless drawn otherwise.

Maximum length of sidewalk run shall not exceed 16' without placement of expansion joint unless drawn otherwise.

Extend joint fillers full-width and depth of joint, and not less than 1/2" or more than 1" below finished surface where joint sealer is required.

Furnish joint fillers in one piece lengths for the full width being placed, wherever

possible. Where more than one length is required, lace or clip joint filler sections together.

Protect top edge of the joint filler furring concrete placement with a metal cap or other temporary material. Remove protection prior to cleaning and sealing of joints.

Install dowel bars maximum 18" o.c. (unless noted otherwise) accurately in joint assemblies, each parallel to surface of concrete paving and walk and to each other. Rigidly secure in place by dowel supports to prevent displacement during paving operations. Coat 1/2 length of each dowel with grease or heavy oil and insert greased end into metal cap to allow 1" mm. bar movement.

CONSTRUCTION CONTROL JOINTS

Construct scored construction joints in all walks, maximum spacing 4' o.c., equally spaced between expansion joints.

Provide construction control joints to a depth equal to 1/4 the thickness of the concrete. Weakened planes shall be created by sawing or tooling method at Contractor's option. Do not saw joints until concrete has hardened sufficiently to prevent spalling or damage to edges of joints. Reinforcement shall be continuous thru contraction joints.

REINFORCEMENT

Place welded wire mesh and re-bar reinforcement accurately in position as detailed on drawings. Firmly secure all bars against displacement and keep welded wire mesh from bottom of formed area.

Install dowel bars in pavement and walk expansion joints, each parallel to surface of concrete and to each other. Rigidly secure in place by dowel supports.

CONCRETE PLACEMENT

Do not place concrete until sub-base and forms have been checked for line and grade. Moisture sub-base if required to provide a uniform dampened condition at the time concrete is placed.

Deposit concrete as nearly as practicable in its final position. Place concrete for full thickness in one operation without change in proportions.

Place concrete using methods which prevent segregation of the mix. Consolidate concrete along the face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms.

Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.

Deposit and spread concrete in a continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2 hour, place a construction joint.

Before depositing new concrete against old, clean existing surface and apply bonding agent in accordance with manufacturer's instructions.

When construction joints are required by the drawings, adjacent slab sections shall not be placed on the same day.

When adjacent pavement lanes are placed in separate pours, do not operate equipment on the concrete until the pavement has attained sufficient strength to carry the loads without injury.

Place curb reinforcing ties into paving slab while concrete is still wet. Place curb concrete and rod curb concrete into slab to insure bond. Accurate form integral curb with a "mule" to correct profile, creating a coved intersection between curb and paving slab.

After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust the floating to compare the surface and produce a uniform texture.

After floating, test surface for trueness with a 10' straightedge. Distribute concrete as required to remove surface irregularities and re-float repaired areas to provide a continuous smooth finish. No dust coating permitted.

Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/3" radius, unless otherwise indicated. Eliminate any tool marks on concrete surface.

After completion of floating and when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:

DRIVES AND PARKING AREAS: Heavy coarse broom finish. Final finish subject to Architect's approval.

WALKS: Light broom finish at right angles to long dimension. Final finish subject to Architect's approval.

INCLINED SURFACES: Coarse, non-slip finish be scoring with a stiff-bristled broom, perpendicular to line of traffic.

HANDICAP CURB RAMPS: Provide tactile warning surface at handicap curb ramps as indicated on drawings.

CURBS

While the concrete is green, finish the top and face of the curb by rubbing the surface with a wood or concrete rubbing block and water until all blemishes, form marks, and tool marks have been removed. Ample water shall be used during the rubbing to avoid a plastered condition. The flow lines of gutters shall be finished to cove profile. The rubbed surface shall then be brushed with a fine-textured brush to obtain a uniform surface.

CURING

Immediately after finishing operations, and while surfaces are still moist, apply curing materials in accordance with manufacturer's recommendations. Curing material shall form an effective seal to prevent evaporation or loss of moisture from the concrete for the full curing period of 7 days.

Do not remove forms for 24 hours after concrete has been placed. Remove forms carefully to prevent damage to green concrete. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Architect.

BACKFILLING

As soon as practicable after form removal and patching, remove debris, broken concrete and trash from edges of curbs and paving and backfill, grade and compact to lines and grades indicated on drawings. Unless indicated otherwise, finish grade shall be 2" below edges of concrete.

SEALING JOINTS

After the expiration of the curing period, remove temporary top fillers at expansion joints. Clean expansion joints and other (tooled) joints. Joints which do not comply with detail or specification requirements shall be cut with power saw to form a groove of required dimensions. Grooves shall have edges free of ravels and spalls. Grooves shall be straight from edge to edge of pavement and shall not vary more than 1/2 inch from alignment.

Seal joints immediately after joint preparation. Seal joints in accordance with sealant manufacturer's instructions. Remove surplus and spilled sealer.

GROOVING & SEALING CRACKS

Random cracks, except those specifically excluded by the Architect, that occur in the pavement during construction shall be grooved and sealed. The top of the crack shall be grooved to a depth of 3/4 inch and to a width not less than 3/8 inch or more than *5/8* inch by means of an approved mechanical grooving machine. The grooving tool shall be capable of following closely the path of the crack and of widening the top of the crack to the required section without spilling or otherwise damaging the concrete. Loose and fractured concrete shall be removed, and the groove shall be thoroughly cleaned and completely filled with joint sealing material.

REPAIRS & PROTECTION

Repair or replace broken or defective concrete, as directed by Architect.

Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION 02520

SECTION 03100 – CONCRETE FORMWORK

PART ONE – GENERAL

DESCRIPTION

Provide formwork, ties, coating, water stops, metal construction joints, anchors and accessories as required for concrete work indicated on the drawings, specified herein, or otherwise required.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Concrete Reinforcement: Section 03200
Cast-in-Place Concrete: Section 03300

SUBMITTALS

Description and recommended installation instructions for form ties, spreaders, form coatings.

PRODUCT DELIVERY. STORAGE & HANDLING

On delivery to job site, place materials in area protected from weather.

Store and handle materials in manner to prevent damage.

MATERIALS

PART TWO - PRODUCTS

LUMBER: Softwood framing lumber; kiln dried, PS 20, No. 2 common grade. Grade marked by grading rules agency approved by American Lumber Standards Committee.

PLYWOOD: Exterior type softwood plywood, PS 1, panel veneer grades BB. Each panel stamped or branded indicating veneer grades, species, type and identification. Mill-oiled sides and mill-sealed edges of panels.

FORM COATING: Nonstaining mineral oil approved by the Architect.

FORM TIES: Metal, adjustable in length, designed so metal can be cut off one inch back from finished surface.

CORNER FORMERS: Wood or plastic chamfered face.

METAL CONSTRUCTION JOINT: 20 gauge galvanized steel tongue & groove metal key joint. Size as per thickness of concrete. Contractor shall provide construction joints as indicated on plans.

SAWCUT CONSTRUCTION JOINT: Provide 3" deep saw-cuts in foundation as indicated on drawings or otherwise indicated.

PART THREE - EXECUTION

GENERAL

Forms for exposed concrete surfaces shall be plywood of uniform thickness to produce smooth, even surfaces. Forms for unexposed surfaces may be No. 2 common grade or better lumber. Provide temporary openings in formwork for concrete placement.

All concrete shall be placed in forms except footing and grade beam bottoms. Sides of footings may be earth formed provided soil is stable enough to assure clean, straight and vertical lines.

Construct forms true to line, grade, shape and dimensions of concrete element, mortar tight, and of such construction to permit removal.

Forms shall be sufficiently rigid to prevent displacement or sagging between supports. Contractor shall be responsible for their adequacy and shall correct all work caused by improper form construction.

Form surfaces shall be smooth and free from irregularities, dents, sags or holes when used for permanently exposed concrete. Provide chamfered external corners for beams and columns exposed to view.

FORM COATING: Coat forms for all exposed concrete surfaces. Apply coating before setting reinforcing. Remove all coating from reinforcing steel. Forms for unexposed surfaces may be thoroughly wetted with water in lieu of oiling, immediately before placing of concrete.

FORM TIES: Locate ties at rustication marks, control joints, or points where visual effect will be minimized. Locate ties equidistant and symmetrical, lined up both vertically and horizontally. Bolts and rods used for internal ties to be removed, shall be coated with grease. Wire ties will not be permitted where concrete surface is exposed.

BUILT-IN ITEMS: Built-in anchors, inserts, and bolts required for the connection of other materials. Build-in sleeves, thimbles and other items furnished by other trades.

BASES FOR EQUIPMENT: Provide wood forms for concrete bases as required for mechanical & electrical equipment items. Refer to Architectural, Structural, Mechanical and Electrical Drawings for quantity and size. Coordinate with Mechanical & Electrical Contractor.

FORM RE-USE: Clean and repair surfaces of forms to be re-used. Split, frayed, de-laminated or otherwise damaged form facing material not acceptable. Apply form coating prior to re-use. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joints to avoid offsets. I do not use “patched” forms for exposed concrete surfaces, except as acceptable to Architect.

FORM REMOVAL: Do not remove forms or shoring without approval of Architect. Remove forms in manner to insure complete safety of work and prevention of defects. Any failure, damage or defects arising from removal of forms or shores is the sole responsibility of the Contractor.

Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and other parts of the work, may be removed after cumulatively curing at not less than 50 degrees F. for 48 hours after placing concrete, provided curing and protection procedures are maintained.

Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained the 28 day minimum compressive strength.

Rods which are to be entirely removed from the wall shall be loosened 24 hours after concrete placed, and form ties, except for a sufficient number to hold forms in place, may be removed at this time. Ties wholly withdrawn from wall shall be pulled toward the face that will be concealed from view in the permanent work.

RE-SHORING: Comply with ACI 347 for shoring and re-shoring of all suspended concrete as herein specified. Extend shoring from ground to bottom of all suspended concrete unless otherwise permitted.

Space out shoring in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members where no reinforcing steel is provided. Extend shores beyond minimums if required to ensure the proper distribution of loads throughout the structure. Remove shores, and re-shore in a planned sequence to avoid damage to partially cured concrete.

Locate and provide adequate re-shoring to safely support the work without excessive stress or deflection. Keep re-shores in place a minimum of 15 days after placing upper tier, and longer if required, until the concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.

END OF SECTION 03100

SECTION 03200 - CONCRETE REINFORCEMENT

PART ONE - GENERAL

DESCRIPTION

Provide concrete reinforcement, supports, wire and accessories as indicated on the drawings and specified herein.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements
Concrete Formwork: Section 03100
Cast-in-Place Concrete: Section 03300

QUALITY ASSURANCE

Comply with requirements of ACI Code and CRSI. Steel shall be of domestic manufacture. Foreign made steel not acceptable.

SUBMITTALS

Submit shop drawings for approval. Submittals shall include schedules, bending, and placement location in the work and other pertinent information.

Drawings shall be checked in the fabricators drafting room and so noted before submission; all bars, including straight bars, shall bear a placing mark and the drawings shall show the location of each bar in the structure. Bar lists alone are not considered adequate for this purpose.

Furnish certified copies of mill tests with all deliveries of reinforcing steel.

STORAGE MATERIALS

Subject to approval of the Architect and to allow easy access for inspection and definite identification of each shipment in accordance with report of tests. Store to prevent rust or accumulation shall be of foreign matter.

Coordinate placement of reinforcing steel with requirements of other trades. No cutting of reinforcement or displacement of bars shall be done by any of the trades without the consent of the Architect, and then only when adequate reinforcement is provided to replace the design requirements.

PART TWO - PRODUCTS

MATERIALS

REINFORCING STEEL: Meet requirements of ASTM A-61 *5,* Grade 60, except #3 allowed by Current ACI 318 Building Code Requirements for Reinforced Concrete. Reinforcing steel shall be new, clean and free of heavy rust and scale.

WELDED WIRE FABRIC MATS: Meet requirements of ASTM A-185. Provide 6 x 6 x 6 gauge WWM (Mats) unless otherwise indicated. See drawings for location and use.

TOP WIRES: Black, annealed, 14 gauge.

REINFORCEMENT SUPPORT: Chairs, spacers and other devices for supporting, spacing and fastening reinforcement shall be of proper size to safely carry the construction loads as recommended by CRSI. Supports and spacers occurring in exposed concrete surfaces shall be zinc or plastic coated. Spacing of supports and spacers shall conform to requirements of CRSI and as specified herein.

SUPPORTS FOR FOOTINGS, BEAMS AND SLABS ON GRADE: Use pre-cast concrete blocks 3" x 8" with thickness required for proper clearance of bottom layer of steel. Irregular or broken pieces not permitted. Concrete for blocks to be of same density as concrete in which it is placed. Space supports in footing and beams 4'-0" o.c. maximum and in slabs-on-grade 4'-0" o.c. maximum each direction. Steel chairs may be used in lieu of concrete blocks.

SHOP FABRICATION

Cut, form and fabricate all reinforcement to shapes indicated and to conform with requirements of ACI Code. Bend bars cold and free of cracks, splits or kinks. Provide proper clearances.

Bar lengths noted in the various schedules are approximate finished fabricated lengths for estimating purposes only. Make stirrups with four inch hook.

PART 3 – EXECUTION

PLACEMENT

Place bars accurately in position. Firmly secure all bars against displacement with wire and specified supports and spacers before concreting is begin. Space supports in accordance with recommendations of ACI Code.

All suspended concrete shall be reinforced.

At time concrete is placed, metal reinforcement shall be free from mud, oil or other nonmetallic coatings that adversely affects bonding capacity.

TOLERANCES

Unless otherwise specified by the Engineer, reinforcement shall be placed within the following tolerances:

Tolerance for depth d, and minimum concrete cover in flexural members, walls and compression members shall be as follows:

		Tolerance on d	Tolerance minimum concrete cover
d	≥	± 3/8 in.	- 3/8 in.
d	>	± ½ in.	- 3/8 in.

Except that tolerance for the clear distance to formed soffits shall be minus 1/4 in. and tolerance for cover shall not exceed minus one-third the minimum concrete cover required in the contract drawings or in the specifications.

SPLICING: Make splices of reinforcement at points of minimum stress, length to 30 bar diameters, minimum of 15 inches.

LINTELS: Provide reinforcing steel for all reinforced concrete filled masonry lintels and bond beams. Unless otherwise noted, lintels will require two No. 5 bars for 6" partitions or less, and four No. 5 bars for 8" and 12" partitions. Length of lintel bars shall be masonry opening, plus 1'- 4". Bond beam reinforcing shall be as called for on drawings.

INSPECTION OF STEEL PLACEMENT

The Architect or his representative shall be given 24 hours notice to inspect placement of reinforcing steel before concrete is placed. Such inspection is in nature of assisting Contractor to minimize errors, and in no case will it serve to relieve Contractor of his responsibility to provide materials and workmanship

required by Contract Documents

MISC. STEEL: In addition to the reinforcing shown on plans supply 1000 l.f. No. 4; 1500 l.f. No. 5 and 1500 1.f. No. 6 in twenty foot lengths. Contractor shall cut and place bars at direction of Engineer if deemed necessary @ no additional expense to the owner.

END OF SECTION 03200

SECTION 03292 – GRASS SOD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Sodding.

1.3 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.
B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For landscape and/or sod Installer.
B. Certification of each seed mixture for turfgrass sod. Include identification of source and name and telephone number of supplier.
C. Product Certificates: For fertilizers, from manufacturer.

D. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: Recommended procedures to be established by supplier for maintenance of turf during a calendar year. Submit before expiration of required maintenance periods.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
   1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
   2. Experience: Five years' experience in turf installation.
   3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
   4. Pesticide Applicator (if applicable): State licensed, commercial.

B. Sod Supplier Qualifications: A qualified turfgrass supplier whose work and product has resulted in successful turf establishment.
   1. Professional Membership: Sod supplier shall be a member in good standing with Turf Producers International and Sports Turf Managers Association.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Turfgrass sod must be harvested and transported when its moisture content is at 20 to 30 percent, measured at depth of harvest.

B. Turfgrass sod shall be harvested, delivered and installed/transplanted within a period of 24 hours, unless a suitable preservation method is approved prior to delivery, including, but not limited to refrigeration at 40 degrees Fahrenheit. Turfgrass sod not transplanted within this period, or preserved by approved methods, shall be inspected and approved by Owner’s representative prior to its installation..

C. Bulk Materials:
   1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
   2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
   3. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

A. Turfgrass Sod: Certified Approved Quality including limitations on thatch, weeds, diseases, nematodes, and insects. Turfgrass sod shall be machine cut at a uniform soil thickness of 0.5 inch (13 mm), plus or minus 0.2 inch (5 mm), at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted..

B. Turfgrass sod shall be machine cut at a uniform soil thickness of 0.5 inch (13 mm), plus or minus 0.2 inch (5 mm), at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

C. Before harvesting, the turfgrass shall be mowed uniformly heights as follows:
   1. 0.5 to 1.50 inches (13 to 40 mm) on warm season grasses (i.e., bermudagrass,

D. Turfgrass Species**: Celebration Bermudagrass**.

E. Turfgrass Species: Sod of grass species as follows, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:

2.2 FERTILIZERS

A. Fertilizer: Granular, pelleted,or liquid/flowable fertilizer:
   1. Composition: 20 percent nitrogen, 20 percent phosphorous,10 percent potassium, and 3 percent iron, by weight.

2.3 PESTICIDES

A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level

directly below the mulch layer, following label instructions.

C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
   1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
   2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
   3. Uniformly moisten excessively dry soil that is not workable or which is dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
   1. Protect grade stakes set by others until directed to remove them.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."

B. Placing Planting Soil: Place and mix planting soil in place over exposed subgrade.
   1. Reduce elevation of planting soil to allow for soil thickness of sod.

C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

D. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 SODDING

A. Lay sod within 24 hours of harvesting unless a suitable preservation method is accepted by Architect prior to delivery time. Do not lay sod if dormant or if ground is frozen or muddy.
B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. After establishment, if necessary to smooth surface, tamp and roll lightly to remove surface undulations. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
    1. Lay sod across slopes exceeding 1:3.
    2. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
C. Saturate sod with fine water spray within two hours of planting. During first 20 days after planting, water 3 times daily with short, frequently waterings, as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.5 TURF RENOVATION

A. Renovate existing turf where indicated.
B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
    1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
    2. Install new planting soil as required.
C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
E. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off.
G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches (150 mm).
H. Apply initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches (100 mm) of existing soil. Install new planting soil to fill low spots and meet finish grades.
    1. Initial Fertilizer: Applied according to manufacturer's recommendations.

I. Apply sod as required for new turf.
J. Water newly planted areas and keep moist until new turf is established.

3.6 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
B.
1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
2. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

C. Watering:
1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water turf with fine spray at a recommended ET rate.

D. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
1. Mow bentgrass to a height of 0.125 to 0.25 inch (3 to 6 mm) or less.
2. Mow bermudagrass to a height of 1.5 inches (38 mm).
3. Mow perennial ryegrass and fescue to a height of 0.625 - 2.0 inches (16-50 mm).
4. Mow Kentucky bluegrass and buffalograss to a height of 0.625 - 2 inches (16-50 mm).

E. Turf Postfertilization: Apply slow-release fertilizer after initial mowing and when grass is dry.
1. Use fertilizer that provides actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to turf area.

3.7 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Architect:
1. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-

rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.8 PESTICIDE APPLICATION

A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations.

3.9 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off.
C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
D. Remove nondegradable erosion-control measures after grass establishment period.

3.10 MAINTENANCE SERVICE

A. Turf Maintenance Service: Provide full maintenance by skilled employees. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
   1. Sodded Turf: 30 days from date of Substantial Completion.

END OF SECTION 03292

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART ONE - GENERAL

DESCRIPTION

Provide all structural and architectural concrete and related items where shown on drawings, as required, and as specified herein, including:

Concrete beams, floor slabs, vapor barrier, foundations, embedded items and anchors, concrete finishes and miscellaneous concrete.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Concrete Formwork: Section 03100
Concrete Reinforcement: Section 03200
Membrane Waterproofing: Section 07110

QUALITY ASSURANCE

Materials and workmanship for Portland Cement concrete shall conform to the requirements of the Portland Cement Association's "Specifications for Plain and Reinforced Concrete", latest revisions. Other publications (latest revisions), and American Concrete Institute's "Building Code Requirements for Reinforced Concrete, ACI 318-95," latest revision.

Testing Laboratory, employed by Owner, shall perform testing of cast-in-place concrete.

CONCRETE FIELD TESTS: Four (4) 6 inch by 12 inch concrete cylinders shall be molded for each 50 cubic yards or each day's pour if less than 50 cubic yards. Cylinders shall remain undisturbed in a secure location on the site for 24 hours after which they shall be removed to the testing lab by laboratory personnel. Two of the cylinders shall be tested at 7 days and two at 28 days. Failure of the concrete to meet the specification requirements may result in its complete removal and replacement at the Contractor's expense. Cost of re-test, if any, will be at the Contractor's expense.

MATERIALS

PORTLAND CEMENT: ASTM C-150, Type 1. Use same brand of cement

throughout entire project.

COURSE AGGREGATE: Hard, durable, un-coated crushed stone or gravel, ASTM C-33-CIT. Maximum size aggregate: 3/4 of minimum clear spacing between reinforcing bars, but not larger than 1-1/2" for all footings, walls and slabs on grade and 3/4" for all other structural and architectural concrete.

SAND: ASTM C-33-59.

MIXING WATER: Clean, potable, free of oil, acid, vegetable matter, alkalies, salts.

ADMIXTURE: Water reducer and Set Retarder and/or Accelerator: Shall be used in all concrete except footings. USE NO CHLORIDES.

EXPANSION JOINT FILLER: 1/2" thick, except where noted 1" thick, pre-molded, nonextruding material complying with Federal Specification HH-F-341, Type I, wide enough to complete separate abutting concrete members. Provide where detailed and where concrete walks abut other concrete surfaces and at internals not exceeding 36 feet.

CURING COMPOUND: ASTM C-309 approved by Architect. Use Type I, Clear, for interior surfaces and Type 2, White Pigmented, for exterior surfaces.

CHEMICAL HARDENER: CE-204, colorless, sprayed or poured and squeegeed. Sonneborn LAPIDOLITH, Meadows PENA-LITH or L & M CHEM-HARD acceptable.

SEALANT: Two component polysulfide sealant shall be used on all vertical and horizontal surfaces. All primers and installation shall be in strict accordance with manufacturer's instructions. All sealants shall be compatible with back-up material.

METAL ACCESSORIES: Include all spacers, chairs holsters, ties, and other devices necessary for properly placing, spacing, supporting, fastening reinforcement in place. Metal accessories shall be galvanized where legs will be exposed in finished concrete surfaces. Accessories shall conform to requirements of the Concrete Reinforcing Steel Institute (CRSI) " Manual of Standard Practice for Reinforced Concrete Construction."

STRENGTH, PROPORTION, MIXES OF CONCRETE

3000 psi and 3500 (as indicated on plans) @ 28 days, unless otherwise designated. Keep water-cement ratio to a minimum, do not exceed 6-1/2 gallons per bag of cement including free moisture in aggregate, slump between 3" and *5".*

However, the Mix Design shall be proportioned to achieve an average strength of 750 psi higher than the design strength.

No fly ash will be accepted.

Concrete shall have a minimum of *5* 1/2 sacks of cement per cubic yard of concrete.

All exterior concrete shall be air entrained.

MIXING CONCRETE

Ready-mixed, ASTM C-94, delivery by trucks with power-driven mixers. Plant operator must guarantee not over 15 minute interval between trucks during any pouring operations. Do not add water after truck leaves plant. Do not use concrete held in mixer longer than one (1) hour.

A copy of each truck delivery ticket shall be made available by truck driver to Architect's representative and/or Testing Laboratory Representative at the site. Minimum delivery ticket information shall include:

1. Ticket Number.
2. Mix proportions, including admixtures.
3. Time of batching.
4. Number of cubic yards of concrete on truck.

PART THREE - EXECUTION

PREPARATION

Cast-In-Place Items: Before concrete placing begins, accurately space, position and secure cast-in-place anchorages, wire ties, reinforcing, dowels, expansion joints, construction joints, etc., including bolts, for securing adjoining or collateral materials to concrete work.

Contractors for other trades requiring built-in connections, sleeves, slots, chases, recesses, rough. ins, etc., in concrete work will be required to furnish material and information regarding size and location before forms are erected. Install sleeves in beams only on approval of Architect.

Install vapor barrier in strict accordance, and specified in Section 07110.

INSERTS AND FASTENING DEVICES FOR OTHER WORK

Provide for installation of inserts, conduit, pipe, sleeves, drains hangers, metal ties, shelf angle supports, anchors, bolts, angle guards, stair nosing, dowels, thimbles, metal reglets, nailing strips, blocking, grounds and other fastening devices required for attachment of other work. Properly locate in cooperation with other trades and secure in position before concrete is placed.

BASES FOR EQUIPMENT

Provide concrete for bases as required for Mechanical & Electrical equipment items. Refer to Architectural, Structural, Mechanical and Electrical Drawings for quantity and size. Coordinate with Mechanical & Electrical Contractor.

TEMPERATURE LIMITATIONS

COLD WEATHER: Do not place concrete when ambient temperature is 40 degrees F. or below, and falling. It may be placed when the temperature is 40 degrees F. or above and rising, providing there is no reason to expect a drop in temperature to below 40 degrees F. within 24 hours of the conclusion of the pour.

HOT WEATHER: Do not place concrete when concrete temperature exceeds 90 degrees F. when measured prior to placement on site.

DEPOSITING CONCRETE

Begin placing concrete only after forms, reinforcement, vapor barrier and other conditions are approved by Architect, and all pipes, conduits, sleeves, thimbles, hangers, anchors, flashing and other work required have been properly installed and forms properly cleaned and wetted.

Remove hardened concrete and foreign materials from inner surfaces of conveying equipment before concrete is placed.

Remove water from the space to be occupied by concrete, divert any continuous flow to a sump or remove by pumping.

Convey concrete from mixer to forms as rapidly as practicable without segregation or loss of ingredients. Maximum slope of chutes: 1 vertical to 2 horizontal. Provide baffle plate and spout or tremies to prevent separation. Concrete shall not be allowed to drop more than four (4) feet.

Deposit concrete as nearly as practicable in its final position in such a manner as to maintain a plastic surface, which is approximately horizontal, and avoid flow along forms. Set screeds to bring slabs to proper levels, required thickness, tamp with suitable tool to force coarse aggregate layers of such thickness that no concrete will be deposited against concrete which has hardened.

If a section cannot be placed continuously, locate keyed construction joints at points approved by Architect. Before depositing new concrete against old, re-tighten forms, clean hardened surfaces and cover with a coating of neat cement grout.

Thoroughly compact beam concrete during and immediately after depositing by means of approved mechanical vibration in accordance with PCA Specifications ST 26.

When construction joints are required by the drawings, adjacent slab sections shall not be placed on the same day.

CEMENT FINISHES

EXPOSED VERTICAL SURFACES: Form and pour exposed surfaces so that surfaces are finished in appearance when forms are stripped. It is not the intention that these surfaces be rubbed, except to eliminate voids, joints in forms and any loose flakes. Rub such defects to present a complete finished surface, free from visible lines, and from marks. Should any honeycombs appear, neatly cut out and repair in such a manner as to match the adjoining surfaces in texture, rub if necessary.

EXPOSED SURFACES REQUIRING PAINT FINISH: Apply rubbed finish on all exposed concrete surfaces scheduled to receive paint finish. Fine and other projections shall be carefully removed, offsets leveled, and damaged places repaired. Surfaces shall then be rubbed with cement or abrasive bricks and water. Do not use mortar or grout in the rubbing process. Remove from marks and similar blemishes and leave the surface finish uniformly smooth and clean. Use the same cement for patching as used in original concrete.

CEMENT FINISH FLOORS AND FLOORS TO RECEIVE FLOOR COVERINGS: Agitate concrete sufficiently to work aggregate into the body of the slab and to work to the surface sufficient mortar to allow proper floating, trowel with steel trowel until set, leave smooth and level. No dust coat shall be added.

Concrete floors scheduled to receive thin set ceramic tile shall receive a steel trowel and fine broom finish.

CURING

Protect against frost and rapid drying for at least seven days after placing.

As long as forms remain in place, keep concrete well wetted. When forms are removed, treat with curing compound.

Vertical concrete shall be protected by applying an approved curing compound as directed by the manufacturer, and horizontal concrete shall be protected by covering with 8 mil polyethylene sheeting with joints lapped 4 inches and sealed with pressure sensitive tape. Weight sheeting in position.

SEALED CONCRETE FINISH: Apply to interior concrete floors where shown on drawings or in schedules. Apply liquid chemical-hardener after complete curing and drying of the concrete surface. Dilute liquid hardener with water, and apply in 3 coats, Saniseal 100 by Master Builders or an approved equal. Apply chemical hardeners in accordance with manufacturer's printed instructions.

LINTELS, BOND BEAMS AND JOINT BEARING LOCATIONS

Concrete shall consist, by weight, of one (1) part Cement and one and one-half (1-1/2) parts of sand and two (2) parts of clean pea gravel. Slump shall not extend three (3) inches.

PATCHES

Fill and finish any honey-combed surfaces with a mortar of one part cement and two parts sand. Where honey-combing or other surface blemishes occur in concrete to be exposed to view, rub to present a uniform appearance.

CLEANING

Upon completion of concrete work, all forms, equipment, and rubbish resulting from this work shall be removed from the premises. All concrete shall be left clean and free of defects.

END OF SECTION 03300

SECTION 04100 - MORTAR & GROUT

PART ONE - GENERAL

DESCRIPTION

Provide mortar, additives and mixing as specified or required for masonry work.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Masonry Reinforcement & Accessories: Section 04150
Brick Masonry: Section 04210
Concrete Unit Masonry: Section 04220

QUALITY ASSURANCE

Mortar mixing shall be supervised at all times by competent, experienced person. Mortars shall be mixed in strict accordance with manufacturer's instructions.

SUBMITTALS AND SAMPLE PANELS

Lay up 4'-0" x 4'-0" sample panels of each type of masonry and mortar (maximum of 3 panels for each type) as specified in Division 4. Correct or modify samples until suitable to and approved by Architect. Contractor shall submit to Architect in written form, exact proportions of mortar mix (es) including amount of color pigment, used on project.

PRODUCT DELIVERY, STORAGE & HANDLING

Deliver only new material to Project Site in original, unopened containers with manufacturer's brand name clearly marked thereon. Premixed masonry cement shall be approved by Architect.

Store materials under cover in a dry place. Cement, line and air-setting mortars shall be stored in watertight sheds with elevated floors. Material in bags showing evidence of water contact shall not be used.

ENVIRONMENTAL CONDITIONS

Do not lay masonry when outside temperature is below 40 degrees F. or is expected to be below 40 degrees F. within 24 hours after placement. If previous

conditions are anticipated and written approval to proceed has been obtained from the Architect, take following precautions:

Sand and mixing water shall be heated to product mortar temperature between 40 degrees F. and 120 degrees F. Maintain temperature of mortar on boards above freezing.

PART TWO - PRODUCTS

MATERIALS

PORTLAND CEMENT: ASTM C-150, Type I.

MASONRY CEMENT: ASTM C-91, Type II, non-staining for limestone.

HYDRATED LIME: ASTM C-207, Type S.

FINE AGGREGATE: Sand, ASTM C-144

WATER: Drinkable, from a public source.

ADMIXTURES: No air-entraining admixtures or cementitious materials containing airentraining admixtures shall be used in mortar. No anti-freeze compounds or other substances shall be used in mortar to lower freezing point. Calcium chloride or admixtures containing calcium chloride shall not be used in mortar in which reinforcement, metal ties or anchors are imbedded.

DRYBLOCK ADMIXTURE: Add a dryblock mixture to mortar for water repellent qualities.

TYPE S MORTAR REQUIRED: All masonry wall installation.

MORTAR PIGMENT: Magnolia Mortar Mix or LoneStar Mortar Mix (Match existing mortar)

MIXES

Do not change source of mortar materials during course of work.

Do not combine methods of proportioning mortar types. Use same method for duration of project.

Waterproofing required for mortar in exterior building wall masonry only, including

masonry back-up and face brick.

Unless specified otherwise, proportions are by volume. One sack of cement considered equal to one cubic foot.

TYPE N MORTAR: (ASTM-270 proportions by volume): One (1) part Portland Cement;. One (1) part Hydrated Lime; aggregate not less than 2 1/4 and not more than 3 times the sum of the volumes of the cement and lime used.

GROUT: One (1) part Portland Cement; 1/10 part hydrated lime; 3 parts sand; 2 parts size 3/8 inch gravel (ASTM C-404) and enough water to produce an 8 inch to 10 inch slump (per ASTM C-143) and 2500 psi compressive strength in 28 days. Provide Dryblock Admixture for water repellent qualities.

PART THREE - EXECUTION

Mortar mix may be varied with Architect's permission depending on weather conditions. Measure all ingredients in containers of known capacity. Do not measure by shovel fulls.

MIXING

Except as otherwise approved for small batches, do mixing in mechanically operated batch mixers of drum type in which water can be accurately and uniformly controlled. Allow at least 5 minutes mixing time, 2 minutes for mixing dry materials, 3 minutes for continuing mixing after water has been added. Do not permit volume of mixed materials per batch to exceed manufacturer's rated capacity of mixer drum in cu. ft. of mixed material. Empty drum completely before placing succeeding batch therein.

Mix cementitious materials and aggregate with amount of water consistent with satisfactory workability.

If mortar begins to stiffen from evaporation or from absorption of a part of mixing water, retemper mortar immediately by adding water and remixing. Use mortar with 2-1/2 hours of initial mixing. Do not use mortar after it has begin to set.

For mortar for grouting and poured fills increase water quantity to produce consistency required for pouring; stir continuously to prevent aggregate segregation.

POINTING GROUT: Prepare with as dry consistency as will produce grout

sufficiently plastic to be worked into joints.

MIXING EQUIPMENT: Keep mixing equipment clean and free of set materials, to maintain a uniform quality in the mortar, and to preclude accelerating the set of subsequent batches. If there is a considerable lapse between mixing of each batch of mortar, partly fill mixer with water and leave it in operation.

INSTALLATION

Provide matching mortar from existing school @ new concrete units and face brick masonry work at new multipurpose building.

MASONRY GROUT & CONCRETE FILL REINFORCEMENT

Grout fill solid all pilaster, bond beams or lintel conditions as indicated on drawings.

END OF SECTION 04100

SECTION 04150 - MASONRY REINFORCEMENT & ACCESSORIES

PART ONE - GENERAL

DESCRIPTION

Provide masonry reinforcement and accessories as shown on drawings and specified herein.

A SUBMITTAL ON THESE ACCESSORIES ARE REQUIRED

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Concrete Reinforcement: Section 03200
Mortars & Grout: Section 04100
Brick Masonry: Section 04210
Concrete Unit Masonry: Section 04220
Metal Fabrications: Section 05500

QUALITY ASSURANCE

Masonry reinforcement material shall meet requirements of the Southern Building Code Congress and the International Conference of Building Officials.

PRODUCT DELIVERY. STORAGE & HANDLING

Deliver, receive, store and handle materials in a manner to prevent damage. Replace all damaged items

PART TWO - PRODUCTS

MATERIALS

CONTINUOUS JOINT REINFORCEMENT

Prefabricated drywall type, manufactured of mill galvanized units, 14 gauge.

Provide continuous reinforcing at 16” o.c.vertically & horizontally each way for all masonry walls or as indicated on drawings.

ADJUSTABLE DRYWALL VENEER WALL TIES:

General & Supplementary Conditions, Special Requirements:
Concrete Reinforcement: Section 03200
Mortars & Grout: Section 04100
Brick Masonry: Section 04210
Concrete Unit Masonry: Section 04220
Metal Fabrications: Section 05500

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PART TWO - PRODUCTS

MATERIALS

CONTINUOUS JOINT REINFORCEMENT

Prefabricated drywall type, manufactured of mill galvanized units, 14 gauge.

Provide continuous reinforcing at 16" o.c.vertically & horizontally each way for all masonry walls or as indicated on drawings.

ADJUSTABLE DRYWALL VENEER WALL TIES:
Hohmann & Barnard, Inc. – #DW-10-X (1") w/ VWT – vee wall tie
Heckmann Building Products Inc. – Pos-I-Tie Self drilling screw (1") w/triangle wire tie.

SINGLE WYTHE WALLS:
Hohmann & Barnard, Inc. – Truss reinforcement Truss-Mesh #120
Masonry Reinforcing Corp. – Truss type Series 300 single wythe (2 wire).

CAVITY WALLS:
Hohmann & Barnard, Inc. – Adjustable Eye-Wire Truss type #170 w/ rectangular adjustable wall ties
Masonry Reinforcing Corp. – Truss type Series 900 w/ rectangular adjustable wall ties.

COLUMN TIES @ CMU'S - Hohmann & Barnard, Inc. – #359F w/ rectangular

adjustable wall ties #302W (Column Web Tie). Widths shall be determined by wall thickness.
Heckmann– #315B w/ rectangular adjustable wall ties #318.

COLUMN TIES @ BRICK - Hohmann & Barnard, Inc. – #359F w/ rectangular adjustable wall vee ties. Widths shall be determined by wall thickness.
Heckmann– #315B w/ rectangular adjustable wall vee ties #316.

WEEP HOLES:
Hohmann & Barnard – Round plastic #341 W/S
Masonry Reinforcing Corp. – Round plastic #2905 w/ wick & screen

CORNER AND TEE-JOINT REINFORCEMENT: Use prefabricated corner, and tee sections to form continuous reinforcement around corners and for anchoring abutting walls and partitions. Materials in corner and tee sections to correspond to type and design of joint reinforcement used or indicated on drawing details otherwise.

MORTAR NET:
Hohmann & Barnard – Mortar Trap (10" high x 4 ft long (1 ½" thick).

MASONRY GROUT & CONCRETE FILL REINFORCEMENT

STEEL REINFORCING BARS: Supplied in Section 03200.

CONTROL JOINT MATERIAL

RUBBER CONTROL JOINTS:
Hohmann & Barnard – #RS-Standard (RS-8 & RS-12) (Extruded rubber material)
Sandel Manufacturing – 2013 rubber control joint

PART THREE - EXECUTION

INSTALLATION

CONTINUOUS JOINT REINFORCEMENT

Install 16" o.c. vertically, full height of all concrete masonry walls and partitions and where shown on drawings. Install additional reinforcing as called for below:

Install in first bed joint immediately above and below openings and extend minimum 24" beyond each side of opening.

Install in bed joints of first and second courses below bearing line in bearing walls

when wall receives uniformly distributed floor or roof load.

Do not lay joint reinforcement across vertical control or expansion joints.

Do not install joint reinforcement which is dirty or which has other coating which will reduce or destroy bond.

MASONRY GROUT & CONCRETE FILL REINFORCEMENT

STEEL REINFORCING BARS: Shall be placed in bond beams or pilasters as indicated on drawings. Reinforcing bars shall extend minimum of 7” beyond each side of openings. Support bars with galvanized metal bar positioners.

CONTROL JOINTS

Provide vertical control joints in masonry where shown on elevations. Control joints shall be same width as masonry joint width.

Install in accordance with manufacturer’s recommendations.

ADJUSTABLE MASONRY WALLS TIES:

Screw attach adjustable wall ties to studs at 16” o.c. vertical and 16” o.c. horizontal or as shown on drawings.

END OF SECTION 04150

SECTION 04200 – UNIT MASONRY

PART ONE - GENERAL

DESCRIPTION

Provide brick masonry and stone veneer as shown on the drawings and specified herein.

Also included is the installing of items furnished under other sections such as bolts, anchors, nailing blocks, inserts, flashing, steel lintels expansion joints and reinforcing.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Concrete Reinforcement: Section 03200
Mortars & Grouts: Section 04100
Masonry Reinforcement and Accessories: Section 04150
Flashing & Sheetmetal: Section 07600
Sealants & Calking: Section 07900
Hollow Metal Doors & Frames: Section 08110

QUALITY ASSURANCE

Sample Panel: Lay up 4'-0" x 4'-0" sample panels of each type of brick and mortar (maximum of 3 panels for each type) as specified in Division 4. Correct or modify samples until suitable to and approved by Architect. Contractor shall submit to Architect in written form, exact proportions of mortar mix(es) including amount of color pigment, used on project. Demolish and remove from site after completion and final acceptance of brick work.

SUBMITTALS

Samples: Submit full size samples of face brick to show range of colors, textures, finishes and dimensions. For approved equal prior to bidding see Instructions to Bidders Article 3.3.

Certificates: Furnish manufacturer's certification that brick furnished meet or exceed requirements of this specification.

Manufacturer's Data: Furnish manufacturer's recommended brick cleaning agent and application procedure.

Store brick above ground on level platforms. Cover and store in approved manner which will protect them from contact with soil and from weather exposure. Do not use materials with stained faces in exposed work.

ENVIRONMENTAL CONDITIONS

Do not lay brick when air temperature is below 40 degrees F. or is expected to be below 40 degrees F. within 24 hours after placement.

If previous conditions are anticipated and written approval to proceed has been obtained from the Architect, take following precautions:

Sand and mixing water shall be heated to produce mortar temperature between 40 degrees F. and 120 degrees F. Maintain temperature of mortar on boards above freezing. Maintain an air temperature above 40 degrees F. on both sides of the masonry while masonry work is in progress and for a period of at least 48 hours after masonry work is completed.

During erection, keep walls dry by covering with a vapor barrier at end of each day, or during shutdown period. Covering to overhang at least 2'-0" on each side of wall and be anchored securely.

PART TWO - PRODUCTS

MATERIALS

FACE BRICK: All brick shall meet requirements of current ASTM Specifications C-216.

- Grade SW, Type FBS
- Size – Over Size Nominal (Match existing school brick)
- Color – Selected by Architect. (Match existing school brick)
- Style – Selected by Architect (Match existing school brick)

MORTAR: ASTM C-270-73, Refer to Section 04100.

CLEANING AGENTS: As recommended by brick manufacturer.

INSPECTION

Examine foundations to assure surfaces to support brick work are at proper grades and elevations and free of all dirt and deleterious material.

Verify that initial absorption rate of brick is within acceptable limits.

Verify all base and spandrel flashing as well as anchors and ties are properly installed.

Do not proceed with laying of brick until unsatisfactory condition have been corrected.

PREPARATION

BRICK: Thoroughly wet all brick with clean water 24 hours before placement. Brick shall be damp when laid.

ANCHORS, TIES AND REINFORCEMENT: Remove all dirt, ice, loose rust, and scale prior to installation.

INSTALLATION

Layout work in advance, finish at corners with not less than a half brick.

Lay brick in running bond plumb, true to line and with level courses accurately spaced within allowable tolerances. Install reinforcing, anchors, and ties as specified.

Use masonry saws to cut and fit exposed units. Trowel cuts not acceptable.

Do not install cracked, broken or chipped masonry units exceeding ASTM allowances.

Stop off horizontal run by racking back in each course; toothing is not permitted.

Adjust units to final position while mortar is soft and plastic.

If units are displaced after mortar has stiffened, remove, clean joints and units or mortar and relay with fresh mortar.

Adjust shelf angles to keep work level and at proper elevation.

Provide pressure relieving joints by placing a continuous 1/8” foam neoprene pad under the shelf angle.

When joining fresh masonry to set partially set masonry:

a: Remove loose brick and mortar.
b: Clean and lightly wet exposed surface of set masonry prior to laying fresh masonry.

Install all lintels, anchors and flashing at proper locations, specified elsewhere.

PROTECTION OF WORK

Protect all concrete floor slabs by covering with 11 mil. polyethylene and 2" thickness of sand or dirt prior to starting masonry work.

Protect sills, ledges and offsets from mortar drippings or other damage during construction.

Remove misplaced mortar to grout immediately.

Protect face materials against staining.

Protect the door jambs and corners from damage during construction.

MORTAR BEDS

Lay brick with full mortar coverage on horizontal and vertical joints in all courses. Do not furrow bed joints.

Provide sufficient mortar on ends of brick to fill head joints.

Where adjustment to corners or jambs must be made after mortar has started to set, remove mortar and replace with fresh mortar.

JOINTS

Joints shall be 3/8", concave and tooled with 5/8" diameter steel tool as soon as mortar has set.

Three brick and three joints shall equal 8" vertically.

The average width of any three consecutive joints shall be 3/8".

All exposed brick shall be laid in Running Bond Pattern unless noted otherwise.

Lay brick in soldier, header, rowlock and other patterns where shown on drawings. Install 3/8" wide vertical control joints as indicated on drawings.

Space control joints not more than 20'-0" o.c. unless otherwise indicated.

Joints shall be in face brick wythe only, mortar-free and filled with sealant.

BUILT-IN WORK

Consult with other trades and make provisions that will permit installation of their work in manner to avoid cutting and patching. Build in work of other sections as necessary and as work progresses. Cutting and patching required for work of others to be done by masonry mechanics.

Provide outside joint around exterior door and window frames and other framed wall openings. Use removable wood strips to form joint 1/4" wide x 3/4" deep. Remove strip when masonry work is complete. Caulk under Section 07900.

Fill solid with grout all hollow metal door frames in masonry walls.

Set steel lintels in full beds of mortar. Lintels will be furnished under Section 05100: STRUCTURAL STEEL.

Build in flashing and reglets occurring in masonry. Flashing and reglets will be furnished under Section 07600: FLASHING AND SHEETMETAL.

Build in control joints as shown on drawings.

Keep space open with temporary filler for expansion joints.

Coordinate installation of rigid insulation in cavity wall.

Coordinate installation of waterproofing and damp proofing of exterior face of interior wythe of all exterior walls to receive mastic specified in Section 07110.

CHASES

Leave necessary opening for passage of pipes, drains, ducts, wires and utility lines. Form chases shown, required or directed. Do not proceed until extent and location of openings and chases required by other trades has been determined. At completion of work of other trades, return and solidly close openings. Before closing up pipe, duct or similar inaccessible spaces or shafts, remove rubbish and sweep out area.

WEEPHOLES

Where exterior wythe of cavity wall is supported by concrete, steel angles or where spandrel flashings are built into wall, form weepholes in mortar bed on which first course of masonry is to be placed. Space weepholes not over 32" o.c. Keep weepholes free of mortar and other obstructions.

CUTTING & PATCHING

Provide all chases, holes, etc., needed for Mechanical Contractors and Electrical Contractors. All work to be done by masonry mechanics.

REGLETS

Where steel columns are in close proximity to masonry, provide clean, true reglets to receive angles or fins. Reglets shall be constructed to allow for free movement of metal fins. Where masonry abuts structural steel, provide allowance for expansion. Install all masonry insert reglets furnished under other sections of this specification.

LOOSE LINTELS: Of sizes shown or required, minimum 8" bearing on each side of masonry opening. U-block lintels minimum bearing 8" on each side of concrete masonry opening.

POINTING & CLEANING

Cut out any defective joints and holes in exposed masonry and repoint with mortar.

Dry brush masonry surface or clean with dry burlap after mortar has set at end of each days work and after final pointing.

Clean exposed unglazed masonry with stiff brush and clear water.

If cleaning by water does not produce satisfactory results, apply approved cleaning agent to same area, following manufacturer's recommendations.

When results are acceptable to Architect, complete cleaning of masonry.

Protect sash, metal lintels and other materials which may corrode when masonry is cleaned with acid solution.

Leave work area and surrounding surfaces clean and free of mortar spots, droppings and broken masonry.

END OF SECTION 04200

SECTION 04220 – CONCRETE MASONRY UNITS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 WORK INCLUDED

A. Concrete masonry units. (Structural)

1.03 WORK INSTALLED BUT FURNISHED UNDER OTHER SECTIONS

A. Section 05500 - Miscellaneous Metals: Loose steel lintels.
B. Section 07219 – CMU Foam Insulation.
C. Section 071110 – Waterproofing and Dampproofing.

1.04 RELATED WORK:

A. Section 03200 - Concrete Reinforcing.
B. Section 04100 – Mortar and grout
C. Section 04150 – Masonry Reinforcement and Accessories.
D. Section 06100 - Rough Carpentry
E. Section 07900 – Joints Sealants.

1.05 REFERENCES:

A. ACI 530 – Building Code Requirements for Masonry Structures.
B. ACI 530.1 – Specifications for Masonry Structures.
C. ASTM A82 – Cold Drawn Steel Wire for Concrete Reinforcing.
D. ASTM A123 – Zinc Coatings on Iron and Steel Products.
E. ASTM A951 – Standard specification for masonry joint reinforcing.
F. ASTM C55 – Concrete brick.
G. ASTM C90 – Load-bearing concrete masonry units.
H. ASTM C126 – Glazed concrete masonry units.
I. ASTM C129 – Non-load-bearing concrete masonry units.
J. ASTM C744 – Prefaced concrete units.
K. ASTM C780 – Method for Construction Evaluation of Mortars.
L. ASTM E514 – Test Method for Water Permeance of Concrete Masonry.

1.06 SUBMITTALS

A. Submit in accordance with Section 01300.
B. Submit manufacturer's product data for each type of concrete unit masonry, concrete unit masonry accessories, and other manufactured products, including certifications that each type complies with specified requirements.
C. Submit 1 sample of all accessories and anchors.

1.07 QUALITY ASSURANCE

A. Perform work in accordance with ACI 530 and ACI 530.1.
B. Maintain one copy of documents on site.
C. Testing as per Section 01410 – Testing Laboratory Services.

1.08 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the products specified with minimum 3 years experience.
B. Installer: Minimum 5 years documented experience.

1.09 MOCKUPS:

A. Concrete Masonry Unit Mockup:
   1. Provide mockups as directed by the Architect.
   2. As soon as the samples have been approved, deliver enough units to the job site to construct:
      a. 6'-0" x 4'-0" sample wall panel for CMU.
   3. Construct the panel using the mortar, reinforcing, tooling and cleaning as specified.
   4. The approved sample panel shall be the standard of workmanship.
   5. Panel shall not be removed until masonry work as required by this section has been accepted or as directed by the Architect.
   6. Use sample panel to test cleaning methods.

1.10 ENVIRONMENTAL CONDITIONS

B. Hot Weather and Cold Weather Installation:
   1. Meet the requirements of ACI 530.1 Sec. 1.8 C and 1.8 D..

1.11 DELIVERY, STORAGE AND HANDLING OF MATERIALS

Deliver, store and handle materials to prevent inclusion of foreign materials and damage by water or weather. Store packaged materials in their original packages. Damaged or deteriorated materials shall be removed from the premises.

PART 2 – PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Acceptable concrete masonry unit manufacturers:
   1. Featherlite Building Products
   2. Tupelo Concrete
   3. Nettleton Concrete
   4. TXI
   5. Substitutions: Under provisions of Section 01600.

B. Concrete Masonry Units:
   1. Provide units complying with characteristics indicated below for face size, exposed face and, under each form of block included, for weight classification:
      a. Use Structural CMU at all locations.
      b. Concrete masonry units: ASTM C90 hollow units.
      c. Sizes: Manufacturer's standard units with nominal face dimensions of 16 inches long x 8 inches high x thickness indicated or as required or indicated on drawings.
      d. Exposed Faces: Manufacturer's standard color and texture.
      e. Special Shapes: Provide where required for lintels, corners, jambs, sash, control joint headers, bonding, starter blocks, and other special conditions. Bull nose corner units shall be used at all exposed corners and jambs.

2.03 REINFORCING, ANCHORS AND ACCESSORIES

A. See Section 04150 – Masonry Reinforcement and Accessories

PART 3 – EXECUTION

3.01 LAYING AND SETTING CONCRETE UNIT MASONRY:

A. Lay concrete unit masonry with full-face shell mortar beds. Fill vertical head joints (end joints between units) solidly with mortar from face of unit to a distance behind face equal to not less than the thickness of longitudinal face shells. Solidly bed cross webs with mortar of starting courses, cells filled with grout and cells with reinforcing.
B. Maintain vertical continuity of core or cell cavities, which are to be reinforced and grouted, to provide minimum clear dimension indicated and to provide minimum clearance and grout coverage for vertical reinforcing bars. Keep cavities free of mortar. Solidly bed webs in mortar where adjacent to reinforced cores or cells.
C. All work shall be plumb and true and built accurately to the dimensions shown. All units shall be set in running bond except where indicated stacked bond. Units shall be cut accordingly to fit around pipes, ducts, openings, and all voids slushed full with mortar.
D. Units shall be set tightly against inside of frames where they occur and all voids slushed full with mortar. Frame anchors shall be built-in as the work progresses and the cells of all masonry units adjacent to the bucks or frames shall be filled solidly with mortar. Such filling shall extend to full height of frames and to a point not less than 16 inches on each side of jamb. Slush hollow metal frame jambs in masonry work with well compacted mortar as the work progresses.
E. Wall horizontal joint reinforcing at intersections, corners, and splices shall be lapped 12 inches. One extra layer or joint reinforcing shall be placed over all

door openings in block walls and extended a minimum of 4 feet beyond the jamb on each side of the opening.

F. Vertical joints in concrete masonry work shall be spaced so as to line up plumb and true, and all joints shall be as uniform as the units will allow.
G. Bond partitions to other partitions, but in locations where partitions join exterior walls, form cold butt joints and tie with H&B #344 Rigid Partition Anchors spaced 16 inches o.c. vertically. Sealant for cold butt joints shall be in accordance with specifications or indicated on drawings.
H. Anchor masonry to concrete with dovetail anchors spaced not more than 16 inches o.c. vertically.
I. Where cutting of any concrete masonry unit is necessary and the joints are exposed, the cuts shall be made with a power driven saw with diamond blade and OSHA compliant dust collection.
J. Mortar joints shall be 3/8 inch thick varying slightly, as necessary to work bond and shall be cut off flush where block face is not exposed or as shown on drawings. All other joints shall be tooled with sled jointing tool to provide neat concave joint after they have become thumbprint hard.
K. All walls and partitions shall be laid with extreme care to prevent irregularities, mortar splotches, and to hold clean straight mortar joints.
L. All concrete masonry units shall have all mortar and other foreign materials completely removed from the pores and faces of the block and left clean. Pointing of units shall be done when joints are tooled.
M. Reinforcing Bars:
    1. Reinforcing bars shall be installed at locations as indicated on the drawings.
    2. Clean reinforcing of loose rust, oil, mill scale, earth, and other materials which will reduce bond to mortar or grout. Do not use reinforcing bars with kinks or bends not shown on drawings, or bars with reduced cross-section due to excessive rusting or other causes.
    3. Place vertical reinforcing before laying of concrete unit masonry. Extend above elevation of maximum pour height as required for splicing. Support in position at vertical intervals not exceeding 192 bar diameters nor 10 feet.
    4. Position reinforcing accurately at the spacing indicated. Support and secure vertical bars against displacement. Provide at least 1/2 inch clear between vertical bars and concrete unit masonry shell.
    5. Splice reinforcing bars where shown; do not splice at other points unless approval is obtained. Provide lapped splices, unless otherwise indicated. In splicing vertical bars or attaching to dowels, lap ends, place in contact, and wire tie.
N. Grouting:
    1. Provide grout in accordance with ASTM C476 for filling masonry cavities where shown on drawings.
    2. Provide fine or coarse grout as required in ACI 530 Sec. 1.15.1 and

Table 1.15.1, as shown below:

Grout Type	Maximum grout pour height (feet)	Minimum width of grout space (inches).	Min grout space dimensions for grouting cells of hollow units (inches x inches)
Fine	1 ft	0.75 in	1.5 x 2 in
Fine	5 ft	2 in	2 x 3 in
Fine	12 ft	2.5 in	2.5 x 3 in
Fine	24 ft	3.0 in	3 x 3 in
Coarse	1 ft	1.5 in	1.5 x 3 in
Coarse	5 ft	2 in	2.5 x 3 in
Coarse	12 ft	2.5 in	3 x 3 in
Coarse	24 ft	3 in	3 x 4 in

3. Grout for cells of concrete unit masonry shall be f'c = 2,000 psi grout in accordance with Section 04100.
4. Pour grout using chute or container with spout. Vibrate grout during placing and 5 minutes after placing to reconsolidate. Place grout continuously; do not interrupt pouring of grout for more than one hour. Terminate grout pours 1-1/2 inch below top course of pour. Maximum pour height allowed shall be 5 feet.

O. Control Joints:
1. Vertical: Locate where indicated on the drawings. Lay units to form a vertical joint with a bond breaker on one side.
2. Rake joints 1/4 inch deep.
3. Sealant: Shall be in accordance with Section 07900.
4. See details on drawings.

P. Cavity Walls:
1. Do not let mortar fall into cavity air space.
2. Embed in masonry, joint reinforcing with ties at 16 inches o.c. vertically to secure veneer.

3.02 FLASHINGS

Build in, as work progresses, all dampproofing and flashings which enter the masonry, using the material and following the instructions of the appropriate section of the specifications.

3.03 REINFORCED MASONRY BOND BEAMS AND LINTELS:

A. Provide concrete masonry unit lintels and tie beams in the locations indicated and over openings more than 15 inches wide where no lintels are indicated. This includes openings for ducts and similar items.

B. All exposed lintels, except precast units, shall have joints to match the pattern of the adjacent masonry.

C. Form lintels and bond beams of concrete masonry trough units; reinforced as shown and fill with grout. Care shall be exercised in casting lintels and bond beams to insure complete filling of cells and true alignment with uniform mortar joints on exposed faces.

3.04 OPENINGS AND HOLES

A. Provide all openings and holes in masonry work. Provide all chases and recesses in masonry work of all types as indicated on the drawings and as required for pipes, ducts, and other work of Mechanical and Electrical Contractors. Such work shall be accurately located by the Contractor requiring the work, but masonry work shall not be constructed without giving other Contractors due notice and opportunity to lay out or install such items as may be required for their work.
B. Where required for installation of work of other Contractors, leave openings as indicated on the drawing or as required to receive a later installation.
C. After work of other Contractors is in place, openings shall be neatly filled with masonry of the same type as in the adjoining surfaces.

3.05 SETTING AND BUILDING-IN:

A. Build-in materials occurring in any type of masonry construction which are furnished by other Contractors. All build-in work shall be accurately placed, secured, held in position, and located by the Contractor requiring the work.
B. Set and build-in items of miscellaneous iron such as loose lintels and anchors required to complete all parts not connected to steel.
C. Set all anchor bolts required for the attachment of work to masonry.
D. Build-in recesses, flashings, slots, anchors, reinforcing, sleeves and other work required by the drawings.

3.06 PROTECTION:

At the end of each days work, cover the tops of walls with canvas or other suitable material weighted down to exclude weather.

3.07 REPAIR, POINTING AND CLEANING:

A. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as compared to sample panel or wall panel designated as basis of acceptance. Provide new units to match adjoining units and set in fresh mortar, pointed to match adjacent joints.
B. Pointing: During the tooling of joints, enlarge any voids or holes and completely fill with mortar. Point-up joints at openings and adjacent work to provide a neat, uniform appearance, properly prepared for application of sealant, where it occurs.
C. Clean concrete unit masonry to in accordance with masonry manufacturer's recommendations and applicable NCMA "Tek" bulletins.

END OF SECTION 04200

SECTION 05500 – METAL FABRICATIONS

PART ONE – GENERAL

DESCRIPTION

Provide metal fabrications as shown on drawings and specified herein.

WORK INCLUDES:

Items shop fabricated from stock sections and miscellaneous factory-made metal items furnished under this Section but installed under other Sections. The schedule shows kinds of items included in this Section but installed under other Sections. The schedule shows kinds of items included in this Section but is not intended as a complete listing. Items described are generally those items not detailed on drawings, or if detailed, required amplification. Consult drawings for full extent of work required under this Section.

Providing and setting structural shapes, such as angles, channels, or plates shown to be built-in or anchored into concrete for attachment of other work.

Providing all anchors, sleeves, screws, bolts and connecting members necessary for securing metal work to other adjacent or adjoining work.

Providing and installing angles, lintels, and other reinforcement.

Furnish and install all metal handrails indicated on Drawings.

Furnishing all necessary patterns and templates.

Furnishing to various trades, where needed, sockets, anchors, and other portions of this work that are to be built into structure, and supervising and being responsible for their accurate spacing and setting.

RELATED WORK SPECIFIED ELSEWHERE

General & supplementary Conditions, Special Requirements
Hangers & Supports for Plumbing Work: Division 15
Hangers & Supports for HVAC Work: Division 15
Hangers & Supports for Electrical Work: Division 16

QUALITY ASSURANCE

Materials shall be best of their kind for purpose intended. Materials not specifically described shall be manufacturer's standard for first quality.

SUBMITTALS

Submit shop drawings showing gauges, thicknesses, sizes and construction of members and manner assembling various members which make up different items. Show true profiles, connections and relationship to adjoin work, methods of anchoring, and other pertinent information.

JOB CONDITIONS

Coordinate with trades furnishing items, which will attach to built-in members for proper positioning.

Furnish in ample time; anchors, bolts, inserts, clips and other items furnished under this Section but built in with work of other trades.

No work shall be fabricated or delivered to site until shop and detail drawings for the work have been approved.

PART TWO - PRODUCTS

MATERIALS

STEEL: ASTM A36 unless indicated otherwise on drawings.

GALVANIZING OR ZINC COATING: ASTM A123 or A386 as applicable and observing precautions in ASTM Recommended Practices A384 and A385.

PAINT FOR SHOP APPLICATIONS: Prime with Tnemec 10-99 or Southern Coatings RIP 1-0900 primer to minimum 2 mil dry thickness.

FABRICATION

Form metals to shape and size, with sharp lines and angles, and with smooth surfaces and faces. Shearing and punching shall leave clean true lines and surfaces, free from distortion. Weld or bolt permanent connections with bolts in finished work countersunk. Do not use screws unless specifically shown or required. If used, they shall be countersunk stainless steel or metal compatible with members being joined. Mill fastenings to a close fit. Provide necessary rabbets, lugs and brackets, etc., so work can be assembled neatly. Thickness of metals and

details of assembly and supports shall provide ample strength and stiffness. Built-up parts shall be out of wind. Form joint exposed to weather to exclude water. Countersink and recess to receive hardware. Provide with proper bevels and clearances.
Use plug welds wherever practicable in work exposed to view. Use fillet welds only where plug welding is impractical. Where welds are exposed flush and smooth, level with adjacent surfaces so that resultant weld provides appearance and strength of a continuous member of uniform thickness. Grind welds at intersecting members to straight lines.

CLEANING STEEL: Remove loose rust and mill scale by Hand Tool (SSPC-SP-2) or Power Tool (SSPC-SP3) method.

PRIME FERROUS METAL: Do not shop galvanized items. Apply 2 shop coats to parts of miscellaneous items which will be inaccessible after assembly.

Where two coats of primer are required, tint second coat a recognizable different shade. Before shipment, clean and touch up welds and abrasions on galvanized items with zinc-rich paint.

PART THREE - EXECUTION

INSPECTION

Inspect, field measure and verify that conditions are acceptable for installation of work.

INSTALLATION

Erect metal items in proper position, securely fastened, plumb, in line, and level, free of sharp edges and rough spots and in accordance with approved shop drawings.

Do cutting, drilling, or modifying of adjacent or adjoining work where necessary for proper installation.

Set hardware that is shop-installed. Do fitting true to line.

Bend or form tubing, pipe and other members to continuous and true curves, with joints flush, hairline, neatly fastened together and assembled to other materials.

Touch up abrasions and metal cuts, bolts and nuts with material used for shop priming so that entire assembly as erected presents a complete smooth prime coat of paint.

SCHEDULE OF FABRICATIONS

LOOSE LINTELS: Of sizes shown or required, minimum 8" bearing on each side of masonry opening. Lintels furnished under this Section but installed under Masonry: Division 4. U-block lintels minimum bearing 8" on each side of concrete masonry opening.

END OF SECTION 05500

SECTION 06100 - ROUGH CARPENTRY

PART ONE - GENERAL

DESCRIPTION

Provide rough carpentry required to complete the work, including, but not limited to:

Studs, joists, headers, bracing, supports and shoring required to support construction during formative stages.

Forming block-outs and setting inserts into concrete to accommodate fastenings.

Framing openings in and providing forming and supports for concrete lintels in concrete and masonry.

Providing all nailers, wood blocking and plywood in connection with metal decks, copings, roofing's and fascias.

Installation of metal door frames.

Providing openings, nailers, furring and grounds for items specified in other sections and indicated on drawings.

Installing blocking and concealed back-up for grab bars and handrails. Installing anchors, inserts, fasteners and other items furnished under other sections.

Coordinating and framing as required for installation and support of Plumbing, Heating, Ventilating, Air Conditioning and Electrical work.

Furnishing and setting of all rough hardware, such as shoes, dogs, spikes, bolts, stirrups, nails, lag screws, lagging bolts, anchors, etc., as indicated or required to hold woodwork together or to anchor or secure it to other materials and construction.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Concrete Formwork: Section 03100
Finish Carpentry: Section 06200
Hollow Metal Frames: Section 08110
Painting: Section 09900
Miscellaneous Specialties: Division 10

QUALITY ASSURANCE

Lumber Grading rules and Wood Species to be in conformance with American Softwood

Lumber Standard PS2O.

Grading rules of following associations apply to materials furnished under this Section:

Southern Pine Inspection Bureau (SPIB)
Western Wood Products Association (WWPA)
Softwood Plywood-Construction and Industrial PSI

Each piece of lumber and plywood shall have grade marked by association having jurisdiction under whose grading rules it is produced.

Preservative Treatment: AWPB Standards LP-2, above ground use.

Fire Hazard Classification: Underwriters' Laboratories, Inc., for treated lumber and plywood.

SUBMITTALS

PRESSURE TREATED WOOD: Submit certification by treating plant stating chemicals and process used, net amount of salts retained, and conformance with applicable standards.

PRESERVATION TREATED WOOD: Submit certification for water-borne preservative that moisture content was reduced to 19% maximum, after treatment.

PRODUCT DELIVERY, STORAGE AND HANDLING

Immediately upon delivery to job site, place materials in area protected from weather.

Store materials a minimum of 6" above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.

Do not store seasoned materials in wet or damp portions of building. Protect sheet materials from corner breaking and damaging surfaces, while handling.

MATERIALS

LUMBER

Dimensions indicated and specified are nominal. Actual sizes to conform to N.B.S. PS20. Where dimensions are not indicated, sizes to be selected to meet structural requirements of strength and stiffness, subject to approval of Architect. End jointed lumber not acceptable.

MOISTURE CONTENT: 19% Maximum for air-dried stock.

SURFACING: Surface four sides. (S4S).

LUMBER GRADES: No. 2 grade or better Southern Pine or Douglas Fir standard grade.

PLYWOOD

GENERAL: Identify each panel with appropriate grade-trademark of American Plywood Association. Thickness as indicated on drawings. If none indicated, thickness shall be as required for span and loading.

EXTERIOR USE: N.B.S. PS 1 plywood, Construction, Group I, CD with exterior glue.

INTERIOR USE: CD grade.

OTHER MATERIALS

BUILDING PAPER: Asphalt-saturated felt; ASTM D226, No. 15 non-perforated.

PRESERVATIVE TREATED WOOD: Water-borne salt preservatives, AWPB LB-2,above ground application. Each piece to bear mark identifying treatment. “Osmose K-33” manufactured by Osmose Wood Preserving Co., Buffalo, N.Y., or Wolmanized” by Koppers acceptable.

ROUGH HARDWARE

Provide rough hardware, including nails, screws, bolts, anchors, ties and metal fastenings as required for proper construction and erection of work, or proper type and size suitable for purpose intended and approved by Architect.

PART THREE – EXECUTION

INSPECTION

Verify that surfaces to receive rough carpentry materials are prepared to required grades and dimensions.

Do not proceed until all unsatisfactory conditions are corrected.

PREPARATION

Verify that all items requiring priming are painted before installation.
Verify correct location of pre-set anchor bolts and other features

Verify locations and sizes of openings required by other sections of the specifications.

Verify locations of blocking and reinforcement for grab bars, handrails, and any other specialty item included in Division 10.

INSTALLATION

FRAMING: Studs, openings, blocking, rough bucks, nailers, grounds, furring and back-up for items furnished under other sections in accordance with manufacturer's recommendations and approved shop drawings.

Lay out, cut, fit and erect other rough carpentry as indicated on drawings and required.

Brace, plumb and level members in true alignment and rigidly secure in place with sufficient nails, spikes, screws and bolts as necessary.

BLOCKING: Install blocking to provide rigid and secure backing as detailed and necessary.

Wedge, align, and anchor blocking with countersunk bolts, washers and nuts or nails.

Locate blocking to facilitate installation of finishing materials, fixtures, specialty items and trim.

Install 2x blocking halfway between bottom & top plates of all load bearing and fire rated walls.

FURRING: Provide headers and other nailing members within furring framework. Install and shim furring to provide faces true to line and plumb.

ROUGH BUCKS: Provide rough wood bucks for all openings as indicated and required.
Securely anchor in place with 3/8" bolts and washers at 36" o.c. max. and 6" max. from ends.
Countersink bolt heads as required or indicated.

GROUNDS: Provide grounds as indicated and required including those for Mechanical and Electrical ceiling and wall items.

NAILERS ON MASONRY OR STEEL: Anchor nailers resting on masonry or steel with 3/8" bolts and washers at 36" o.c., unless indicated otherwise. Countersink bolt heads as required or indicated.

FASTENINGS TO CONCRETE OR MASONRY: Use power-actuated steel nails, expansion screws, toggle bolts, metal plugs, or metal inserts for installation or rough carpentry members to masonry or concrete construction.

Do not use wood plugs or nailing blocks for fastening grounds, or furring to concrete or masonry.

MASONRY OPENINGS: Wood centering or other necessary supports for openings in masonry walls shall be accurately and strongly made, properly braced and secured into position until masonry has thoroughly set.

TEMPLATES AND MEASURING BOXES: Provide all necessary templates and measuring boxes as required.

PRESERVATIVE-TREATED WOOD PRODUCTS: Provide preservative-treated wood in following locations:

All lumber used in exterior wall or other exterior construction.

All plywood used in exterior construction.

All lumber used in connection with concrete, masonry or steel.

All wood used in roof construction including fascia backup, cants, nailers and runners at mechanical units.

Apply two brush coats of same preservative used in original treatment to all sawed or cut surfaces of treated lumber.

PROTECTION

Protect masonry and concrete subject to damage during work, including edges of sills, concrete slabs, concrete steps, platforms and similar items, remove such protective covering when directed.

CLEAN-UP

Pick up cuttings and debris normal to this operation daily and store in areas safely removed from the building or in fire-proof containers.

END OF SECTION 06100

SECTION 06200 - FINISH CARPENTRY

PART ONE - GENERAL

DESCRIPTION

Provide finish carpentry required to complete the work indicated on the drawings and specified herein, including, but not limited to:

Furnishing and installing metal items such as angles, braces, lintels, clips, plates and stiffeners required in construction and installation of millwork items and cabinetwork.

Installing finish hardware specified in Section 08710.

Installing doors specified in Division 8 except aluminum entrance doors.

Installing miscellaneous specialty items specified in Division 10 and shown on drawings.

Setting and installing grilles, register faces and like items applied to woodwork.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Rough Carpentry: Section 06100
Hollow Metal Doors: Section 08110
Finish Hardware: Section 08710
Back-priming and Painting: Section 09900
Specialty Items: Division 10

OUALITY ASSURANCE

All millwork shall conform to the “Quality Standards” of the Architectural Woodwork Institute, latest edition for “Custom” Grade Work unless specifically indicated otherwise.

Following grading rules and standards, latest edition, apply to materials furnished under this Section:

LUMBER:
Southern Pine Inspection Bureau (SPIB)
Western Wood Products Association (WWPA)
National Hardwood Lumber Association (NHLA)

PLYWOOD:
Softwood Plywood: PS 1
Hardwood Plywood: PS5 1

PARTICLE BOARD: CS236

HIGH PRESSURE PLASTIC LAMINATE: NEMA Publication LD3

SUBMITTALS

Submit shop drawings for all millwork, identified with location, quality grade, type of finish and species of wood.

Show millwork in related and dimensional position and furnish large scale sections and details.

The drawings shall indicate all types of fastening and anchoring devices.

The mill shall be responsible for details and dimensions not controlled by job conditions.

Show all required field measurements beyond control of the mill.

The Contractor shall verify that all items will clear all obstructions between millwork shop and final location on job. Should any items as designed and detailed on drawings not clear all obstructions, Contractor shall so notify Architect in writing when shop drawings are submitted for Architect's review.

PRODUCT DELIVERY, STORAGE AND HANDLING

Do not deliver millwork in foggy or rainy weather.

Store millwork off the ground and properly supported in ventilated, weather-tight enclosure to prevent damage by excessive changes in moisture content.

Handle millwork in manner to prevent damage.

Receive, store and be responsible for finish hardware from time received until project is accepted. Check hardware when delivered for agreement with hardware schedule and promptly report errors or discrepancies to architect.

Store hardware off floor in weather-tight enclosure and handle in manner to prevent damage.

PART TWO - PRODUCTS

MILLWORK QUALITY GRADE

Materials and Fabrication: Custom grade for all finishes, unless specifically indicated otherwise, in accordance with "Quality Standards Illustrated" of the Architectural Woodwork Institute, latest edition, conforming to the following sections:

Section 100 - Solid wood members.
Section 200 - Plywood and particle board (no Fiberboard shelving permitted).
Section 300 - Standing and running trim.
Section 600 - Closet and storage shelving (no Fiberboard shelving permitted).

MATERIALS

PARTICLE BOARD: Mat-formed wood particle board, 45# density, CS236.

FASTENERS AND ANCHORING DEVICES: Of types and sizes appropriate for specific work. All exterior fasteners shall be non-ferrous. "Tapcon" masonry and concrete anchors, products of Buildex, shall be installed in accordance with manufacturer's recommendations.

HARDBOARD: PS58, tempered, 1/4" thick unless indicated otherwise.

INTERIOR WOODWORK: Grade marked WWPA, B and better, Piranha Pine.

INTERIOR PLYWOOD: 3/4" thick unless noted otherwise. Select white birch one piece face. Interior type A-A, where both sides will be exposed to view. Interior type A-B, where only one side will be exposed to view. Hardwood edgebands exposed to view

PLASTIC LAMINATE: General purpose 1/16" thick, color as selected by Architect, as manufactured by Nevemar or Formica Corp. Co. Selected from standard wood grains, patterns, & color grid system.

CABINET WORK:

.1 - All cabinet exposed faces: select white birch one piece face. Conform to Section 400 AWI custom standards.

.2 - Interior fixed shelving at all cabinets - 3/4" A-B fir paint grade.

.3 - Cabinet doors and drawers - select white birch one piece face. Hardwood

Edge molding to match wood face of cabinet.

.4 - Cabinet backs - 1/4" plywood.

.5 - Cabinet sides and bottoms - 3/4" plywood. Sides exposed to view shall be 3/4" select white birch one piece face.

.6 - Drawer bottoms - 1/4" plywood.

.7 - Drawer sides - 3/4" plywood.

CABINET HARDWARE:

.1 - All drawers to have KV 1300 type drawer slides.

.2 - All door and drawer pulls and door hinges as specified under Section 06402.

EXPOSED SHELVING AND DIVIDERS:

Interior type plywood, select white birch one piece face, and white birch edge strip on front edge. 3/4" thick.

UNEXPOSED SHELVING (CLOSETS AND STORAGE ROOMS):

Interior type, grade A-B fir 3/4" thick.

FABRICATION

Fabricate millwork in accordance with "Quality Standards Illustrated" of AWI, 1968 edition, "custom" standards.

Support interior shelves on securely fastened continuous cleats or as indicated. (Adjustable standards recessed in stiles or casework sides.)

1 - Drive all power driven "T" head nails or staples where permitted on exposed surfaces with long dimension parallel with the exposed grain.

Install built-in hardware, hinges, pulls, knobs, slides and catches as specified under this section and Finish Hardware.

Install and prepare wood that would normally be exposed to view to properly receive finish as specified. Thoroughly sand after edgebanding to receive unified stained finish.

PART THREE - EXECUTION

INSPECTION

Examine all surfaces and materials to which finish carpentry items are to be applied.

Insure that surfaces and conditions of all materials to receive finish carpentry work are satisfactory to obtain specified results.

Verify that door frames are plumb, level, square, straight and aligned. Insure that all hardware provisions conform with approved shop drawings.

Do not proceed until all deficiencies are corrected.

PREPARATION

Verify that all wood trim and built-in millwork and cabinetwork surfaces, which will be concealed after installation, are back-primed before installing.

INSTALLATION

Install millwork and cabinetwork in a manner consistent with the quality of the specified grade and in accordance with approved shop drawings.

MILLWORK:

Finished woodwork shall be properly framed, closely fitted and accurately set to required lines and levels and rigidly secured in place.

Millwork shall be carefully put up, in the best and most rigid manner, straight, plumb level and in true alignment, neatly and accurately fitted arid scribed. Miters or other fitted joints shall be planed and sanded.

Nail and screw heads exposed in the work shall be countersunk, except where nature or thickness of wood does not permit. Work shall be left clean and free from warp, twist, open joints and other defects. Neatly scribe around pipes and other obstructions to fit work, and furnish and install fillers as necessary.

Cutting and repairing of this work for accommodation of the work of others shall be done as part of the work of this section unless otherwise specified.

Make joints in woodwork tight, formed to conceal shrinkage. Interior corners shall be coped, and external angle joints shall be mitered. Make joints on the miter

except where shown to be butt-jointed, in which case use an approved device to prevent separation.

Make the minimum number of splices in running finish, beveled and jointed where solid fastening can be made. Butt joints in running finish will not be permitted.

Sink nail heads in finished work with a nail set. Nails and screws where possible, shall be concealed. Nails shall be blind-nailed wherever possible; otherwise, nailing shall be located and driven so as not to be visible in finish. Countersink face screws and plug with matching wood.

Metal items exposed in finished work shall be smooth, without burrs or irregularities. Screws or bolts shall be countersunk.

CABINETWORK:

All anchors and fasteners for cabinet shall be concealed.

DOORS:

Field fit and hang wood, plastic faced and hollow metal doors.

FINISH HARDWARE:

Fit hardware prior to application of painter's finish, remove during finishing operation and reset after completion of finish.

Protect metal knobs and handles by wrappers of tough paper or cloth maintained in place until acceptance of work. Take care not to mar or damage other work. Locate and position in accordance with Architect's directions. Upon completion of work, in presence of Architect, show that hardware works freely.

In setting thresholds, drill as necessary for fastening and set thresholds in full beds of oleo-resinous caulking compound.

MISCELLANEOUS SPECIALTY ITEMS:

Install specialty items in accordance with approved shop drawings. Verify all locations and elevations prior to installing.

Fasteners shall be recommended and/or provided by manufacturer of item and entirely suited for purpose.

HIGH PRESSURE PLASTIC LAMINATE:

Install in strict accordance with manufacturer's printed instruction and approved shop drawings.

PROTECTION OF WORK

Provide suitable protection for finished work and material. Replace or repair to Architect's approval all damaged work at no cost to Owner.

END OF SECTION 06200

SECTION 07110 – WATERPROOFING & DAMPPROOFING

PART ONE - GENERAL

DESCRIPTION

Provide and install all water proofing, damp proofing, vapor barriers, and thru-wall flashings where indicated on drawings and specified herein.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements
Cast-in-Place Concrete: Section 03300
Painting: Section 09900

PRODUCT DELIVERY, STORAGE, AND HANDLING

Store materials above ground on level platforms in unopened containers. Cover and store in approved manner, which will protect them from weather exposure.

PART TWO - PRODUCTS

Provide at all cut slab locations for new plumbing.

VAPOR BARRIER: Densely structured, heavy duty single ply 10 mil thick (0.010) vinyl plastic sheet. Tape all joints & penetrations for a positive seal.

ADHESIVES: Type recommended by flashing manufacturer for weather resistant seaming and adhesive application of wall flashing sheet.

INSPECTION

Inspect surfaces to verify suitability.

Verify proper fill and compaction for vapor barriers under slabs on grade. Report unsatisfactory conditions.

PREPARATION

Clean surfaces to be treated of oil, grease, dirt, laitance and loose material. Point and fill holes, joints, and cracks flush, grind down high spots and rough surfaces and leave smooth. Moisture content of surface shall be as recommended by material manufacturer.

INSTALLATION

Install all products in accordance with manufacturer's instructions and recommendations.

VAPOR BARRIERS: Over leveled fill material under floor slabs on grade, place one layer of membrane material, lapping edges at least 6". Lap and seal joints; seal edges to wall, column bases, etc. fold and cement corners, or otherwise make vaporproof. Provide sealed contact with piping and penetrating features.

Seal punctures and cuts before placing concrete.

END OF SECTION 07110

SECTION 07210 – BUILDING INSULATION

PART ONE - GENERAL

DESCRIPTION

Provide thermal and sound control insulation as shown on drawings and specified herein.

Definition: R-value designation is the thermal resistance of insulation only, not including alleged air spaces or other factors assumed to result in higher R-values.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Gypsum Drywall System: Section 09250
Acoustical Treatment: Section 09511
Mechanical Systems insulation: Division 15

SUBMITTALS

Samples: Submit samples of each material or product to be used, clearly identified with manufacturer's name, brand name, R-value, and composition.

Manufacturer's Literature: Manufacturer's recommended installation instructions, including procedures for use of adhesive.

Certificates: Manufacturer's certification that materials meet specification requirements.

PRODUCT DELIVERY, STORAGE & HANDLING

Deliver materials to project site in manufacturer's original unopened packaging.

Identify contents, manufacturer, brand name, thermal values, and applicable standards.

Store materials in area protected from weather, moisture and open flame or sparks.

Remove damaged material from site.

ENVIRONMENTAL REQUIREMENTS

Do not install rigid board insulation when temperature is 40 degrees F or below,

during rain or wet weather, or when surfaces are wet.

SCHEDULING

Coordinate installation with other trades whose work may be affected.

PART TWO - PRODUCTS

MATERIALS

METAL BUILDING INSULATION: Simple Saver System shall be 8" thick (R-25) with formaldehyde free products. NRC shall be 0.75 min.

PART THREE - EXECUTION

INSPECTION

FIBROUS (BLANKET) INSULATION:

Examine areas scheduled to receive insulation to insure protection against inclement weather and other hazards and work of preceding trades is completed.

Examine space allocated for insulation for proper depth to receive material.

Proceed with installation only when conditions are satisfactory.

INSTALLATION

FIBROUS (BLANKET) INSULATION:

Install unfaced 6" batt insulation in all stud partitions and above all acoustical ceiling panels unless indicated on drawing otherwise. (Insulation shall terminate at ceiling height at interior partitions/insulation shall enclose total exterior envelope at exterior stud framing.

Fit insulation snugly between framing.

Maintain integrity of insulation over entire area to be insulated.

Carefully cut and fit insulation around pipes, conduits, and other obstructions. Where pipes or conduit are located in stud places, place insulation between exterior wall and pipe, compressing insulation where necessary.

Do not install insulation requiring compression in excess of 10%.

CLEAN UP

Remove adhesive splatters and smears.

Remove debris from project site.

Leave work areas in clean condition.

END OF SECTION 07210

SECTION 07400 - METAL ROOF & WALL SYSTEM

PART ONE - GENERAL

DESCRIPTION

Provide and install standing seam roof / wall panels and trim as shown on Drawings and specified herein. Metal roof / wall system and accessories shall achieve an undivided and single source responsibility.

Also included is the installation of closures, roof edge, clip fasteners, ridge cap, rubber vent flashing, curbs and all accessories for a complete watertight system.

Install all required curbs of flashing systems compatible with profile of roof system.

RELATED WORK SPECIFIED ELSEWHERE

1. General & supplementary Conditions, Special Requirements
2. Flashing and Sheetmetal: Section 07600
4. Pre-engineered Metal Building Components 13000

QUALITY ASSURANCE

GENERAL: It is the intent of this specification to describe a 24 ga. standing seam metal roof system with factory finish. Including details, materials and methods of application for a complete system.

Manufacturer is to be in business a minimum of (5) five years.

Applicator shall be certified by manufacturer.

Qualifications: Furnish written proof upon submitting bid to Owner, stating that the Roofing Contractor is a manufacturers approved applicator of the roofing system to be installed and that the Roofer can secure the Twenty Year Manufacturers Warranty for the specified system.

Certification: Installation of insulation and roofing shall meet requirements of Factory Mutual regarding fire and uplift due to wind. Factory Mutual Class 1-60.

Contractor shall be required to attend a review of the roofing system with Designer and Owner to make inspections of the roofing system toward the end of the one (1) year warranty period and toward the end of the roofing guarantee period.

Contractor shall make approved repairs and/or replacements as covered by the guarantee.

Owner may at his option select and employ at the Owner's Expense:

> A Roofing Systems Consultant to review the Construction Documents and/or perform surveillance during any installation of substrate, roofing, flashing and any other part of the total roofing system.

The roofing /wall system product supplier shall furnish the Roofing Contractor with Material Safety Data Sheet/Sheets (MSDS), incorporating OHSA approved form, current edition. Said sheets shall be available at the site at all time until project completion.

PRE-ROOFING CONFERENCES

The Owner, Architect, Contractor and Roofing Contractor shall attend a pre-roofing conference conducted by the Architect at the site prior to the beginning of any phase of the roof work.

SUBMITTALS

Submit shop drawings and manufacturer's literature in triplicate. Shop drawings are required for final inspection of the warranted roof. Shop drawings shall be made by manufacturer.

Shop drawing shall include outline of roof/wall, roof size, location of penetrations, perimeter details, anchoring device locations and special details.

At completion of Project, Roofing Contractor shall submit to Owner, in a ring binder, two copies of all roofing data, including manufacturers catalogs/manuals of materials and accessories used in the project.

Roofing Contractor shall submit at completion of job as-built specifications, including all change orders and shop drawings and details utilized on project in 3-ring binder.

GUARANTEES

The roof and associated work shall be guaranteed against leaks from faulty or defective materials and workmanship for a 20 Year Guarantee.

Representative of the Designer, Owner, the General Contractor, the Roofing contractor and Roofing Manufacturer's representative shall make inspections of the roofing system toward the end of the one (1) year warranty period and toward the end of the Roofing Contractor's guarantee period. Further, the Roofing System Manufacturer's authorized technical representative shall inspect the roofing system at the conclusion of the Manufacturer's Guarantee and report same to the User with copy to Owner. The Roofing Contractor or Roofing Systems Manufacturer, as applicable, shall make approved repairs and/or replacements covered by the Guarantee. Project will not be accepted until the Roofing Contractor's Guarantee, executed in strict accordance with the Roofing Guarantee included herein and made a part of Contract Documents as been submitted and accepted by the Owner.

The roof system and associated work shall be guaranteed against leaks from faulty or defective materials and workmanship for an applicable period shown on guarantee, starting on the date of the Owner's acceptance of the project.

The Roofing Guarantee shall be executed in duplicate, signed by the appropriate parties and submitted to the Owner through the Architect.

A separate Ten (10) Year Guarantee shall be furnished by the manufacturer of the materials of the roofing system. The sample form of the guarantee shall be delivered to the Architect from the manufacturer through the Contractor. The manufacturer is to include a list of all component parts of the roofing system that shall be guaranteed. The manufacturer's letter shall also state acceptance of the installer of the roofing system. This form, list and letter shall be received and reviewed by the Architect for compliance as a shop drawing and specification prior to conducting the Preliminary Roofing Conference.

The Roofing Manufacturer's Guarantee shall guarantee at the manufacturer's own cost and expense, to make or cause to be made such repairs to or replacement of, to correct any and all faulty installations or materials of the roofing system, to keep the roofing system in a watertight condition throughout the 10 Year Guarantee period. The guarantee shall not be prorated. The executed guarantee shall be delivered to the Architect in three original counterparts prior to acceptance of the Work.

The definition of the roofing system includes the materials and methods used from the deck up. Included are the metal counter flashing, edging, caps and copings, vent covers (pre-manufactured) and gutters and downspouts.

PRODUCT DELIVERY, STORAGE, AD HANDLING

Do not deliver materials until roofing operation is ready to begin.

Deliver materials in manufacturer's original, unopened containers with labels intact and legible, and in sufficient quantity to allow continuity of work.

Store all roofing materials on clean, raised platforms with weather protective covering.

Protect materials against damage by construction traffic.

Provide continuous protection of materials.

Remove wet and/or damaged materials from jobsite.

Comply with fire and safety regulations.

JOB CONDITIONS

Apply roofing in dry weather.

Install only as much roofing system as can be completed each day. Once started, continue roofing without interruption until completed.

Do not store or allow access on any adjacent completed built-up roof surfaces.

PART TWO - PRODUCTS

METAL ROOFING SYSTEM

ROOF PANELS: Furnish and install 24 gauge x 18" wide standing seam colorklad standing snap lok roof with *Kynar 500 finish*. Seam height shall be 1/ 3/4" (min). Approved Manufacture: MBCI LokSeam 18", Signature 300 series color, striated and an approved equal meeting the performance specification. All other must be prior approved before bid.

The metal roof panels shall be installed over zee purlins. Metal roof panel shall be a 24 gauge standard panel with pencil ribs. Color shall be selected from their standard colors. No lap joints. The panel shall extend from ridge to eave.
All exposed metal flashing at parapet walls, eave trim, downspouts, and fascias shall be colorklad to match roof panels. There will be no exposed screws @ fascias, roof/wall panels, eaves, gutters, downspouts, and ridge vents. Thermal

spacers shall be used to separate metal roof & walls panels from insulation and purlins.

RIDGE CAP: At the roof ridge furnish and install a low profile continuous ridge cap, with roof panel color on the exposed metal cap sheet. All roof penetrations at standing seam roof areas to have Neoprene roof jacks for pipes or conduits going through roof, provided by mechanical or electrical contractors. All exposed metal flashing same color as roof panel.

SOFFIT: At the soffit furnish and install a QwiLok,12", smooth, high gloss white by MBCI or equal as indicated on drawings. Colorklad soffit shall be white and may be supplied by roof manufacturer panel if it meets the performance specification.

Perforated panels shall be located @ all overhangs except rakes. (fi applicable)

ROOFING CONTRACTOR SHALL FURNISH:

Ten (10) year warranty on workmanship and water tight installation.
Twenty (20) year warranty on metal panel finish.

The insulation shall be a simple saver system as indicated in Section 07210.

Roofing panel must be continuous one piece from ridge to eave.

PART THREE - EXECUTION

General: System shall be installed in strict accordance with manufacturer's specifications for Warranty on complete roofing system.

INSPECTION

Metal panels shall be installed only when the subframe is installed and aligned to acceptable tolerances.

STORAGE

Material protection shall be provided during fabrication, shipment, storage and erection.

During shipment, finished surfaces may be protected from abrasion by a removable plastic film between areas of contact.

Jobsite storage shall be in a clean, dry area out of direct contact with the ground, under cover or sloped for drainage, protected from abuse by traffic and from contamination by corrosive or staining materials.

Stored materials and unfinished work shall be secured against wind damage. Installed panels shall be protected from abuse by other trades.

It shall be the responsibility of the Contractor to provide walk boards in areas of heavy traffic and any other measures required to prevent damage by his own crews and notify the General Contractor of any necessity for protection from other trades.

INSTALLATION

Install panels as per manufacturer's written specifications.

Install vinyl faced batt insulation at required locations.

All work shall be installed in accord with approved shop details under direct supervision of an experienced sheet metal craftsman.

Attachments and joints shall allow for expansion and contraction from temperature changes without distortion or elongation of fastener holes.

Flashings shall be installed in strict accord with the recommended practice in SMACNA Architectural Sheet Metal Manual, latest edition.

Remove any strippable protective coating on flashings prior to installation and in any case do not allow the strippable coating to remain on the panels in extreme heat, cold, or in direct sunlight or other UV source.

Caulk, seal and fasten so as to provide a complete weathertight installation.

Discrepancies between job site conditions and drawings as approved shall be brought to the attention of the Architect or his representative for resolution, prior to installation.

Install all required roof accessories specified under Section 07800 or required by Drawings. Flashing shall be furnished and installed to satisfy conditions of use.

CLEAN-UP

As work progresses, remove excess scrap and keep working surface free from debris on a daily basis.

Touch-up areas as required or directed with manufacturer's standard touch-up paint. Follow instruction for application carefully.

Leave project at completion free from stains and scrap. Wash panel surface with water if necessary.

Final inspection will be at the discretion of the Architect or his representative.

END OF SECTION 07400

SECTION 07600 - FLASHING & SHEETMETAL

PART ONE - GENERAL

DESCRIPTION

Provide flashing and sheet metal as shown on Drawings and specified herein, including reglets, counter flashing, expansion joints and all miscellaneous clips.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:

OUALITY ASSURANCE

Sheet Metal and Flashing Details: Shall be as recommended by manufacturer of Roofing System. The Sheet Metal and Air Conditioning Contractors National Association, Inc., publication ARCHITECTURAL SHEET METAL MANUAL, (SMACNA), latest edition, shall be followed where not in conflict with manufacturer's recommendations.

Responsibility: The Contractor shall subcontract the sheet metal and related items specified in this Section, and in the Single Ply Roofing Section of this specification to a single subcontractor specializing in this type of work so there will be undivided responsibility for the specific performance of all component parts.

SUBMITTALS

Shop Drawings: Furnish shop drawings for all manufactured items. Drawings to show metal thicknesses, finishes, installation details and fastening methods. Furnish standard color charts in duplicate for Architect's selection.

Samples: Furnish full size samples of shop-made metal items if required by Architect.

Manufacturer's Literature: Furnish duplicate copies of manufacturer's literature covering all manufactured items.

Warranty: Roof sheet metal flashing installation except at metal roofing, is subject to warranty as specified to maintain existing warranty.

MATERIALS

Metals: Metal flashing, wall flashing, and expansion joints as indicated on Drawings. Provide all exposed joint covers, end laps, drive pine, sealants and related items as required for a complete system.

Provide @ junctions - 6" cover plates and gravel guards, 90 degree corner covers, and shape ridge covers on fascia.

Sealant shall be type as recommended by manufacturer of reglet and complete assembly shall be installed in accordance with manufacturer's recommendations

Nails & Screws: Fasteners as shown on the drawings, as specified herein, but in no case less than size and type as recommended by manufacturer.

Flashing at Roof Penetrations: Flashings at all roof penetrations, including those required for mechanical and electrical work, shall be provided under this Section. This does not include penetrations at those roof-mounted items which contain integral, pre-fabricated curbs with integral counter-flashing. Provide lead flashing at all roof drains.

Single pipe and conduit roof penetrations up to six (6) inch o.d. shall be flashed and sealed using a Pate Pipe Seal of required size and installed in accordance with manufacturer's recommendations and the included detail.

At multiple pipe and conduit roof penetrations, where the single seal cannot be used, install the Pate Pipe Curb Assembly, size and type as required including all components for a complete installation.

Membrane Flashing: Provide membrane flashing where shown on drawings and at all exterior walls where masonry rests on concrete grade beams, floors and steel shelf angles; and at steel spandrel beams.

Membrane flashing shall be composed of 3 oz. copper sheet bonded between two sheets of textured, woven, high tensile strength glass fabric with a specially blended asphalt compound.

PART THREE - EXECUTION

INSPECTION

Carefully examine all surfaces and substrates prepared for sheet metal by other trades. Notify the Contractor of any defects such as surfaces that are not true,

square, level or plumb, or dry as the case may be, or surfaces not having correct pitch or that are otherwise unsuitable to receive this work. Do not perform this work until the faulty conditions have been corrected.

INSTALLATION

Provide all necessary metal flashing and counter flashing for a complete watertight job. All metal counter flashings shall be set prior to laying wall and shall be placed when walls are laid.

Proper allowance shall be made for expansion and contraction in all metal work.

The exposed edges of all breakmetal work shall be turned under 1/2" (hemmed) in such a manner as to conceal them from view and to permit interlocking or separate continuous angle or channel at bottom for aligning. Welding, brazing, or soldering of joints will not be permitted without approval of Architect.

All breakmetal type fascias and copings shall have a separate continuous angle to channel which shall interlock with bottom edge of fascia or coping at bottom for alignment purposes.

Exposed nailing will not be permitted. Ends of all flashing in block & brick walls shall be turned up and sealed to form a dam. Factory fabricated fascias and reglets shall have manufacturer's standard joint covers, spacing as shown or called for on drawings.

Install all items in accordance with manufacturer's recommendations and approved shop drawings.

All flashing shall be installed straight, level, true to line. No dents, crimps or unlevel conditions shall be acceptable. All unsatisfactory installation shall be removed and re-installed at Contractor's expense. All expansion caps shall be installed symmetrical with span. No exception acceptable.

CLEANUP

All sheet metal surfaces shall be cleaned of all resin, dirt, grease and other foreign substances immediately after this work is finished.

Remove all trash and debris from the site.

END OF SECTION 07600

SECTION 07900 – JOINT SEALERS

PART ONE - GENERAL

DESCRIPTION

Provide and apply calking and sealing as shown on drawings and as specified herein. In general, seal all openings as shown on drawings, and at all other locations which normally require calking to seal against infiltration from air, water and insects, including, but not being limited to, the following:

Construction and expansion joints, joints between dissimilar materials; joints around windows, door frames, louvers, and other penetrations and openings in the exterior wall; paving joints; interior walls as detailed or specified.

Joint sealers @ penetrations through rated construction shall be sealed with a material capable of preventing the passage of flames and hot gases when tested in accordance with ASTM-E814.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions, Special Requirements:
Steel Doors & Frames: Section 08110

OUALITY ASSURANCE

All sealing shall be done by qualified applicators.

SUBMITTALS

Furnish manufacturer's literature for sealants, callings and mastics specified in this Section.

Submit color samples in duplicate of all sealing and calking compounds for approval.

JOB CONDITIONS

Do not proceed with sealant installation during inclement weather unless all requirements and manufacturer's instructions can be complied with. Do not proceed with installation of elastomeric sealants under extreme temperature conditions which would cause joint openings to be at either maximum or minimum width, or when extreme temperatures or heavy wind loads are forecast during period required for initial or nominal cure of elastomeric sealants.

Contractor shall furnish a *5* year warranty in writing to replace any or all joints failing within warranty period at no cost to Owner, including replacement of other material damaged as result of sealant failure.

PART TWO - PRODUCTS

MATERIALS

Interior Calking (to be painted): One part acrylic latex, ASTM C-834-76.

Exterior Elastomeric Sealant (Building): Polysulfide rubber base, exterior non-acid type, one-part, non-sag, complying with Fed. Spec. TT-S-00230C, Type II, Class A. Acceptable products include “790 Building Sealant” by Dow Coming; “Silpruf’ by General Electric Corp.,”GC-9 Synthacalk” by Pecora Corp. Colors shall be selected by Architect to match adjacent finish.

Exterior Elastomeric Sealant (Paving): Cold applied, two part, job mixed, self leveling urethane compound conforming to Fed Spec. TT-S-00227E Type I, Class A, service temperature range -40 degrees to 180 degrees F. Acceptable products include “Sonolastic Paving Joint Sealer” by Sonnebom Contech; “NR-200” by Pecora Corp; Woodmont
“Chem-Calk 55Øtt

Joint Primer/Sealer: Quick drying type recommended by sealant manufacturer.

Sealant Backer: Open sell, flexible, polyurethane backer rod, of size required for joint and approved for use by the sealant manufacturer.

Preformed Elastic Joint Seals: Acmaseals, open-celled compression type, of vulcanized elastomeric compound, manufactured by Ace Highway Products Corporation. Lubricant/adhesive shall be the appropriate Acma product. Type NN1 by Williams Products, Inc. approved equal.

Fire Caulk: FireTemp Caulk (CI Intumescent) one-component, ready to use sealant manufactured by Johns Manville & USG Fire Stop Systems or and approved equal. Provide manufacturers recommendation for achieving the required rating according to system design listing. Install per manufacturers recommendation. FireTemp Spray (SI Intumescent) modified latex that can be spray, rolled or brushed. Manufactured by Johns Manville & USG Fire Stop Systems or and approved equal. Provide manufacturers recommendation for achieving the required rating according to system design listing. Install per manufacturers recommendation

PART THREE - EXECUTION

INSPECTION

Examine surfaces to receive sealants and calking to insure that conditions will permit satisfactory installation. Do not proceed with installation until unsatisfactory conditions are corrected.

Clean, neutralize and prime all surfaces in accordance with manufacturer's recommendations. Mask edges to protect adjoining surfaces and produce a straight finish line.

INSTALLATION

In general, install all joints with depth equal to one-half joint width. In deeper joints a non-absorbent closed cell expandable polyethylene foam shall be used to bring depth to limit prescribed.

A diameter shall be selected that will cause compression when in place. Joints less than 1/4" will not require foam backing. Use foam or paper tape on working joints as bond breakers for back of joints.

All work shall be done according to manufacturer's printed specifications and instructions. Apply sealants in continuous beads, with open joints, voids or air pockets.

Confine sealants to joint areas with masking tapes or other precautions. Apply compounds in concealed compression joints accurately so that excess compound will not extrude from joint.

Remove excess compound or sealant promptly as work progresses, and clean adjoining surfaces. In rough surfaces or joints of uneven widths, install sealant well back into joint.

Use anti-tack agent where necessary to protect freshly-applied sealant from public traffic and dirt. Joints shall be slightly recessed. All joints throughout construction shall be hand tooled and finished. Set all exterior door thresholds in sealant.

Preformed Elastic Joint Seals: Install in strict accordance with manufacturer's recommendations.

Paving Sealant Application: Expansion and contraction joints and other cracks in concrete paving and walks that develop prior to final acceptance of project shall be sealed with Exterior Paving Sealant. Maximum depth of sealer in joint shall be two inches. Provide backer rods or expansion joint filler material where required. Joint

shall be clean of dirt and water. Ambient and sealer temperatures shall be as recommended by manufacturer of sealer. Remove surplus and spilled sealer material before it becomes solidified.

Protect surfaces from damage. Clean soiled surfaces immediately. Replace with new material and any damaged material which cannot be cleaned.

END OF SECTION 07900

SECTION 09900 – PAINTING

PART ONE - GENERAL

DESCRIPTION

Provide painting for all exposed interior and exterior surfaces, including items on roof, unless specifically excluded. Surfaces include but are not limited to:

All exposed steel in the restrooms shall be painted. This includes purlins, bents, girts, all exposed miscellaneous exposed steel, hvac ductwork and rigid frames. Colors shall be selected by Architect.
All electrical conduits and exposed wire mould shall be painted to match wall color.
All roof penetrations shall be center in the roof panel. All penetrations shall be painted.
Painter shall provide colored caulk @ door frames (frame meeting floor)
Structural Steel.
Miscellaneous metal fabrications.
Galvanized metal and other sheet metal. (All exposed ductwork)
Rooftop mechanical equipment.
Hollow metal work.
Concrete masonry.
Painted wall graphics, striping & logos.
Back priming of wood.
Doors & frames.
Exposed wood.
Texturing and painting gypsum board.
Exposed conduit, piping (including copper), hangers, supports and fasteners, and ductwork.
Cast iron piping, where exposed.
Items which have received a factory prime or shop coat finish.
Surfaces, including interiors of ducts, behind grilles or any other form of construction which will be visible from any angle.
Interior and exterior plaster.
Provide and install all metal corner beads for taping and floating drywall.

DEFINITION

The terms “paint” or painting” as used in this section in a general sense have reference to sealers, primers, stains, oil, alkyd, latex, polyurethane, and enamel-type paints and the application of these materials.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions
Cast-In-Place Concrete: Section 03300
Membrane Waterproofing: Section 07110
Gypsum Drywall Systems: Section 09250

OUALITY ASSURANCE

Workmanship: All workmanship is to be of the very highest standard with all materials evenly spread

SECTION 09900 – PAINTING

PART ONE - GENERAL

DESCRIPTION

Provide painting for all exposed interior and exterior surfaces, including items on roof, unless specifically excluded. Surfaces include but are not limited to:

All exposed steel in the restrooms shall be painted. This includes purlins, bents, girts, all exposed miscellaneous exposed steel, hvac ductwork and rigid frames. Colors shall be selected by Architect.
All electrical conduits and exposed wire mould shall be painted to match wall color.
All roof penetrations shall be center in the roof panel. All penetrations shall be painted.
Painter shall provide colored caulk @ door frames (frame meeting floor)
Structural Steel.
Miscellaneous metal fabrications.
Galvanized metal and other sheet metal. (All exposed ductwork)
Rooftop mechanical equipment.
Hollow metal work.
Concrete masonry.
Painted wall graphics, striping & logos.
Back priming of wood.
Doors & frames.
Exposed wood.
Texturing and painting gypsum board.
Exposed conduit, piping (including copper), hangers, supports and fasteners, and ductwork.
Cast iron piping, where exposed.
Items which have received a factory prime or shop coat finish.
Surfaces, including interiors of ducts, behind grilles or any other form of construction which will be visible from any angle.
Interior and exterior plaster.
Provide and install all metal corner beads for taping and floating drywall.

DEFINITION

The terms “paint” or painting” as used in this section in a general sense have reference to sealers, primers, stains, oil, alkyd, latex, polyurethane, and enamel-type paints and the application of these materials.

RELATED WORK SPECIFIED ELSEWHERE

and smoothly flowed on without sagging, runs, or other defects affecting the utility or appearance of the work.

Materials applied with inferior workmanship shall be removed and reapplied in an acceptable manner, at no additional cost to Owner or Architect.

Unless specified otherwise, all materials shall be of the best grade of first line paint. Products equivalent to those specified and manufactured by the following manufacturers are acceptable: PPG Industries, Sherwin Williams, & Tnemec or approved equal.

SUBMITTALS

Color Samples: Furnish Architect a complete range of color samples, in duplicate, of products to be used for preparation of color schedules. Architect will provide complete schedule of colors.

This subcontractor shall then prepare samples at the job as required until the colors and textures are satisfactory. Subcontractor will submit shop drawings on all paints.

Certificate: Furnish paint manufacturer's certification that all paint materials proposed for use or the project are the best grade of first line products.

PRODUCT DELIVERY, STORAGE & HANDLING

Deliver materials in original, unopened containers with contents labeled. Keep space used for storage of equipment and materials in clean and orderly condition. Keep all waste and paint rags in metal containers, tightly covered or safely disposed of at end of each working day. Take every precaution to avoid fire. Provide approved type of fire extinguisher immediately outside each paint storage space.

JOB CONDITIONS

Coordinate with other trades to insure adequate illumination, ventilation and dust-free environment during application and drying of paint.

Maintain temperature and humidity within manufacturer's recommend tolerances. In the absence of specific instructions by manufacturer to the contrary, exterior painting shall not be done during cold or damp weather nor when the temperature is likely to drop below 32 degrees F. during the curing cycle of the applied finish.

ADDITIONAL PAINT

Provide Owner, at completion of job, one unopened gallon of paint each color selected, in tightly sealed containers labeled with color sample and a list of room

numbers where used.

PART TWO - PRODUCTS

MATERIALS

Compound for Gypsum Wallboard Texture: Vinyl bound aggregated texture material in powdered form, mixed with water to produce a rough sand finish effect.

Texture:Texture grade selected by Architect.

Paint Materials: Finish coats to be from same manufacturer wherever possible. Base and intermediate coats shall be products recommended by manufacturer of finish coat. Refer to Paint Schedule for materials.

Gypsum Wallboard Treatment Materials

Joint Tapes: Plain or perforated ASTM C-475.
Corner Beads: Galvanized steel nailed to framing thru panels.
“Dur-a-bead” (U.S.G.) or “Standard Corner Bead” (Nat’l. Gyp.)
Compound for Embedding: ASTM C-475.

Joint Treatment: USG Perf-A-Tape System. Provide U.S.G. Ready-Mix components at gypsum board panels.

INSPECTION OF SURFACES

Before starting any work, inspect surfaces to receive paint finishes for defects which cannot be corrected by the usual puttying and sanding and cleaning, and which would prevent satisfactory results. If such defects are discovered, notify the Contractor and await corrective action.

Commencing of work constitutes acceptance of surfaces and thereafter this Contractor shall be fully responsible for satisfactory work.

SURFACE PREPARATION

1) Aluminum
Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP1, Solvent Cleaning.

2) Block (Cinder and Concrete)
Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75°F.The pH

of the surface should be between 6 and 9,unless the products to be used are designed to be used in high pH environments such as Loxon. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a patching compound such as ConSeal.

3) Brick
Must be free of dirt, loose and excess mortar, and foreign material. All brick should be allowed to weather for at least one year followed by wire brushing to remove efflorescence. Treat the bare brick with one coat of Loxon Exterior Acrylic Masonry Primer, or Loxon Conditioner.

4) Cement Composition Siding/Panels
Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Pressure clean, if needed, with a minimum of 2100 psi pressure to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. The pH of the surface should be between 6 and 9,unless the products to be used are designed to be used in high pH environments such as Loxon.

5) Drywall (Interior and Exterior)
Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting. Exterior surfaces must be spackled with exterior grade compounds.

6) Exterior Composition Board (Hardboard)
Some composition boards may exude a waxy material that must be removed with a solvent prior to coating. Whether factory primed or unprimed, exterior composition board siding (hardboard) must be cleaned thoroughly and primed with an alkyd primer.

7) Galvanized Metal
Allow to weather a minimum of 6 months prior to coating. Clean per SSPC-SP1 using detergent and water or a degreasing cleaner, then prime as required. When weathering is not possible or the surface has been treated with chromate's or silicates, first Solvent Clean per SSPC-SP1 and apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 is necessary to remove these treatments.

8) Plaster

Must be allowed to dry thoroughly for at least 30 days before painting. Rooms must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1-pint household vinegar to 1 gallon of water.Repeat until the surface is hard, rinse with clear water and allow to dry. The pH of the surface should be between 6 and 9, unless the products to be used are designed to be used in high pH environments.

9) Previously Coated Surfaces
Maintenance painting will frequently not permit or require complete removal of all old coatings prior to repainting. However, all surface contamination such as oil, grease, loose paint, mill scale, dirt, foreign matter, rust, mold, mildew, mortar, efflorescence, and sealers must be removed to assure sound bonding to the tightly adhering old paint. Glossy surfaces of old paint films must be clean and dull before repainting. Thorough washing with an abrasive cleanser will clean and dull in one operation, or, wash thoroughly and dull by sanding. Spot prime any bare areas with an appropriate primer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system. Check for compatibility by applying a test patch of the recommended coating system, covering at least 2 to 3 square feet. Allow to dry one week before testing adhesion per ASTM D3359. If the coating system is incompatible, complete removal is required.

10) Solvent Cleaning
Solvent Cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 1. (SSPC-SP1)

11) Hand Tool Cleaning
Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife. Before hand tool cleaning, remove visible oil, grease, soluble residues, and salts by the methods outlined in SSPCSP1. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 2 (SSPC-SP2)

12) Power Tool Cleaning
Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be

removed by lifting with a dull putty knife. Before power tool cleaning, remove visible oil, grease, soluble residues, and salts by the methods outlined in SSPCSP1. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No.3.(SSP-PC3)

13) Stucco
Must be clean and free of any loose stucco. If recommended procedures for applying stucco are followed, and normal drying conditions prevail, the surface may be painted in 30 days. The pH of the surface should be between 6 and 9, unless the products to be used are designed to be used in high pH environments such as Loxon.

14) Wood (Exterior)
Must be clean and dry. Prime and paint as soon as possible. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

15) Wood (Interior)
All finishing lumber and flooring must be stored in dry, warm rooms to prevent absorption of moisture, shrinkage, and roughening of the wood. All surfaces must be sanded smooth, with the grain, never across it. Surface blemishes must be corrected and the area cleaned of dust before coating.

16) Vinyl Siding
Vinyl siding must be cleaned thoroughly by scrubbing with a warm, soapy water solution. Rinse

ADDITIONAL PREPARATION OF SURFACES

Surfaces to which paint is applied shall be dry and clean. Patch or fill as required. Wash metal surfaces thoroughly with benzine or mineral spirits before applying paint materials and clean galvanized iron thoroughly with solvent or zinc phosphate pretreatment solution.

All woodwork and cabinets receiving paint or transparent finishes shall be sandpapered before priming and between each coat, to produce a smooth finish, free from scratches and brush marks.

After surfaces have been primed, apply putty or an elastic compound in all nail holes, cracks, crevices, or open joints between structural steel, miscellaneous steel or other adjoining materials. Finish putty or compound flush with adjoining surfaces. Putty shall match wood on varnished or lacquered surfaces.

After required cleaning and sanding of surfaces, should the painter or the Architect's representative find such surfaces or condition unacceptable, he shall at once stop

work on this portion of the project until the faulty conditions are corrected.

Back Priming: Back prime wood material as specified in Finish Carpentry and Millwork.

Tape, float, sand and install all corner beads to properly prepare gypsum drywall partitions for required finish.

APPLICATION

Apply all paint in accordance with manufacturer's directions. Apply paint with brush or roller. No spray applications allowed unless approved in writing by Architect.

Primer/filler coat on concrete masonry units shall be applied so as to fill all pinholes, voids, cavities and the like so as to achieve a uniform finished surface on the face of all units.

The undercoats for finishes shall be tinted slightly off the shade of the final coat. Each coat shall be inspected and approved by the Architect before application of succeeding coats. This subcontractor assumes all responsibility to repaint or refinish any area in question. Paint on steel or iron shall be a different shade for each coat.

No gypsum board joint and corner treatment, painting, or special wall covering will be required above ceiling, behind built-in millwork, behind wood paneling, behind acoustical tile, ceramic tile, or in other permanently concealed locations (unless specifically called for otherwise on drawings).

lop and bottom of wood doors shall be sealed after fitting and adjusting.

TOUCH UP AND CLEAN

After completion, touch-up and restore finish where damaged and leave in good condition. Remove all unused materials and empty containers, clean paint from any surface not to be painted such as window glass, hardware, fixtures, finish floor, etc., and leave premises broom clean.

PROTECTION OF WORK

This subcontractor shall be fully responsible for the protection of his work and that of others from injury or staining. He shall provide a sufficient number of drip cloths to full protect adjacent finished work. He shall store his materials in a separate building from the one under construction.

SURFACES AND ITEMS NOT REQUIRING PAINTING UNDER THIS SECTION

Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various sections for structural steel, miscellaneous metal items, hollow metal work and shop fabricated or factory-built mechanical and electrical equipment or accessories.

Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified for such items as plastic toilet enclosures, acoustic materials, finished mechanical and electrical equipment including light fixtures, switchgear and distribution cabinets. Pre-finished items shall receive filed "touch-up" with same paint as original finish.

Concealed Surfaces: Unless otherwise indicated, painting is not required on wall or ceiling surfaces in concealed areas and inaccessible areas, such as foundation spaces, furred areas, pipe spaces, duct shafts and elevator shafts, as applicable to this project.

Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting except as otherwise specified.

Operating Parts & Labels: Do not paint any moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sensing devices, motor and fan shafts, unless otherwise indicated.

Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

Miscellaneous Surfaces: Do not paint concrete floors, except as scheduled otherwise, gypsum wallboard scheduled to receive other finish materials, or Pre-Engineered Building structure and exterior wall openings except as scheduled otherwise.

PAINT SCHEDULE

The following treatment (as applicable) shall be applied to surfaces as indicated on Finish Schedule and detailed on drawings. Prime coats specified below will not be required on items delivered with prime or shop coats already applied.

Number of coats called for shall be minimum; additional coat or coats shall be applied if required to achieve satisfactory results.

APPROVED MANUFACTURER

Brand name indicated below is Sherwin Williams. Provide painting materials produced by single manufacturer. Paint supplier must submit shop drawings for each individual surface.

SCHEDULE

Interior Finishes

1. Ferrous Metal Other Than Galvanized

Primer: B66W00310 – Pro Industrial Pro-Cryl Universal Acrylic Primer Off White
Finish: B66W00651 - 2cts-Pro Industrial High Performance Acrylic – Semi-Gloss

2. Exterior & Interior Concrete Block/Plaster (Epoxy) All Painted CMU

Primer: B42W00046 - Heavy Duty Block Filler White
Finish: B73W00361 - 2cts- Pro Industrial Waterbased Epoxy
Verify Block Filler will adhere to Dryblock CMU/Mortar for proper bridging.

3. Interior Metal Galvanized

Primer: B66W00310 – Pro Industrial Pro-Cry Universal Acrylic Primer
Finish: B66W00651 - 2cts- Pro Industrial High Performance Acrylic – Semi-Gloss

4. Interior Wood

Primer: B28W08111 – Premium Wall & Wood Primer, Interior Latex White
Finish: B34W00251 - 2cts-ProMar® 200 Interior Alkyd Semi-Gloss Extra White

5. Interior Stained Wood

Coat 1: A49H00201 – Wood Classic Interior Oil Stain
Coat 2: B26V00043 - Wood Classics® FastDry Sanding Sealer Clear
Coat 3: A66V00391 - Wood Classics® FastDry Varnish High Gloss Clear

6. Interior Gypsum Board (epoxy)

Primer: B28W02600 - ProMar 200 Zero VOC Interior Latex Primer White
Finish: B73W00361 - 2cts- Pro Industrial Waterbased Epoxy Eg-Shell

7. Interior Gypsum Board

Primer: B28W02600 - ProMar 200 Zero VOC Interior Latex Primer White
Finish: B24W02651 - 2cts- ProMar 200 Zero VOC Interior Latex Eg-Shell

Exterior Finishes

1. Exterior Metal Galvanized

Primer: B66W00310 – Pro Industrial Pro-Cry Universal Acrylic Primer Finish White
Finish: B66W00651 - 2cts-Pro Industrial High Performance Acrylic – Semi Gloss

2. Exposed Concrete Structure & CMU
Primer: A24W00300 - Loxon Concrete And Masonry Int/Ext Latex Primer White
Finish: B66W00311 - 2cts-Pro Industrial High Performance Acrylic Eg-Shell Coating

3. Exterior Ferrous Metal Other Than Galvanized
Primer: B66W00310 – Pro Industrial Pro-Cry Universal Acrylic Primer Finish White
Finish: B66W00651 - 2cts-Pro Industrial High Performance Acrylic – Semi Gloss

4. Wood
2 Coats: K33W00151 – Duration Coating Exterior Latex Satin

5. Cement Board
Primer: A24W08300 - Loxon Concrete And Masonry Int/Ext Latex Primer White
Finish: A89W01151 - 2cts-SuperPaint Exterior Latex Satin

6. Mechanical Work (Exposed on interior and exterior of buildings)

Exposed HVAC ductwork shall be painted and color selected by Architect

Exposed insulated surfaces covered with canvas, including piping, converters, expansion tanks, ductwork, etc., shall receive a sizing coat plus two (2) coats of paint.

Exposed uninsulated piping and all supports and hangers: Paint as indicated in Paint Schedule.

Exposed insulated surfaces having a vapor barrier jacket shall have a sealer and one (1) coat of paint.

Exposed hot piping shall have two (2) coats of high temperature aluminum paint suitable for 1200 degrees F.

Exposed sheet metal surfaces of ductwork and duct hangers, etc: Paint as indicated in Paint Schedule.

Equipment, such as tans, pumps, factory air handling units, motors, etc., having only factory primed finishes: Paint at indicated in Paint Schedule.

7. Electrical Work, Pipes, Boxes, Etc. (Exposed on interior and exterior of buildings)

Paint as indicated in Paint Schedule.

8. Unscheduled Surfaces

Any surface exposed to view and not scheduled in this "Paint Schedule" shall be cleaned and receive a minimum of one (1) coat of primer and two finish coats of paint of type approved by the Architect.

9. Parking Lot Striping

Coat 1: TM5626/27 – Hotline Fast Low Voc Acrylic Traffic Marking Paint
Handicap Striping – Blue
Parking Striping – Yellow
Sidewalk Edge Striping - Yellow
.

END OF SECTION 09900

SECTION 10110 - MARKERBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK – (Refer to Architectural Drawings)

A. Section Includes:
   1. Porcelain Enamel Steel Markerboards
   2. Field-Applied Trim

1.2 REFERENCED STANDARDS

A. American Society for Testing Materials
   1. ASTM E84 Standard Test Method for Surface Burning Characteristics for Building Materials
   2. ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wires, Profiles and Tubes
B. Porcelain Enamel Institute
   1. PEI-1002 Manual and Performance Specifications for Porcelain Enamel Writing Surfaces
C. GREENGUARD Environmental Institute
   1. GREENGUARD Indoor Air Quality Certified
   2. GREENGUARD Children and Schools M Indoor Air Quality Certified

1.3 SUBMITTALS

A. Shop Drawings: Provide shop drawings for each type of visual display board required.
B. Product Data: Provide technical data for materials specified. Include Material Safety Data Sheets, when applicable.
C. Samples and color charts: Provide Manufacturer's color charts and composition samples of face, core, backing and trim to illustrate finish, color and texture, where required.
D. Manufacturer's Instructions: Provide Manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications:
   1. Manufacturer shall be a firm engaged in the manufacture of visual display boards in the United States.
   2. Manufacturer shall have a minimum of 5 years' experience in the manufacture of visual display boards.
B. Regulatory Requirements: Conforms to applicable code for flame/smoke rating in tackboards in accordance with ASTM E84.

C. Product Certifications: Provide GREENGUARD Indoor Air Quality Certified® and GREENGUARD Children and Schools M certificates for markerboards, as applicable.
D. Operation and Maintenance: Include data on regular cleaning, stain removal, and precautions.

1.5 PROJECT CONDITIONS

A. Field measure prior to preparation of shop drawings and fabrication to ensure proper fit.
B. Comply with manufacturer's recommendations for acclimating area for interior moisture and temperature to approximate normal occupied conditions.

1.6 DELIVERY, STORAGE AND HANDLING

A. Schedule delivery of visual display boards with spaces sufficiently complete so that visual display boards can be installed upon delivery.
B. Store products in manufacturer's unopened packaging until ready for installation.
C. Store materials protected from exposure to harmful weather conditions and at temperatures and humidity conditions recommended by manufacturer.

1.7 WARRANTY

A. Submit a "Life of the Building" warranty, stating that under normal usage and maintenance, and when installed in accordance with manufacturer's instructions and recommendations, Claridge porcelain enamel steel markerboard writing surfaces are guaranteed for the Life of the Building. Guarantee covers replacement of defective boards but does not include cost of removal or reinstallation.
B. Submit a standard warranty, stating that when installed in accordance with manufacturer's instructions and recommendations, Claridge tackboards are guaranteed for one year against defects in materials and workmanship. Guarantee does not cover normal wear and tear, improper handling, any misuse, or any defects caused by vandalism or subsequent abuse. Guarantee covers replacement of defective material but does not include cost of removal or reinstallation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Visual Display Board Manufacturer: Claridge Products and Equipment, Inc., or an approved equal to this performance specification. Approved equals must be submitted prior to bidding.

2.2 MATERIALS FOR MARKERBOARD PANELS

A. Writing Surface Face Sheet - Manufactured in accordance with Porcelain Enamel Institute's specification.
    1. Shall be enameling grade cold rolled steel manufactured from a minimum of 30 percent post-consumer and post-industrial waste.
    2. Enameling grade steel shall be coated with LCS-11 Porcelain Enamel by Claridge Products and Equipment.
        a. 3-Coat process shall include:
            i. Bottom Ground Coat - 1.5 to 2.2 mils
            ii. Top Ground Coat - 2.0 to 2.8 mils
            iii. Top Cover (Color} Coat - 3.0 to 4.0 mils
    3. Firing Temperature: Enamel shall be fired at lowest possible temperatures to reduce steel and porcelain stresses and achieve superior enamel and hardness.
    4. Color: As selected by architect from manufacturer's standards. Color charts furnished on request. NOTE: LCS-11 No. 75 Low Gloss White Markerboard writing surface can be used as a projection surface.

B. Writing Surface Core
    1. 7/16" Duracore manufactured from 100% reclaimed or recycled wood fiber, including 3% post-consumer wood fiber. Duracore does not contain added urea-formaldehyde resins.

C. Writing Surface Backing
    1. Aluminum Sheet Back

D. Factory Framed Markerboards
    1. Face Sheet: (LCS-11 porcelain enamel steel Markerboard
    2. Core Material: (7/16" Duracore)
    3. Backing: (Aluminum Sheet Back)
    4. Panel Size: (See Architectural Elevation)
    5. Color: From manufacturer's standard colors. Color charts furnished on request.

2.3 ALUMINUM TRIM

A. Trim shall be 6063 alloy grade aluminum with T5 tempering in accordance with ASTM B221, and shall have 201-R1 satin anodize finish. (Color Anodize and Powder Coat finishes optional)
    1. Factory Built Trim
        a. Series: (See Architectural Elevation)
    2. Field-Applied Trim:
        a. Snap-On Aluminum Trim
        b. Length: (See Architectural Elevation)
        c. Finish: (Aluminum)

PART 3 - EXECUTION

3.1 PROJECT CONDITIONS

A. Verify before installation that interior moisture and temperature approximate normal occupied conditions.

B. Verify that wall surfaces are true and plumb and are prepared and ready to receive boards.

3.2 INSTALLATION

A. Deliver factory built units completely assembled and of dimensions shown in details and in accordance with manufacturer's shop drawings as approved by the architect.
B. Follow manufacturer's instructions for storage and handling of units before installation.
C. Do not install boards on damp walls or in damp and humid weather without heat in the building.
D. Install level and plumb, keeping perimeter trim straight in accordance with manufacturer's recommendations.

3.3 ADJUST AND CLEAN

A. Verify that all accessories are installed as required for each unit.
B. At completion of work, clean surfaces and trim in accordance with manufacturer's recommendations, leaving all materials ready for use.

END OF SECTION 10110

SECTION 10425 – PLAQUE AND LETTERS

PART ONE - GENERAL

DESCRIPTION

Provide and install all plaque and signs indicated on drawings and specified herein.

Include all clips, supports, screws and mounting brackets for complete installation.

RELATED WORK SPECIFIED ELSEWHERE

General & Supplementary Conditions

SUBMITTALS

Submit manufacturers descriptive brochures and necessary supplemental detailed information indicating quality, finishes and accessories required for complete installation.

Camera ready layout shall be prepared by the manufacturer of graphic panel directory and approved by Architect prior to fabrication.

Architect shall select colors from manufacturers full range of colors.

PRODUCT DELIVERY, STORAGE, AND HANDLING

Deliver items in manufacturers original unopened protective packaging.

Store materials in original protective packaging to prevent soiling, physical damage or wetting.

Handle so as to prevent damage to finished surfaces.

PART TWO - PRODUCTS

MATERIALS

EXTERIOR SIGN LETTERS: Helvetica Medium #106; Material & Finish #20 Acrylic Baked Enamel on aluminum #514 material. Manufactured by by Metal Arts, Division of L & H Mfg. Co. & The Southwell Co. or an approved equal. (Refer to Architectural Drawings for sizes & locations). The letters and graphics are shown on the elevations. Color shall be from manufacturer's full range of colors.

Deliver items in manufacturers original unopened protective packaging.

Store materials in original protective packaging to prevent soiling, physical damage or wetting.

Handle so as to prevent damage to finished surfaces.

PART TWO - PRODUCTS

BUILDING PLAQUE: Tablet to be cast bronze. Mortar and face of raised letters are to be cast yellow brass finish and background is to be pebble texture. Background shall be sprayed with dark oxidized. Plaque shall be chemically cleaned and etched and treated with alodine. Two (2) coats of clear acrylic lacquer shall be sprayed on completed plaque. Tablet is to be 30" wide by 36" high with bevel edge border design. Letter styled shall be Craw Clarendon. Mounting attachments for mounting tablet on masonry wall shall be furnished with concealed fasteners (PMM-1). Manufactured by Metal

MATERIALS

A

rts, Division of L & H Mfg. Co. & The Southwell Co. or an approved equal

EXTERIOR SIGN LETTERS: Helvetica Medium #106; Material & Finish, #20 Acrylic Baked Enamel on aluminum #514 material. Manufactured by by Metal Arts Division of L & H Mfg. Co. & The Southwell Co. or an approved equal. (Refer to Architectural Drawings for sizes & locations). The letters and graphics are shown on the elevations. Color shall be from manufacturer's full range of colors.

Submit shop drawings of exact text and composition prior to casting.

Included on Plaque: (See attached example below) Provide (1) Plaque

1. Name of Building (See drawing title)
2. MCSB Logo
3. Monroe City School Board
4. Board Members – All school board members and superintendent (Names will be provided at a later date.)
5. Architects (The Architecture Alliance Group (TA2G)
6. General Contractor
7. Year Completed

PART THREE - EXECUTION

INSPECTION

Inspect surfaces to verify suitability.

Do not proceed until all conditions are acceptable.

INSTALLATION

Provide all mounting devices for complete installation.

Install all signs at all locations scheduled on Drawings.

Install all signs as per manufacturers recommendations and as indicated on drawings.

END OF SECTION 10425

SECTION 10730 – EXTRUDED ALUMINUM CANOPIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Design, fabrication, and installation of welded extruded aluminum walkway cover systems.

B. Products Furnished but not Installed Under this Section: Column sleeves (styrofoam blockouts) or anchor bolts (if required)

1.02 REFERENCES

A. The Aluminum Association (AA):
   1. The Aluminum Design Manual 2020, Specifications & Guidelines for Aluminum Structures.

B. American Architectural Manufacturers Association (AAMA):
   1. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.
   2. AAMA 2603, Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
   3. AAMA 2605, Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

C. American Society of Civil Engineers (ASCE):
   1. ASCE 7, Minimum Design Loads for Buildings and Other Structures.

D. American Society for Testing and Materials (ASTM):
   1. ASTM B 209, Specification for Aluminum and Aluminum- Alloy Sheet and Plate.
   2. ASTM B 221, Specification for Aluminum and Aluminum- Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   3. ASTM C 150, Specification for Portland Cement.
   4. ASTM C 404, Specification for Aggregates for Masonry Grout.

E. American Welding Society (AWS):
   1. ANSI/AWS D1.2, Structural Welding Code - Aluminum.

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
   1. Design Walkways in accordance with The Aluminum Design Manual 2000.
   2. Comply with the wind requirements of ASCE 7.
   3. Provide an all welded extruded aluminum system complete with internal drainage. Non-welded systems are not acceptable.
   4. Provide expansion joints to accommodate temperature changes of 120 degrees F. Provide expansion joints with no metal to metal contact.

B. Performance Requirements:
   1. Grout: Compressive strength of 2000 psi, minimum.

1.04 SUBMITTALS

A. Product Data: Manufacturer's product information, specifications, and installation instructions for walkway cover components and accessories.

B. Shop Drawings: Include plan dimensions, elevations, and details.

C. Samples:
   1. Selection: Manufacturer's standard range of colors for the finishes selected.
   2. Verification: 2-inch-square samples of each finish selected on the substrate specified.

D. Design Data: Design calculations bearing the seal of a Registered Professional Engineer, licensed in the state where the project is located. Design calculations shall state that the walkway cover system design complies with the wind requirements of ASCE 7, the stability criteria of applicable building code, and all other governing criteria.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: At least ten years experience in the design, fabrication, and erection of extruded aluminum walkway cover systems.

B. Installer Qualifications: Have walkway covers installed by manufacturer, third party installation is not acceptable.

PART 2 - PRODUCT

2.01 MANUFACTURERS (Match existing style and colors at school)

A. The design is based on products fabricated by: Peachtree Protective Covers.

1. Comparable products by the following manufacturers also will be acceptable:
   a. Dittmer Architectural Aluminum.
   b. Mapes
   c. Avadek Walkway Cover Systems.
   d. A.A.C.E MORSE COVERS
2. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

2.02 MATERIALS

A. Aluminum Members: Extruded aluminum, ASTM B 221, 6063 alloy, T6 temper.

B. Fasteners: Aluminum, 18-8 stainless steel, or 300 series stainless steel.

C. Protective Coating for Aluminum Columns Embedded in Concrete: Clear acrylic.

D. Grout:
   1. Portland Cement: ASTM C 150, Type I.
   2. Sand: ASTM C 404.
   3. Water: Potable.

E. Gaskets: Dry seal santoprene pressure type.

F. Aluminum Flashing: ASTM B 209, Type 3003 H14, 0.040 inch, minimum.

2.03 MIXES

A. Grout: 1 part portland cement to 3 parts sand, add water to produce a pouring consistency.

2.04 FABRICATION

A. General:
   1. Shop Assembly: Assemble components in shop to greatest extent possible to minimize field assembly.
   2. Welding: In accordance with ANSI/AWS D1.2.
   3. Bent Construction: Factory assemble beams to columns to form one-piece rigid bents. Where used make welds smooth and uniform using an inert gas shielded arc. Perform suitable edge preparation to assure 100% penetration. Grind welds only where interfering with adjoining structure to allow for flush connection. Field welding is not permitted. Rigid mechanical joints can be used if supported by engineering calculations and/or testing.

4. Deck Construction: Fabricate from extruded modules that interlock in a self-flashing manner. Positively fasten interlocking joints creating a monolithic structural unit capable of developing the full strength of the sections. The fastenings must have minimum shear strength of 350 pounds each. Assemble deck with sufficient camber to offset dead load deflection.

B. Columns: Provide radius-cornered tubular extrusions with cutout and internal diverter for drainage where indicated. Circular downspout opening in column not acceptable. Use 8" x 10" columns.

C. Beams: Provide open-top tubular extrusion, top edges thickened for strength and designed to receive deck members in self-flashing manner.

D. Deck: Extruded self-flashing sections interlocking into a composite unit. Provide welded plate closures at deck ends.

E. Fascia: Manufacturer's standard shape. Provide fascia splices where continuous runs of fascia are jointed. Locate splices to be in line with bents and fasten in place on hidden or non-vertical surfaces.

F. Arches: For barrel vault protective covers, provide sharp-cornered tubular extrusions.

H. Factory Finishing: Finish designations prefixed by AA comply with system established by the AAMA for designating aluminum finishes.

THE EQUIVALENT ALCOA NUMBER FOR BELOW IS 204 R1.

1. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system, except with a minimum dry film thickness of 1.5 mils (0.04 mm), medium gloss), complying with AAMA 2603. Apply baked enamel complying with paint manufacturer's specifications for cleaning, conversion coating, and painting.
2. High performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
    a. Fluoropolymer Two-Coat Coating System: Manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less

than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605.

b. Fluoropolymer Three-Coat Coating System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that all concrete, masonry, and roofing work in the vicinity is complete and cleaned.

3.02 ERECTION

A. Erect protective cover true to line, level, and plumb. Protect aluminum columns embedded in concrete with clear acrylic. Fill downspout columns with grout to the discharge level to prevent standing water. Install weep holes at top of concrete in non-draining columns to remove condensation.

B. Provide hairline miters and fitted joints.

3.03 CLEANING

A. Clean all protective cover components promptly after installation.

3.04 PROTECTION

A. Protect materials during and after installation.

END OF SECTION 10730

SECTION 11650 - RECREATIONAL EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sports and recreational equipment including the following, but not limited to:

1. Park Outdoor Picnic Tables & Accessories
2. Miscellaneous Items

1.2 RELATED SECTIONS

A. Section 06100 – Finish Carpentry

B. Section 03200 - Concrete .

1.3 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

1.5 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Shall be indicated by description of equipment.

B. Requests for substitutions will be considered in accordance with the provisions of Section 01600.

2.2 APPLICATIONS/SCOPE/EQUIPMENT

A. Park Benches: Provide Regal Metal Picnic Tables (WCT8RC) by Fifthroom or an approved equals by BP Barco Products, Global Industries, Belson, Treetop Products. These are thermoplastic finish, expanded metal seats and top. Galvanized Steel structure. (Provide 40 total located by Owner / Architect) Installation by General Contractor) These are 8' tables with (20) yellow tables and (20) purple tables. Frame color match the top color.

PART 3 EXECUTION

3.1 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in conformance with manufacturer's recommendations. Provide installation that is complete and to the standards required by League rules.

3.3 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

C. Repair or restore scratched or damaged equipment to original condition.

D. Clean equipment

E. Adjust, lubricate, and make completely operative all equipment.

END OF SECTION 11650

SECTION 13000- METAL BUILDING SYSTEMS

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. Provide and install all pre-engineered metal building components including: beams, columns, bracing, anchor bolts, girts, purlins, roof panels, wall panels, gable end panels, soffit panels, insulation, misc. clips and angles and screws necessary for a sound, secure and complete installation.

B. Related Sections include the following:

1. Division 3 Section "Cast-in-Place Concrete" for concrete foundations and anchor- bolt installation.
2. Division 4 Section "Unit Masonry" for brick masonry exterior walls and load-bearing masonry walls.
3. Division 7 Section “Metal Roof Panels” for all metal roof panels.
4. Division 7 Section “Building Insulation” for all insulation.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Provide a complete, integrated set of metal building system manufacturer's standard mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Include primary and secondary framing, roof and wall panels, and accessories complying with requirements indicated, including those in this Article. Plans indicate locations and configurations of bracing frames. Final system design is to incorporate this configuration.

B. Metal Building System Design: Of size, spacing, slope, and spans indicated, and as follows:

1. Primary Frame Type: Provide the following:

a. Rigid Clear Span:Solid-member structural-framing system with interior columns as shown on drawings. (See details on plans for maximum size.)

2. Eave Height: As indicated on Drawings.

3. Bay Spacing: As indicated on Drawings.

4. Roof Slope: As indicated on Drawings.

5. Roof System: Manufacturer's standard standing-seam structural roof panels with insulation as specified under products.

C. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated. In no case shall the loading be less than the minimum required by the International Building Code for this region, or any other applicable code. ROOF PANELS CANNOT BE USED AS A DIAPHRAGM IN CONJUCTION WITH THE FRAMING SYSTEM. STRAPPING IN PURLINS OR OTHER METHODS WILL HAVE TO BE USED:

1. Roof Live Loads: 20 PSF WITH TRIBUTARY REDUCTION ALLOWED ON MAIN FRAMES ONLY.

2. Roof Dead Loads: 5 PSF

3. Use Normal for importance factor

4. Wind Loads Code: IBC 2012 (ASCE 7.05) Basic wind speed 115 mph, Exposure C, Importance Factor of 1. Wind 100 year recurrence.

5. Ground Snow Loads: 5 PSF

6. Use UL90 for rated roof

7. All portal frame shall be located in same bay.

8. No columns should be designed for future additions.

9. Seismic Load Factors: Ss of 0.178, S1 of 0.079, Site Class D

10. Collateral Loads: Include an additional 10 PSF dead load in addition to the weight of metal building system for permanent items such as sprinklers, mechanical systems, electrical systems, and ceilings. These loads shall not be attached to the panels.

11. Load Combinations: Design metal building systems to withstand the most critical effects of load factors and load combinations. All loads shall be proportioned and applied in accordance with the most current edition of the International Building Code.

12. Deflection Limits: Engineer assemblies to withstand design loads with deflections no greater than the following:

a. Purlins and Rafters: Vertical deflection of 1/240 of the span. NOTE:

PURLINS ARE TO BE NO MORE THAN 48" O.C. EVEN IF THE STRUCTURAL DESIGN INDICATES THEY COULD BE FURTHER APART AND SATISFY DESIGN REQUIREMENTS.

b. Roof Panels: Vertical deflection 1/240 of the span.

D. Thermal Movements: Provide metal building roof and wall panel systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.4 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of the following metal building system components:

1. Structural-framing system
2. Trim and closures
3. Accessories

B. Shop Drawings: For the following metal building system components. Include plans, elevations, sections, details, and attachments to other work. Do not use drawings prepared by the Architect for shop or erection drawings.

1. For installed components indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer licensed in the State of Louisiana responsible for their preparation.
2. Anchor-Bolt Plans: Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location.
3. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
4. Submit thermal calculations and details of floating clips, flashing attachments and accessories certifying the free movement in response to the expansion/contraction forces resulting from a total temperature differential of 110 °.

C. Product Certificates: Signed by manufacturers of metal building systems certifying that products furnished comply with requirements.

1. Letter of Design Certification: Signed and sealed by a qualified professional engineer licensed in the State of Louisiana. Include the following:

a. Name and location of Project.
b. Order number.
c. Name of manufacturer.
d. Name of Contractor.
e. Building dimensions, including width, length, height, and roof slope.
f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
g. Governing building code and year of edition.
h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic zone or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads.
i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
k. AC472 Certification: Include statement that metal building system and components were designed and produced by a metal building systems manufacturer accredited under the International Accreditation Service, "Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems (AC472)."

D. Erector Certificates: Signed by manufacturer certifying that erectors comply with requirements.

E. Manufacturer Certificates: Signed by manufacturers certifying that they comply with requirements. Include evidence of manufacturing experience.

1.5 QUALITY ASSURANCE

A. Erector Qualifications: An experienced erector who is specialized in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.

B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering

services are defined as those performed for installations of metal building systems that are similar to those indicated for this Project in material, design, and extent.

C. Manufacturer Qualifications: A firm experienced in manufacturing metal building systems similar to those indicated for this Project and with a record of successful in-service performance.

1. Member of MBMA.

2. The metal building systems manufacturer shall be accredited under the International Accreditation Service, "Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems (AC472)."

3. Engineering Responsibility: Preparation of Shop Drawings, testing program development, test result interpretation, and comprehensive engineering analysis by a qualified professional engineer.

D. Source Limitations: Obtain each type of metal building system component through one source from a single manufacturer.

E. Product Options: Drawings indicate size, profiles, and dimensional requirements of metal building system and are based on the specific system indicated. Other manufacturers' systems with equal performance characteristics may be considered.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. Do not modify basic structural system configuration, including location, type, and orientation of bracing frames.

F. Regulatory Requirements: Fabricate and label structural framing to comply with special inspection requirements at point of fabrication for welding and other connections required by authorities having jurisdiction.

G. Structural Steel: Comply with AISC S335, "Specification for Structural Steel Buildings-- Allowable Stress Design, Plastic Design"; or AISC S342, "Load and Resistance Factor Design Specification for Structural Steel Buildings," for design requirements and allowable stresses.

H. Cold-Formed Steel: Comply with AISI SG-671, "Specification for the Design of Cold- Formed Steel Structural Members," and AISI SG-911, "Load and Resistance Facet Design Specification for Steel Structural Members," for design requirements and allowable stresses.

I. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package roof panels for protection during transportation and handling.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when weather conditions permit roof and wall panel installation to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify metal building system foundations by field measurements before metal building fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.8 COORDINATION

A. Coordinate size and location of concrete foundations and casting of anchor-bolt inserts into foundation walls and footings. Concrete, reinforcement, and formwork requirements are specified in Division 3 Section "Cast-in-Place Concrete."

B. Coordinate installation of roof panels, roof curbs, equipment supports, and roof penetrations.

1.9 WARRANTY

A. Submit sample of warranty to Architect as part of shop drawing phase. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. FINISH WARRANTY

1. Covering bare metal against rupture, structural failure and perforation due to normal atmospheric corrosion exposure for a period of 20 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following.

1. MBCI – Houston, Texas
2. Whirlwind Building Systems – Houston, Texas
3. Englerth Metal Roofing – Alcoa, Tennessee
4. Meuller Building Systems – Oak Grove, Louisiana
5. Pinnacle Structures, Inc.
6. Ceco Building Systems
7. Mesco Building Solutions

2.2 STRUCTURAL-FRAMING MATERIALS

A. Structural-Steel Shapes: ASTM A 36/A 36M, ASTM A 529/A 529M, or ASTM A992.

B. Steel Plate, Bar, or Strip: ASTM A 529/A 529M, ASTM A 570/A 570M, or ASTM A 572/A 572M; 50,000-psi (345-MPa) minimum yield strength.

C. Structural-Steel Sheet: Hot-rolled, ASTM A 570/A 570M, Grade 50 or Grade 55; hot- rolled, ASTM 568/A 568M; or cold-rolled, ASTM A 611, structural-quality, matte (dull) finish.

D. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, structural quality, Grade 50, with G60 (Z180) coating designation; mill phosphatized.

E. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); carbon-steel, hex-head bolts; carbon-steel nuts; and flat, unhardened steel washers.

F. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers.

G. Primers: As selected by manufacturer for resistance to normal atmospheric corrosion, compatibility with finish paint systems, capability to provide a sound foundation for field- applied topcoats despite prolonged exposure, and as follows:

1. Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer; complying with performance requirements of FS TT-P-664.

2.3 STRUCTURAL MISCELLANEOUS MATERIALS

A. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application, and with a 30-minute

working time.

B. Shop Primer for Galvanized Metal Surfaces: Zinc dust, zinc-oxide primer selected by manufacturer for compatibility with substrate. Comply with FS TT-P-641.

C. Finish Painting: Refer to Division 9 Section "Painting."

2.4 FABRICATION, GENERAL

A. General: Design components and field connections required for erection to permit easy assembly and disassembly.

1. Fabricate components in a manner that once assembled in the shop, they may be disassembled, repackaged, and reassembled in the field.
2. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
3. Fabricate framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Cold-formed members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop-fabricate framing components to indicated size and section with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.

1. Make shop connections by welding or by using high-strength bolts.
2. Join flanges to webs of built-up members by a continuous submerged arc-welding process.
3. Brace compression flange of primary framing by angles connected between frame web and purlin or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
4. Weld clips to frames for attaching secondary framing members.
5. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with specified primer after fabrication.
6. Hot rolled members shall be fabricated in accordance with AISC Specifications for pipe, tub, and rolled structural shapes.
7. Fabricate built-up members in accordance with MBMA Metal Building Systems Manual, Chapter IV Common Industry Practices.

C. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply the specified air-dried primer immediately after cleaning and

pretreating.

1. Prime galvanized members, after phosphoric acid pretreatment, with manufacturer's standard zinc dust, zinc-oxide primer.

D. Tolerances: Comply with MBMA's "Low Rise Building Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."

2.5 STRUCTURAL FRAMING

A. Primary Framing: Manufacturer's standard structural primary framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated. (See plans for portal frame bracing – no cable cross bracing allowed in wall system.)
2. Rigid Clear-Span Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.
3. Frame Configuration: As shown on Drawings, see plans for width restrictions.
4. Exterior Column Type: May be tapered except where shown as straight on drawings.
5. Rafter Type: Tapered. (See plans for taper limitations)

B. Secondary Framing: Manufacturer's standard secondary framing members, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Fabricate framing from cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet prepainted with coil coating, unless otherwise indicated, to comply with the following:

1. Purlins: C- or Z-shaped sections; fabricated from minimum 0.0598-inch- (1.5-mm-) thick steel sheet, built-up steel plates, or structural-steel shapes; minimum 2-1/2- inch- (64-mm-) wide flanges.
   a. Depth: 10” (or as required by manufacturer to obtain design loads)
2. Eave Struts: Unequal-flange, C-shaped sections; fabricated from 0.0598-inch- (1.5- mm-) thick steel sheet, built-up steel plates, or structural-steel shapes; to provide adequate backup for both roof and wall panels.
3. Flange and Sag Bracing: Minimum 1-5/8-by-1-5/8-inch (41-by-41-mm) structural- steel angles, with a minimum thickness of 0.0598 inch (1.5 mm), to stiffen primary frame flanges.

4. Base or Sill Angles: Minimum 3-by-2-by-0.0747-inch (76-by-51-by-1.9-mm) zinc- coated (galvanized) steel sheet.
5. Purlin and Girt Clips: Minimum 0.0747-inch- (1.9-mm-) thick, zinc-coated (galvanized) steel sheet.
6. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.
7. Fabricate built-up members in accordance with MBMA Metal Building Systems Manual, Chapter IV Common Industry Practices.

C. Bracing: Provide adjustable wind bracing as follows:
1. Rigid Portal Frames: Fabricate from shop-welded, built-up steel plates or structural- steel shapes to match primary framing; of size required to withstand design loads. ROOF PANELS CANNOT BE USED AS A DIAPHRAGM IN CONJUCTION WITH THE FRAMING SYSTEM. STRAPPING IN PURLINS OR OTHER METHODS WILL HAVE TO BE USED.

D. Bolts: Provide shop-painted bolts unless structural-framing components are in direct contact with roof and wall panels. Provide zinc-plated bolts when structural-framing components are in direct contact with roof and wall panels.

2.6 ROOFING PANELS

A. See Section 07400 “Metal Roof & Wall System” for metal roof panels, metal wall panels & roof warranty information.

2.7 INSULATION

A. See Section 07210 “Building Insulation” for different types of building insulation required for this job.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examination:
1. Inspect installed work of other trades and verify that such work is complete to a point where his work may continue.
2. Verify that installation may be made in accordance with approved shop drawings and manufacturer’s instructions. This specifically includes verifying that secondary structural members and/or decking are installed to meet UL and building code requirements. Coordinate with metal roof system

manufacturer to insure that reduced clip spacing at eave, rake, ridge and corner areas are accommodated.

B. Discrepancies:

1. In event of discrepancy, notify the Architect.
2. Do not proceed with installation until discrepancies have been resolved.

3.2 INSTALLATION (ROOF & ACCESSORIES)

A. See Section 07400 “Metal Roof & Wall System” for metal roof panels, metal wall panels & accessories installation.

B. See Section 07210 “Building Insulation” for different types of building insulation required.

3.3 ERECTION (STRUCTURAL FRAME)

A. Framing: Erect framing true to line, level, plumb, rigid, and secure. Level base plates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use a non-shrinking grout to obtain uniform bearing and to maintain a level base line elevation. Moist cure grout for not less than 7 days after placement.

B. Purlins: Provide rake or gable purlins with tight-fitting closure channels and fascias.

C. Bracing: Provide diagonal rod or angle bracing in roof as required. Provide portal beams for bracing in walls.

1. Diaphragm strength of roof covering is not adequate to resist wind forces, rod or angle bracing will be required. Do not use roof covering in calculating design strengths.

D. Cleaning and Touch-Up: Clean component surfaces of matter that could preclude paint bond. Touch up abrasions, marks, skips, or other defects to shop-primed surfaces with same type material as shop primer.

3.4 CLEANING, PROTECTION

A. Dispose of excess materials and remove debris from site.

B. Clean work in accordance with manufacturer’s recommendations.

C. Protect work against damage until final acceptance. Replace or repair to the satisfaction of the Architect (owner), any work that becomes damaged prior to final acceptance.

D. Touch up minor scratches and abrasions with touch up paint supplied by the metal roof system manufacturer.

E. Do not allow panels or trim to come in contact with dissimilar metals such as copper, lead or graphite. Water run-off from these materials is also prohibited. This specifically includes condensate from roof top A/C units.

3.5 INSTALLING ROOFING & WALLS PANELS

A. Metal building systems are to be erected in strict compliance with the manufacturer's erection drawings, erection guides, safety procedures, legal requirements, and/or other erection-related documents.

B. It shall be the responsibility of the erector to provide all temporary bracing,blocking, etc. as required.

C. The erector shall not alter any structural component without approval of the metal building manufacturer.

3.6 FLASHING INSTALLATION

A. Metal building flashing are to be erected in strict compliance with the manufacturer's erection drawings, erection guides, safety procedures, legal requirements, and/or other erection-related documents.

3.7 METAL ROOF INSPECTION

A. Metal building systems are to be inspected in strict compliance with the manufacturer's erection drawings, erection guides, safety procedures,legal requirements, and/or other erection-related documents.

3.8 FIELD FINISH PAINT1NG:

A. Clean and touch up prime paint all prime painted steelstructuralmembers.

B. Prepare and paint all of the exposed metal building steel structure in accordance with Section 09900, Painting.

3.9 CORRECTIONS

A. Remove all damaged parts of the metal building and provides new materials where damaged materials were removed.

END OF SECTION 13125

SECTION 16010 - GENERAL PROVISIONS

PART 1 - GENERAL

1.O1 RELATED DOCUMENTS: This section supplements all sections of this Division and shall apply to all phases of work specified herein, shown on the drawings, or required to provide a complete installation of electrical systems.

1.02 DESCRIPTION OF WORK:

A. SPECIFICATIONS AND DRAWINGS: Shall be complementary and be used for the complete interpretation of the electrical work.

1. Unless noted or modified by specific notation to the contrary, the indication and/or description of any electrical item in the documents carries with it in the instruction to furnish, install and connect same. It shall be understood that the intent governs the work, regardless of whether or not this instruction is explicitly stated.

2. No exclusion from or limitation in drawings or specifications for the electrical work shall be reason for omitting the appurtenances, accessories, or devices necessary to complete any required system or item of equipment or compliance with codes.

3. The drawings are shown in part diagrammatic, intended to convey the scope of work, indicating the general arrangement of equipment, conduit and outlets. Follow the drawings in laying out the work and verify places for the installation of the materials and equipment. Wherever a question exists as to the exact intended location of outlets or equipment, obtain instructions from the Architect and Engineer before proceeding with the work.

B. WORK INCLUDED: Furnish all labor, material, services and skilled supervision necessary for the construction, erection installation, connections, testing and adjustment of all circuits and electrical equipment specified herein, or shown or noted on the drawings, and its delivery to the owner complete in all respects ready for use.

C. COORDINATION OF WORK:

1. Plan all work so that it proceeds with a minimum of interference with other trades. Inform all parties concerned of openings required for equipment or conduit in the building construction for electrical work

and provide all special frames, sleeves and anchor bolts as required. Coordinate the electrical work with the mechanical installation.

2. Work lines and established heights shall be in strict accordance with architectural drawings and specifications insofar as these drawings and specifications extend. Verify all dimensions shown and establish all elevations and detailed dimensions not shown.

3. Lay out and coordinate all work well enough in advance to avoid conflicts or interference's with other work in progress so that in case of interference the electrical layout may be altered to suit the conditions, prior to the installation of any work and without additional cost to the owner. Conflicts arising from lack of coordination shall be this Contractor's responsibility.

D. COOPERATION WITH OTHER TRADES:

1. Perform this work in conformity with the construction called for by other trades and afford reasonable opportunity for the execution of their work. Properly connect and coordinate this work in such a manner as not to delay or interfere with the work of other trades.

2. Examine the drawings and specifications for the general and mechanical work and the work of other similar trades. Coordinate this work accordingly. Provide written confirmation that the electrical requirements for all mechanical equipment have been coordinated with the mechanical contractor.

3. Promptly report to the Architect any delay or difficulties encountered in the installation of this work which might prevent prompt any proper installation, or make it unsuitable to connect with or receive the work of others. Failure to so report shall constitute an acceptance of the work of other trades as being fit and proper for the execution of this work.

1.03 SHOP DRAWINGS, SUBMITTALS AND OPERATING INSTRUCTIONS:

A. GENERAL: Submit all necessary shop drawings and factory literature for Architect/Engineer approval.

1. They shall be approved prior to final fabrication and/or purchase.

2. Shop drawings shall fully explain all procedures involved in executing a complete operational electrical work.

3. Factory literature shall be specific for all factory assembled equipment, fixtures, devices, and items of equipment.

4. All submittals shall properly indicate to the pertinent equipment their external connections for field installation and the necessary field installation instruction.

5. They shall be submitted in the required number of copies and on type of paper in conformance with the GENERAL CONDITIONS.

B. SAMPLES: Submit samples upon request for approval - one of each with proper tag indicating project and intended location and function.

C. OPERATING INSTRUCTIONS: Included in the electrical work is the issuance of operating instructions for all equipment requiring service.

1. Provide qualified personnel for demonstration purposes, the date to be convenient to Architect and Owner.

2. Provide three (3) copies of all pertinent operating and maintenance instructions in 3-hole binder manual.

3. Provide the name, address and telephone number of the manufacturer's local service representative of each item of equipment included in the above requirements.

4. Provide assistance by qualified field personnel for aiding and helping the demonstration personnel.

1.04 AS BUILT RECORD DRAWINGS - ONE LINE DIAGRAM:

A. GENERAL: Electrical Contractor, at completion of job, shall give general contractor one complete set of electrical drawings reflecting all as built conditions.

1. Mount full sized print of store electrical system One-Line Diagram on inside wall of main switchboard room.

1.05 CODES, PERMITS AND FEES:

A. CODES: All work shall meet or exceed all legal requirements and the latest requirements of the National Electric Code, and all State, County, Municipal and other authorities having jurisdiction over electrical construction work at the project.

1. Comply with all applicable building ordinances and codes. Where the contract documents exceed minimum requirements, the contract documents take precedence.

B. PERMITS AND FEES: Comply with all requirements for permits, licenses, fees and codes. Permits, licenses, fees and arrangements required for the work under this contract shall be obtained by the Contractor at his expense, and made available at the completion of the work, unless otherwise specified.

1. Comply with the requirements of the applicable utility companies serving this project. Make all arrangements with the utility companies for proper coordination of the work.

1.06 MATERIALS AND EQUIPMENT FURNISHED BY OWNER:

A. CONTRACTOR: The electrical work includes the installation or connection of certain materials and equipment furnished by the owner. The Electrical Contractor shall do the following:

1. Coordinate all their delivery and security.

2. Unload from arriving delivery vehicles on any designated area on the job site.

3. Handle and store on field storage area until the time of permanent placement.

4. Provide field make-up and internal wiring necessary for their intended operation.

5. Mount in place and provide supporting members and fastening necessary to accommodate specific loading requirements.

6. Examine all items for all damages incurred during delivery for claims to repairing and/or replacing same.

7. Foundations for apparatus and equipment will be furnished by others, unless otherwise noted or detailed.

PART 2 - PRODUCTS

2.01 EQUIPMENT AND MATERIALS:

A. GENERAL:

1. Equipment and fixtures shall be connected providing circuit continuity in accordance with applicable codes whether or not each conductor, conduit, or protective device is shown between such items of equipment or fixtures, and the point of circuit origin.

2. Unless otherwise specified, equipment and materials of the same type or classification, and used for the same purpose, shall be products of approved manufacturers.

3. Use only new, unweathered, and unused material, except as specifically noted.

B. APPLICABLE DOCUMENTS: Design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these specifications shall conform to the latest publications of standard rules of the following:

1. American Institute of Steel Construction AISC

2. American Society for Testing and Materials ASTM

3. Federal Specifications FED.SPEC.

4. Institute of Electrical and Electronic Engineer IEEE

5. Insulated Power Cable Engineers Association IPCEA

6. National Electrical Code NEC

7. National Electrical Manufacturer's Association NEMA

8. National Electrical Safety Code NESC

9. National Fire Protection Association NFPA

10. Occupational Safety and Health Act OSHA

11. Underwriters' Laboratories, Inc. UL

12. American National Standard Institute ANSI

13. International Electrical Counsel IEC

C. IDENTIFICATION OF EQUIPMENT: Identify individually each piece of equipment with a laminated micarta nameplate black/white core and 1/4" high engraved letters. Temporary identification is required upon installation.

1. Equipment to be labeled.

a. Switchboards.

b. Panelboards.

c. Transformers.

d. Disconnect Switches (with name of equipment served).

e. Telephone Cabinets not located in electric panel room.

f. Emergency System Equipment.

g. Lighting Control Panels.

h. Fire Alarm Panels.

2. Do not use abbreviated terms for identification. Spell out in full the proper name and number of each identified equipment, i.e., PANEL-LPA-1 OR AIR HANDLING UNIT - AH 5.

3. Additional labeling of disconnect switches: Each and every disconnect installed by this contractor shall have affixed on front a label, black on safety yellow (5" X 2"), reading: "USE LOCKOUT DEVICE DURING MAINTENANCE OR ANY OPERATOR ADJUSTMENT". Label shall be pressure-sensitive flexible plastic with protective mylar overlay and equal to Seton Name Plate Co. catalog no. SL104.

4. Additional labeling of switchboards, distribution boards, and panelboards: Each and every switchboard, distribution board, and panelboard shall have affixed on front, as detailed below, a label or labels, black on safety yellow (5" X 2"), reading: "LOCKOUT FOR SAFETY". Label shall be pressure-sensitive flexible plastic with protective mylar overlay and equal to Seton Name Plate Co. catalog no. SL101. Switchboards shall have one label affixed to each vertical section of the switchboard at an elevation of approx. 5'-0" AFF. Each distribution board and panelboard and each section thereof shall have one label affixed at an elevation of approx. 5'-0".

2.02 SUBSTITUTION OF MATERIALS AND EQUIPMENT

A. For products specified herein, bids shall be based on products named in project manual and on plans, or on items designated as an "approved equal". A product not named in project manual or on plans will only be acceptable when such product meets all other requirements of project specifications, including specifications of originally specified products' manufacturer as of date of contract documents and request has been made for product substitution.

The first manufacturer listed in these specifications and the manufacturer and catalog number listed in the equipment schedules was used for design, layout, performance, physical size, space and structural requirements, electrical requirements and general appearance. Any equipment selected from the approved alternate list of manufacturers must be compatible with the facility and meet all requirements of the contract documents. Any changes required due to the alternate selected equipment being different from the design basis equipment, shall be the responsibility of the mechanical contractor and he shall pay for any increased costs as a result of these changes.

B. Requests for approval of a product as equal will not be considered unless sufficient data for evaluation is received seven (7) days prior to the bid opening date.

PART 3 - EXECUTION

3.01 GENERAL:

A. EQUIPMENT AND MATERIAL: Install in a neat and workmanlike manner and align, level and adjust for satisfactory operation. Install equipment so that all parts are easily accessible for inspection, operation, maintenance and repair.

1. Where marring or disfigurement has occurred, replace or refinish the damaged surfaces as directed and to the satisfaction of the Architect.

2. Provide the design, fabrication and erection of supplementary structural framing required for attachment of hangers or other devices supporting electrical equipment.

3. Provide framing members of standard rolled steel shapes, A-36 steel. Provide members welded to structural members equal to the specification for the main structural member. Provide "simple beam" type framing with end connections welded or bolted for shear loads. Use cantilevers only when detailed or specifically approved by the Architect. The Architect's approval is required for location of supplementary framing. Use only certified welders.

B. OUTLET LOCATION:

1. Center all outlet boxes with regard to paneling, furring and trim. Repair or replace damaged finishes. Set outlet boxes plumb and extend to the finished surface of the wall, ceiling or floor without projecting beyond same.

2. Install symmetrically all receptacles, switches, and devices shown and where necessary set the long dimension of the plate horizontal or ganged in tandem.

3. More than one device in same location to be grouped under common (multi-toggle) plate.

C. CUTTING, PATCHING AND PIERCING:

1. Obtain written permission of the Architect before cutting or piercing structural members.

2. Use craftsmen skilled in their respective trades for cutting, fitting, repairing, patching of plaster and finishing of materials including carpentry work, metal work or concrete work required for this work. Do not weaken walls, partitions or floors with cutting. Holes required

to be cut in floors must be drilled without excessive breaking out around the holes. Patching and/or refinishing will be determined by the Architect.

3. Sleeves shall be installed flush with finished walls, finished ceilings or finished floors, sized to accommodate the raceway, unless otherwise specified.

4. Roof penetration and repairing shall be done by others.

5. Provide watertight conduit openings through floor slabs, masonry walls and continuous partitions. Tightly caulk space between conduit and building materials non-flammable sealant.

6. Seal equipment or components exposed to the weather and make watertight and insect proof. Protect equipment outlets and conduit openings with temporary plugs or caps at all times that work is not in progress.

D. SPECIAL CONSIDERATIONS:

1. Locate switches, receptacles and pull boxes to provide easy access for operation, repair and maintenance, and, if concealed, provide access doors.

2. Install floor-mounted equipment on 4" concrete housekeeping pad as specified in appropriate sections of this specification.

3. Provide Belleville washers on all bolted connections. Split ring washers are not acceptable.

4. Take such precautions as necessary to properly protect all apparatus, fixtures, appliances, material, equipment and installations from damage of any kind. The Architect may reject any particular piece or pieces of material, apparatus or equipment scratched, dented or otherwise damaged.

5. Prepare all fittings, boxes, supports and panelboards exposed for painting by removing all oil, grease and dirt. Employ the necessary precautionary methods to prevent scratching or defacing of all electrical apparatus and devices.

6. Exposed conduit installed after room has been painted shall be painted to match room finish by this Contractor.

7. Provide hot dip galvanized components for ferrous materials exposed to the weather.

8. The use of roof deck for support of lighting fixtures, conduit, raceways, and other electrical equipment is not permitted. Provide beam clamps, hanger rods, conduit and pipe hangers/supports and straps.

E. NOISE LIMITATION:

1. Perform all work to assure minimal noise produced by the electrical equipment and installation.

2. Check and tighten all plates, covers, doors and trims used in conjunction with electrical equipment.

3. Remove and replace any device or equipment which is found to emit noise level higher than industry standards. Perform all work in accordance with the field instructions issued by the Architect to alleviate such conditions.

4. All equipment requiring tightening and all device, lug and connector terminals shall be tightened to the manufacturer's prescribed torque value.

3.02 TESTS:

A. GENERAL:

1. Perform all tests deemed necessary to establish full conformance with the specifications, their intent, drawings and suitable operation of each system.

2. Before application for final acceptance will be considered, all prescribed tests shall be performed and statement to that effect be submitted, signed by the party responsible for conducting such test and the party responsible witnessing same.

3. Correct promptly all defects and deficiencies discovered in any of the electrical work during testing, and demonstrate compliance to this effect.

3.03 GUARANTEES AND CERTIFICATIONS:

A. GUARANTEES: All work to be guaranteed in conformity with the requirements of the "Guarantee" portion of the GENERAL CONDITIONS.

1. All test results shall be submitted and made part of the final acceptance.

B. CERTIFICATIONS: All certificates required by governing authorities shall be submitted with no reservations attached.

END OF SECTION

SECTION 16100 - ELECTRICAL

A. General Requirements

General

General provisions of the Contract, including General Conditions and General Requirements, apply to work under this Section. Include Electrical work indicated, as specified herein, or both. All work done under these Plans & Specifications to comply with all Local and State Codes, Laws and Ordinances, and to the latest edition of the National Electrical Code, and nothing in these Plans and Specifications to be interpreted as allowing work which does not comply with same.

Operation and Maintenance Manuals

Deliver two (2) Copies of Maintenance and Operating information for all pieces of equipment installed on the job. This information to be bound in hardbacked covers indexed and arranged with tabs. Include all Equipment Guarantees.

Routine Maintenance Instructions

Submit a detailed listing of all reasonable Routine Maintenance to be performed by the Owner during the Warranty Period; visit the job site during the Warranty Period and report in writing if Routine Maintenance is not being performed.

Prior Acceptance

Acceptable manufacturers are listed in these Specifications. Manufacturers not listed must request Prior Acceptance with timing as listed elsewhere in these Specifications. Prior Acceptance must be given in writing, either by letter of Addendum.

B. Scope of Work - Electrical

Scope

These Specifications, in conjunction with the accompanying Plans, are intended to describe all electrical work including, but not limited to, the following:

- All Instantaneous water heaters, lighting fixtures, wiring devices and circuiting

The Contractor shall provide all materials, labor and supervision to install each of these systems completely, and in proper working order, unless otherwise stated in these Specifications or on the Plans.

Code Compliance

All electrical work is to be installed to be in compliance with current National Electrical Code.

Electrical Service Grounding

Contractor is to ground the un-grounded (neutral) conductor at the service entrance to the building. Size of the grounding conductor is to comply Table 250-122 in NFPA 70, National Electrical Code. Contractor is to run a field test to determine that the resistance to ground of the driven ground is no more than 25 ohms per NFPA 70, 250-84. If the resistance exceeds 25 ohms, an additional driven ground is to be added until the resistance is less than 25 ohms.

All interior metal piping systems, and any structural steel systems, are to be bonded to the grounding bus of the service entrance equipment. Also, a grounding conductor is to be extended to the telephone entrance, or Telephone Board.

At each dry-type step-down transformer (if any), ground the neutral on the secondary side to the wired ground conductor and to the case of the transformer.

Connections to Equipment

Make all electrical connections to equipment supplied as a part of this Contract (as noted on Plans). Verify equipment manufacturer's requirements for these connections from instructions supplied on, or with, the equipment, and comply with all requirements. Notify Architects if these requirements are substantially different from that shown on Plans.

Cutting and Patching

Do all cutting required to accomplish the work covered by this Section. All patching to be performed by the General Contract Trades involved. Do not cut structural members without specific permission.

Removal of Existing Electrical Facilities

Remove and dispose of all electrical materials and equipment exposed by work under this Contract not marked for reuse. Terminate service from all such circuits by removing the wiring from the source of supply.

Excavating, Trenching and Backfilling

Trenches for all underground runs are to be excavated to depths as required by NEC with bottoms tamped hard. After conduits have been laid, backfill to be placed as specified elsewhere in these Specifications.

Equipment Supports

This Subcontractor to be responsible for all support required for equipment furnished under this Section.

Co-ordinate with the Entergy in making the tie-ins at the existing pad-mount transformer.

C. Materials

Material Requirements

All materials used on this job shall be new, unless specifically stated otherwise, and shall be manufactured and approved for the intended service. All materials covered by Local Codes shall meet the requirements of those Codes. All electrical materials to be UL listed.

Conduit and Fittings

RGS - Rigid galvanized steel, zinc-coated heavy wall steel with threaded fittings.

EMT - Electrical metallic tubing, zinc-coated thin wall steel with any UL approved EMT fitting.

PVC - Rigid polyvinyl chloride, heavy wall schedule 40 with solvent welded fittings.

Flex - Flexible metallic conduit, galvanized steel tape formed into an industry standard interlocking coil with crimptype fittings.

Liquid tight flexible - Same as flex with water tight vinyl sleeve.

Acceptable manufacturers for metallic conduits are Republic, Triangle, Whea-tland & Allied. For PVC conduits, to be Amoco, Carlon & Sedco.

Outlet Boxes

All boxes sized according to the device of fixture, and in accordance with wiring fill requirements of the NEC. In concealed conduit work, standard rust resistant pressed steel boxes with appropriate support devices; in exposed conduit work, rust resistant steel handy boxes. All exterior surface or exposed boxes to be weatherproof gasketed cast aluminum.

Wiring Devices

Wiring devices to cover all toggle switches and power receptacles.

Receptacles to be Duplex 20A, 2P, 3W, 125V (U.O.N.). All switches to be 20A rated. All devices to be listed by manufacturer as "Specification Grade" and to be suitable for side wiring to screw terminals. No clamp-type terminals are to be used. All receptacles to be connected to wire ground conductor as well as pigtail connected to grounding clip on the

outlet box.

All switches to be rated as A.C. switches with toggle handle and quiet action.

Color for wiring devices and wall plates will be selected by the Architect. Contractor is to submit a color selection chart for the Architect to make this selection.

Wiring devices are to be set on an appropriately sized junction box with the device perpendicular or parallel to the floor, and the device set in relationship to the finished wall such that the wall plate will fit the device and be flush with the wall. Caulk is not to be used on wall plates, especially as a substitute for a hole that is too big for the device.

Acceptable manufacturers are General Electric, Hubbell, Pass & Seymour & Slater.

Wall Plates – See Electrical Plans – Architect to select colors

Conductors

Power and lighting circuits - individual solid conductors #10 and smaller (stranded will not be acceptable); stranded #8 and larger.

Controls wiring - may be individual conductor or multi-conductor cable selected, and sized, according to the requirements of controls system.

Material - to be 98% minimum conductivity soft copper, new and unused, delivered to job site in original cartons or reels.

Sizes - all sizes given on plans are minimum AWG or MCM wire sizes. Minimum size for power and lighting circuits is #12 AWG.

Insulation - All 600 V rated:
#10 and #12 - THHN or XHHW
#8 and larger - THW or better
Controls wiring - appropriate to the service.

Color Coding - All wiring #10 and smaller to be color coded throughout as follows:

120/208 Volt System

Phase A	Black
Phase B	Red
Phase C	Blue
Neutral	White

Color Code to identify the same phase throughout the System from Service Entrance to final fixture. Where factory applied colors are unavailable, apply colored plastic tape continuously

for a distance of two inches in all panels, pull boxes, junction boxes and outlet boxes.

Splices - Wiring #10 and smaller may be spliced in approved junction boxes as required to facilitate circuiting, switch legs, etc. Wiring #8 and larger shall not be spliced (unless specifically stated on the Plans) but shall be run in one continuous length from the point of connection to power to the ultimate user where it may be connected or spliced to the terminals or leads as required. All inline splices of wires shall be made with pressure type splicing devices intended for the purpose. Splices in wiring #10 and smaller shall be made with twist-on wire nuts, Scotchlok or equal; in #8 up, use sleeve-type compression connectors as manufactured by Burndy or equal.

Installation - Install all conductors in a single raceway simultaneously. Use specifically manufactured lubricant for wire pulling. Dress and lace wires and cables in all cabinets and panels for neat installation. Leave sufficient slack on all runs to permit secure connection of equipment.

D. Installation

Conduit System

All power and lighting wiring to be run in conduit as follows:
1) RGS conduit to be used for exposed service riser at building or pole, and all other conduit runs outside the building above grade;
2) RGS or PVC conduit to be used for all runs underground or under slab buried to depths specified in NEC;
3) no horizontal conduit to be run in the slab, and no EMT in, under or thru the slab;
4) where PVC is used below the slab, RGS elbows are to be used where the conduit comes thru the slab;
5) EMT to be used for all interior runs not covered above;
6) the final three feet (3') of any conduit run terminating at an adjustable or motor driven piece of equipment to be made with flex if in a dry location, or with liquid-tight flexible conduit if in a wet location.

All conduit run in finished areas of the building to be concealed in walls, above ceiling or below the slab. Conduit run below the slab is to be run by the most direct route; conduit run above the slab is to be run parallel or perpendicular with the building lines racked on conduit supports provided for that purpose; in HVAC or Electrical Equipment Rooms, conduit may be run on the surface without interference with the intended use of the Area.

Conduit Support

All conduit to be supported with UL listed conduit supports intended for the service such as one two hole straps, unistrut clamps, joist clips, etc. No twisted wire to be used. Conduit not to be supported from ceiling support wire.

Junction Boxes

Contractor is to provide junction boxes in the conduit system as required by the National Electrical Code and the requirements of the job. Junction boxes are not to be located spaces that are not readily accessible. It is the Contractor's responsibility to review the entire set of Contract Documents to determine where inaccessible spaces will occur (such as hard ceilings). No junction boxes are to be located in these spaces without the specific permission of the Engineer. Where junction boxes are allowed to be located in spaces that would be inaccessible, the Contractor is to supply and install an appropriate access panel to give the required access.

Mounting of Light Fixtures

Recessed lay-in lights are to be supported by a minimum of two tie-wires per fixture suspended from structural elements above, not by the ceiling grid. Recessed incandescent or compact fluorescent fixtures mounted in lay-in ceiling are to be supported by fixture hangers supplied by the fixture manufacturer which span the grid bars above the ceiling tile. Fluorescent strips mounted on any ceiling (or exposed wooden joists) to be mounted with 1-1/2" spacer-type hangers. Surface mounted fixtures on lay-in ceiling to be supported with all-thread rod from structural members above the ceiling (2 per fixture). Wall mounted fixtures to be attached to the outlet box, which is to be securely anchored in the wall construction, or to be anchored directly to the wall with toggle bolts or metal expansion shields (No plastic or wood pegs).

Grounding

All equipment, wiring devices, lighting fixtures, raceways and all other electrical devices requiring grounding per NEC Article 250 shall be grounded by the use of bare or green insulated, solid or stranded copper grounding conductors sized in accordance with NEC Table 250-122.

Each aboveground portion of a gas piping system upstream from the equipment shutoff valve shall be electrically continuous and bonded to the building grounding electrode per NFPA 54 (1996) 3.14. Size of this conductor is to match the main building grounding conductor and is to be connected to the gas piping system at the nearest point to the building electrical service.

E. Equipment and Special Materials

General Requirements

All Equipment and Special Materials used on this job to be new (unless specifically stated otherwise), are to be manufactured and approved for the intended service, and are to be UL listed.

Lighting Fixtures (See Plans for Schedules and Allowance)

All lighting fixtures to be listed by their Manufacturer for the intended Service. All fixtures to be supported with fixture hangers or mounting devices supplied by the Manufacturer for the purpose.

Light Bulbs

Provide additional 10% of led strips for replacement total amount of lights per school for an allowance in the base bid..

Panels

Branch devices - as scheduled and complying with the following:

Circuit Breakers - thermal-magnetic, quick-make, quick-break, permanent trip, molded case, bolted or plug-in, common handle required on two or three pole units (handle ties, clips or thru pins are not acceptable).

Acceptable manufacturers: ITE Gould, Square D, General Electric, Cutler Hammer.

Fuses

Provide all fuses as required unless otherwise noted. Install fuses with size as shown on nameplate for all air conditioning equipment (verify sizes from nameplates in field).
Acceptable manufacturers: Buss & Gould ShawMut

F. Electronic Systems – Not Applicable

G. Submittal Data

Submittal Data

Submittal Data will be required for all Equipment so indicated in these Specifications. This Data shall be sufficiently complete to demonstrate that the Equipment meets the Specifications. All Equipment pertaining to a given system shall be submitted at the same time, or it will be held until all Data is submitted. The timing and number of copies (but no less than three) shall be submitted bound in a protective cover with an Index Page which lists the Job Name, Subcontractor and all items contained in the Brochure. Submittal Data is required for the following items:

Lighting Fixtures, Switches, Plates & Fans, but not limited to.

END OF SECTION 16100

SECTION 16110 - RACEWAYS

PART 1 - GENERAL

1.01 WORK INCLUDED: This section covers raceways, fittings, and underfloor ducts, complete.

1.02 WORK SPECIFIED ELSEWHERE:

A. 16120 "Conductors"

B. 16420 "Electrical Service Entrance"

C. 16450 "Grounding"

PART 2 - PRODUCTS

2.01 MATERIALS:

A. RACEWAYS:

1. Rigid conduit shall be hot dipped galvanized steel heavy wall. The conduit shall bear the U.L. label and shall conform to U.L. 6 and ANSI C80.1.

2. Rigid aluminum conduit shall be heavy wall as manufactured by Alcoa, Kaiser, or approved equal.

3. Electrical metallic tubing (EMT) shall be galvanized steel thin wall. The tubing shall bear the U.L. label and shall conform to U.L. 797 and ANSI C80.3.

4. Quick coupling EMT shall only be as manufactured by Triangle PWC (UNI-COUPLE EMT) and Allied (KWIK-FIT EMT).

5. Flexible metallic conduit shall be galvanized steel tape formed into an industry standard interlocking coil as manufactured by Republic, Triangle, or approved equal.

6. Polyvinyl chloride (PVC) conduit shall be heavy wall Schedule 40 as manufactured by Carlon Electrical, Visqueen, or Condux. The conduit shall bear U.L. label and shall conform to U.L. 651.

Schedule 80 PVC where required, by Carlon Electrical, Visqueen or Condux.

7. Electrical nonmetallic tubing (ENT) shall meet requirements of NEMA TC-13 and shall be U.L. listed. Approved manufacturer: Carlon.

8. Intermediate metallic conduit (IMC) shall be galvanized steel. The conduit shall bear the U.L. label and shall conform to U.L. 1242 and ANSI C80.6.

9. Minimum/maximum sizes.

   a . No conduit shall be less than 1/2" trade size. Regardless of wiring no conduit in concrete or masonry shall be less than 3/4".

   b. No conduit shall be larger than 5" trade size.

   c. Utilize factory manufactured elbow 1-1/4" trade size and larger.

   d. Conduit is furred columns shall be 1-1/4" maximum in size.

10. BX is specifically not permitted.

B. CONDUIT FITTINGS:

1. Rigid metal conduit fittings for heavy wall conduit and IMC shall be of the threaded type. No other type of fitting shall be used unless specific approval is given.

2. EMT fittings shall be of the concrete-tight, kwik-fit or rain-tight type as required by location. Indenter type fittings not acceptable. No set screw type fittings permitted on conduits embedded in the floor slabs or buried conduits.

3. Flexible metallic conduit fittings shall be specifically designed for use with same and shall have smooth rounded ends for wire protection.

4. PVC conduit fittings shall be those recommended by the PVC conduit manufacturer.

5. ENT fittings shall be listed by U.L. for concrete tight applications.

Fittings shall be as manufactured by the ENT manufacturer.

6. Special fittings shall be listed or approved equal

a.	Sealing Gland Assembly	OZ, Type FSK
b.	Expansion Joints	OZ, Type AX or TX with bonding jumpers and clamps.
c.	Expansion and Deflection Fittings	OZ, Type DX
d.	Cast Metal Conduit Fittings	Crouse-Hinds, Condulets
e.	Combination Coupling	OZ, Type ETR
f.	Seal Fitting	OZ, Type EYA

7. Beam clamps used to secure conduit support apparatus shall be cast iron type.

PART 3 - EXECUTION

3.01 RACEWAYS:

A. INSTALLATION:

1. All conduits to run concealed, except as follows:

a. Mechanical and Electrical Equipment Rooms.

b. Unfinished spaces.

c. Where indicated on the contract drawings.

2. Make all cuts square with no reduction in trade size and ream out all burrs.

3. Provide expansion fittings for conduits crossing building expansion lines.

4. Cap all conduits with proper fittings until wires are pulled in.

5. All conduits installed in hollow metal, stud and wallboard, any movable or semi-permanent floor to ceiling partition shall originate from ceiling plane. No stub-ups from floor slabs, except for partitions less than floor to ceiling in height.

6. Underground conduits, conduits installed in wet areas, and conduits under grade slab shall be rigid steel painted with Bituminous paint or PVC. (Refer to Section 16450, "Grounding") Conduits installed within reinforced grade level slabs shall be PVC, EMT, ENT, or rigid steel and the maximum size shall be 3/4" trade size. Conduits installed in partial cuts of set grade level slabs shall be PVC, EMT, ENT, or rigid steel.

7. Conduits in or under slabs not on grade shall be EMT, IMC, or rigid steel.

8. Conduits underground for remote facilities services shall be encased in minimum 3" concrete, 3000 PSI. For specific electrical service entrance requirements see specification Section 16420.

9. All conduits penetrating walls or ceiling of the HVAC Fan Room(s) shall be rigid steel and sealed at the conduit joint just prior to entering the fan room(s) to prevent the passage of air. Conduits entering the fan room(s) through the floor shall be rigid steel and sealed at the first conduit joint above the floor. Utilize conduit seal fittings.

10. Seal off all conduits with appropriate fittings penetrating:

    a. Foundation Walls

    b. Hazardous Areas

    c. Roof Seal (See General provision)

    d. Waterproof Deck and/or Wall

11. Conduits in concrete shall conform to the following:

    a. They shall be located below reinforcing material.

b. They shall not displace structural steel.

c. They shall be routed not to cause structural weakness.

d. They shall have a minimum of 1" separation from any surface of the concrete.

e. They shall be routed in accordance with field instructions issued for extenuating conditions by the ARCHITECT. These instructions do not entitle Contractor to extra compensation.

f. No conduit shall be permitted in unreinforced concrete slabs on grade. Conduit in these locations shall be placed in gravel base beneath such slabs unless otherwise noted on the drawings.

12. Exposed conduit shall run straight at right angles and parallel with building lines. This requirement is also applicable to all areas defined as exposed by the NEC, Article 100.

13. All exposed vertical feeder conduits in unfinished areas are to be installed adjacent to permanent non-movable walls. The installation in any other location is not acceptable. (Movable wall is defined as non-masonry.)

14. Stub-ups or sleeves through concrete slab shall be rigid steel and shall extend 12" above finished floor.

15. All equipment requiring motion or noise separation shall be terminated with flexible metallic conduit. All flexible metallic conduit exposed to weather shall be liquid-tight.

16. No aluminum conduit shall be embedded in concrete or earth.

17. Support all conduits with rigidly mounted junction boxes, metal straps, hangers or clamps to provide a rigid installation. All supports to be independent from other equipment and in a manner not to impede the ready removal of other conduits, pipes and structural

supports of other trades.

18. Conduits shall be supported from the structure support members or walls. Supporting from the ceiling grid system hanger wires, T-bars or cross T-members, except as specifically noted herein is not permitted. Penetration of roof deck is not permitted for hangers, clamps, etc.

19. Plenum routed flexible metal conduit and armor cable branch circuits shall be individually secured at code required intervals using ceiling T-bar wire clips or as indicated for conduits above. They shall not lie on the ceiling tiles or grid system.

20. Provide all empty conduits with appropriate pulling cord or wire.

21. All conduits shall be installed in an acceptable workmanlike manner.

22. No conduits may be run on the floor surface or in such a manner as to be hazardous to traffic.

23. For PVC conduit utilize solvent cement joints for all fittings and make all joints watertight. Provide adapters for connections to metal components. Continuous ground wire is required. See Section 16450, Grounding.

24. Metallic conduits only shall be installed in ceiling plenums, hollow walls, furred spaces and column furring.

25. Make all conduit joints tight, no running threads are accepted. If necessary, use ERICKSON type couplings.

26. Provide locknut and bushing for conduit termination. Bushing shall be insulated 1-1/4" trade size and above.

27. All conduits exposed to mechanical injury and in hazardous areas shall be heavy wall.

28. ENT shall only be used encased in concrete in the on grade slab.

    a. Utilize cement labeled for use with ENT for joints for all fittings and make concrete tight per manufacturer instructions.

b. Appropriately secure in place to prevent floating during concrete pour.

29. For metallic raceway and conduits stubbed above ceiling used for communication and other power limited wiring install plastic ring or bushing on end above the ceiling.

END OF SECTION

SECTION 16120 - CONDUCTORS

PART 1 - GENERAL

1.01 WORK DESCRIPTION: This section covers all conductors 600V or less.

1.02 WORK SPECIFIED ELSEWHERE: Raceways, Section 16110.

PART 2 - PRODUCTS

2.01 MATERIAL:

A. GENERAL:

1. All conductors shall have insulation rated 90 degrees C and shall be 98% minimum conductivity soft, properly refined copper, solid, for size 10 AWG and smaller. Size 8 AWG and larger conductors shall be stranded copper. Stranded conductors smaller than 8 AWG are not allowed.

2. Minimum size conductor for power and lighting circuits shall be 12 AWG.

3. Maximum size conductor for feeders and power circuiting shall be 500MCM.

4. BX cable is not permitted.

5. MC cable with solid copper conductors and approved for use fittings is permitted with the following restrictions. MC cable (individual circuit, 3 #12 insulated conductors) may be used for receptacle outlet drops and lighting switch drops in gyp board and stud walls and individual lighting fixture drops. MC cable shall not be run between lighting junction boxes and shall not exceed 8 ft in length from junction box to receptacle, wall switch or light fixture.

6. Conductors for HVAC 120V control wiring shall be size 14 AWG stranded. For low voltage exception refer to HVAC specification Division 15.

B. ALUMINUM CONDUCTORS:

1. Aluminum feeders or branch circuit conductors are not allowed.

C. LOW VOLTAGE WIRE:

1. U.L. listed and approved non-conduit types must be used unless not legally permitted. Use must comply with the following:

2. All signal wire shall meet or exceed applicable portions of specifications in regard to the conductors. The non-conduit cable jacket material description will be substituted for conventional cable jacket description.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION:

A. CONDUCTORS:

1. All conductors shall be continuous from outlet to outlet.

2. Leave sufficient slack on all runs to permit secure connection of equipment.

3. All conductors shall be pulled simultaneously when installed in a common raceway. Delay pulling in until the project progresses to a point where conductors shall not be exposed to injury and moisture.

4. Swab all conduit prior to pulling the conductors and mandrel, with 85% ball, all conduits 2" and larger.

5. Use only specifically manufactured lubricant for wire pulling purposes.

6. Dress and lace wires and cables in all cabinets and pull boxes and use necessary insulated support to prevent shifting.

7. Identify feeders at each pull box and cabinets with permanent non-metallic band or tag.

8. All conductor insulation shall be rated for 600 volt, unless otherwise noted.

9. Utilization of insulation shall be as follows:

a. Lighting and appliance branch circuiting. THHN

b. Main and sub-feeders. THHN

c. Fixture wires. TFN, TFFN, SF, RHH, THHN

d. Direct burial or underground RHW-USE, UF, RR

10. Exterior of wires shall be color coded.

a. Color coding shall clearly indicate the difference between:

(1) Phase wires of different voltage systems.

(2) Neutral and phase wires of each voltage system.

(3) The grounding system wire.

b. Unless required otherwise by local code authorities use the following color coding scheme:

120/208 System	277/480 Volt System	120/240 System
Phase A- Black	Phase A - Black	Phase A – Brown
Phase B - Red	Phase B - Red	Phase B – Orange
Phase C – (Wild leg) Orange	Phase C - Blue	Phase C – Yellow
Neutral - White	Neutral - White	Neutral - Natural Gray

c. All equipment grounding conductors are to be green in color. All isolated ground conductors are to be green in color with an over-layed black or yellow stripe.

d. In sizes and insulation types where factory applied colors are not available, colored plastic tape in overlapping turns shall be applied at all terminal points and in all points of splicing. Tape

shall be applied at a minimum intervals of 6" along the wires and cables.

B. SPLICING AND TERMINATING:

1. Maintain all splices and joints in accessible enclosures, where easy inspection is available.

2. Join solid conductors with expendable type insulated coiled steel spring connections (wire nut), or by twisting and soldering.

3. Terminate solid conductor by means of a neat and fast application directly to the binding screw or post of the equipment.

4. Join, tap and terminate stranded conductors #6 AWG and larger by means of solder sleeves, taps and lugs with applied solder or by means of bolted saddle type or pressure indent type connectors, taps and lugs. Apply pressure indent type connectors, taps and lugs utilizing tools manufactured specifically for the purpose and having features preventing their release until the full pressure has been exerted on the lug or connector.

5. Except where wire nuts are used, build up insulation over conductor joints to a value, equal both in thickness and dielectric strength, to that of the factory applied conductor insulation. Insulation of conductor taps and joints shall be by means of half-lapped layers of rubber tape, with an outer layer of friction tape; by means of half-lapped layers of approved plastic electric insulating tape; or (in the case of bolted type connector joints) by means of split insulating casings molded specifically to insulate the particular connector and conductor, and fastened with stainless steel or non-metallic snaps or clips.

6. Exclude splicing procedures for neutral conductors in lighting and appliance branch circuitry which utilize device terminals as the splicing points.

7. Exclude joints or terminations utilizing solder in any conductors used for grounding or bonding purposes.

8. Exclude all but solder or pressure indent type joints in conductors used for signalling or communications purposes.

3.02 INSTALLATION OF LOW VOLTAGE WIRE:

A. CABLE INSTALLED WITHOUT CONDUIT: Shall not be visible in any area accessible to the public. Cables shall be routed in all areas so as to minimize the chance of accidental mechanical damage during any and all phases of stores operations. Cable shall be supported with cable ties from the structure above or with approved T-bar wire clips two feet above ceiling tile and not lay on the ceiling grid system.

B. CONVENTIONAL CONDUIT: Must be used where cable is subject to damage, and/or required by the National Electrical Code or local governing authorities. When low voltage cable is routed from exposed into conduit, or pulled into wall or floor outlet, utilize connectors and fiber bushings to prevent cable jacket damage.

C. LOW VOLTAGE CLASS 2 WIRING IN RETURN AIR PLENUMS: Teflon or similarly insulated signal conductors may be utilized where low voltage, Class 2 signal cable is permitted by local codes as an alternate to conventional PVC insulated signal cable installed in conduit. Use must also comply with the following:

1. All low voltage signal wire shall meet or exceed applicable portions of specifications in regard to conductor characteristics. Only the Teflon insulation cable jacket material will be substituted for conventional PVC cable jacket material. The wire characteristics shall remain unchanged.

2. Power limited circuit signal cable as described here and in low voltage systems portions of this specification must by U.L. listed as having adequate fire resistance and low smoke producing characteristics and approved for the intended use (See National Electrical Code Section 725-2b and 760-4d). Low voltage, Class 2 signal cables (Teflon insulation) shall be manufactured by Hi-Temp Wires, Inc., Rockbesto Wires and Cable, Teledyne Thermatics, Belden Wire, Phalo or approved equal.

3. The low voltage, Class 2 signal cable installed without conduit shall not be visible in any area accessible to the public. Cables shall be routed in all areas so as to minimize the chance of accidental mechanical damage during any and all phases of the store's operations. Cable shall be supported with cable ties from the structure above and not from the ceiling T-bar grid system including ceiling suspension wires.

END OF SECTION

SECTION 16130 - BOXES

PART 1 - GENERAL

1.01 WORK DESCRIPTION: This section covers junction, pull and outlet boxes.

1.02 SUBMITTALS: Submit shop drawings on floor boxes and poke-thru devices for approval.

1.03 WORK SPECIFIED ELSEWHERE: "WIRING DEVICES 16140".

PART 2 - PRODUCTS

2.01 MATERIAL:

A. BOXES: Shall be manufactured from galvanized industry standard gauge steel, cast iron, cast aluminum or PVC as specified below.

1. Power distribution boxes shall be 8" X 8" X 4" (minimum) with blank cover. Each side and bottom (when installed) shall have a minimum of 2 each 3/4" knockouts. Manufacturers: Lea products of Everett, Ma; Unity Manufacturing of Garland, TX; or approved equal.

2. J-boxes shall be Steel City #6G-1/2 & 3/4 with blank cover 6-GCB or Raco #955 with blank cover #848.

B. FLOOR BOXES: Deep cast iron, rectangular or round type, fully adjustable before and after concrete pour. All floor boxes shall have covers, as specified in "Wiring Device - 16140". Boxes shall be Hubbell B-2436, B2503, B-4233, B-4333 or Steel City 641, 642, 643, 601 (Round) or Walker Parkerburg 889 (Round) or LEW 520 (round), 1101-DFB, 6262 - DFB/6304-S, 6263 - DFB/(2)6304 - S. See exception under "Floor Outlets" in Part 3 of this section.

1. For grade slab only and where approved by all governing authorities non-metallic floor boxes are permitted. CARLON catalog #E971FB with E97ABR adapters, Hubbell #PFB1 with PFBA1 adapter, Steel City #68-P with #600-4-FL brass ring, WALKER 883 and LEW L-56001. Covers and carpet flanges per "Wiring Devices 16140".

2. Floor boxes shall be furnished with all necessary accessories for a complete installation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. BOXES:

1. All boxes shall be installed in accessible areas with removable covers.

2. All boxes shall be firmly supported from the building structure.

3. All outlet boxes shall be set flush with the surface of the wall, floor, or ceiling in concealed installation.

4. All boxes installed shall conform to the criteria governing the displacement and bending radius of wires and cables contained within them.

5. Provide segregated boxes or proper barriers where different services or systems are following the same routing.

6. Include all boxes required for a complete system regardless of indication on the contract drawings.

7. Provide pull or junction boxes to limit conduit runs to the equivalent of 270 degree bends and to facilitate wire pulling.

8. Close up all unused openings in boxes with approved fittings.

9. Provide an outlet box for each individual wiring device, lighting fixture, and communication component, unless otherwise noted.

10. Multiple devices indicated at a single location shall utilize gang mounted under common cover where possible.

11. Conceal outlet boxes in back of water cooler at locations recommended by the cooler manufacturer.

12. Junction boxes and circuit distribution boxes shall be permanently marked with the circuit identification numbers of the circuits contained therein.

13. Junction boxes (above ceilings and exposed) for emergency circuits shall be color coded with color(s) not used for other systems.

B. FLOOR OUTLETS:

1. In slabs not on grade furnish and install smoke and fire rated assemblies with fittings and firestop with suitable material to meet all legal requirements for floor penetrations. Exception: For all floor wiring devices designated as flush, Contractor shall furnish and install flush cast iron floor boxes. Provide fireproofing at all penetrations through slab for floor boxes. All wiring devices shall be fully circuited and wired by this Contractor.

2. For on grade slabs, install cast iron or PVC floor boxes as specified herein. Exception: The floor box installed as a part of the column raceway system, as depicted in the standard details shall be as noted in the details.

END OF SECTION

SECTION 16140 - WIRING DEVICES

PART 1 - GENERAL

1.01 WORK DESCRIPTION: This section covers line voltage wiring devices.

1.02 SUBMITTALS: Submit shop drawings and/or manufacturer's catalog sheets for approval.

PART 2 - PRODUCTS

2.01 SWITCHES AND RECEPTACLES:

A. GENERAL:

1. All devices shall be specification grade, heavy duty, standard configuration for the purpose of application. It shall be the contractor's responsibility to provide all necessary accessories to make complete and functioning devices or outlets.

2. Where pilot light only indicated, provide a correct voltage red jewel neon light mounted in standard switch box. For switches with pilot light provide neon light in toggle handle. See below.

B. SWITCHES FOR LOCAL CONTROL: Shall be flush tumbler, quiet type, with screw type terminals. Receptacles shall be Hubbell #1121-I or Leviton 1121.

1. Rated 120 volts, 20 AMPS, AC only, colored ivory.

2. Where indicated to have pilot light, each shall have a correct voltage red neon pilot light in Lexan handle. Toggle handle lights when load on.

3. Switches for direct control of single phase fractional HP motors, i.e. exhaust fans, shall be motor rated.

C. RECEPTACLES FOR CONVENIENCE OUTLETS: Shall be specification grade, heavy duty. Receptacles shall be Hubbell 5342 or Leviton 5342.

1. They shall be rated 125 VOLTS 20 AMPS unless otherwise noted.

2. They shall be colored ivory. Exceptions: Receptacles for emergency system outlets shall be colored red. Isolated ground receptacles shall be colored orange.

3. They shall be self-grounding type, 3 or more wires, single or duplex, as indicated with NEMA standard face slot configuration.

4. They shall have screw type terminals only.

5. Non-standard type outlets and special purpose power supply receptacles shall incorporate applicable requirements for the standard type and shall be as indicated.

6. For each non-standard receptacle, including all twist-lock devices and power supply outlets installed, furnish one matching attachment plug and connect same to the cord of the associated equipment.

D. PLATES FOR WALL MOUNTED DEVICES: Shall be selected as follows:

1. Plates for outlets shall be ivory.

2. They shall have the correct shape opening.

3. Material: Nylon for lighting switches and single and duplex standard receptacles.

E. MANUFACTURERS: Acceptable manufacturers for above specified devices are Arrow-Hart, General Electric, Hubbell, Pass and Seymour, Bryant, Eagle, or Leviton. Provide all devices by approved manufacturer.

2.02 DIMMING EQUIPMENT FOR INCANDESCENT SWITCHING:

A. GENERAL: Shall be provided as follows:

1. Select the dimmer to match the total load served.

2. Derate dimmers if they are ganged in common enclosure.

3. Use only solid state electronic type dimmers in 600W, 1000W, 1500W, or 2000W rating, as manufactured by General Electric, Lutron, or approved equal.

2.03 PUSHBUTTON, BELL AND TRANSFORMER:

A. Edwards catalog numbers 600, 55-6G5, and 88-50, or equal.

2.04 DEVICES FOR FLOOR BOX OUTLETS:

A. COVERPLATES: Shall be configured as follows:

1. For Rectangular Cast Iron Floor Box

Type Cover	Hubbell	Steel City	LEW
Flush Cap Combination	S-2625	P64-3/4-2	6203
Flush Duplex Flap	S-3825	P64-DS	6304DFB-1

a. Rectangular Carpet Flanges

Vendor	1-gang	2-gang	3-gang
Hubbell	S-3083	S-3084	S-3085
Steel City	P64-LCP	P64-2LCP	P64-3LCP
LEW	CF-6261	CF-1102-CP	CF-1103-CP

2. For Round, Metal or PVC Floor Box (Single Service Only)

Type Cover	Hubbell	Steel City	Walker	LEW
Flush Cap Combination	S-2525 CACP	P60-3/4-2	896CK-3/4	524
Flush Duplex Flap	S-3925	P60-CACP	895	DFB-1
Carpet Flange	S-3082	(N/A)	(N/A)	SCF-CP

3. For Hubbell round plastic floor box with low voltage divider use Hubbell no. SF39253 Brass 3 service cover with flange. Use PFBA1 adapter ring.

4. Above Floor Service Fittings

	Vendor	1-Duplex Recept.	2-Duplex Recept.	Telephone/ Comm.
	Hubbell	SC-3091	SC-3092	SC-3090
	Steel City	SFH-50-RG	SFH-50-2RG	SPH-50-Telecov
	Walker	513AL	513D	501
	LEW (FDN-300)	804	(2)804	805

B. OUTLET DEVICES:

1. Receptacles for power shall be as specified elsewhere in this section.

2. Coverplates for floor boxes with power receptacle shall be flush duplex flap as specified above.

3. Devices for communication outlets mounted in floor boxes are specified elsewhere in these specifications.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. GENERAL:

1. Install all devices indicated complete with cover plates.

2. Where necessary, set the long dimension of the plate horizontal, unless otherwise noted on contract drawings.

3. All 120V devices at a common location shall be "gang-mounted" under common cover. Do not "gang-mount" 277V devices.

4. All receptacles shall maintain a consistent orientation for neutral connection; use the silvered terminal if supplied with device.

5. Provide definite grounding method for all special outlets, including isolated ground devices and power supply receptacles.

END OF SECTION

SECTION 16170 - DISCONNECTS

PART 1 - GENERAL

1.01 WORK DESCRIPTION: This section covers individually mounted disconnect switch devices.

1.02 SUBMITTALS: Submit shop drawings for approval.

PART 2 - PRODUCTS

2.01 MATERIAL:

A. GENERAL:

1. Disconnect switches shall be general duty with quick-make, quick-break (QMQB) mechanism.

2. They shall have NEMA type enclosures as required and/or noted on the contract drawings with nameplates with a permanent record of type, size and horse-power ratings.

3. They shall have operating handles with definite "OFF" indications and defeatable door interlocks in the "ON" position.

4. Provide switch assembly, where the operating handle is an integral part of the enclosure base.

5. Fused disconnects shall have reinforced fuse clips for both standard and time delay fuses.

6. Provide multi-padlock capability for the operating handle.

7. Provide six pole disconnects where required for six lead motors.

B. MANUFACTURERS: Cutler-Hammer, General Electric, Siemens/ITE, Square D, and Westinghouse.

C. Overcurrent protective devices shall be in accordance with Section 16180 of these specifications.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. GENERAL: Refer to Section 16010 for labeling requirements.

1. All disconnects shall have nameplates identifying load being served.

2. Install fused or non-fused disconnect switches where indicated on the contract drawings or required by latest NEC or governing authorities.

3. They shall be installed with adequate hand access to and clearance for operation and fuse replacement.

END OF SECTION

SECTION 16180 - OVER-CURRENT PROTECTING DEVICES

PART 1 - GENERAL

1.01 WORK DESCRIPTION: This section covers circuit breakers, fuses and all over-current protecting devices.

1.02 SUBMITTALS: Submit shop drawings for approval.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. OVER-CURRENT DEVICES: Shall be labeled to accommodate 75°C insulated conductors. Labels shall appear on the overcurrent devices as well as on the enclosures. All items under this section shall conform to applicable NEMA and ANSI Standards.

B. CIRCUIT BREAKERS:

1. Circuit breakers shall be molded case, completely enclosed bolted connection devices.

2. They shall be quick-make, quick-break, trip free, trip indicating one-, 2- or 3-pole switching units.

3. All multi-pole breakers shall have common trip handles and all poles shall close, open or trip simultaneously.

4. They shall provide inverse time delay overload with instantaneous short circuit protection by means of a thermal-magnetic element.

5. AIC Rating: 120V and 208-240V breakers, minimum 10,000 AIC. 277V and 480V breakers, minimum 14,000 AIC. Series rating of breakers will not be allowed.

6. They shall be rated to withstand the available short circuit current at the line side of connection.

7. They shall be provided with non-welding contact surfaces and arc chutes.

8. Circuit breaker shall be Square D Type QOB or GE LAB.

C. FUSES:

1. Fuses 600V or less shall be cartridge type and shall be non-renewable.

2. Provide current limiting fuses, time delay or fast acting in accordance with drawings and diagrams. Main switchboard fuses: Bussman KRP-C for main interrupters and Bussman LPS-RK for distribution feeder switches.

3. Provide dual element, time delay fuses for motor feeders or branch circuits of motors larger than 1/2 HP. Use Buss LPS-RK, FRS-R (600V); LPN-RK, FRN-R (250V) for loads up to and including 600A and Buss KRP-C (600V) for loads above 600A. Refer to drawings for specific applications.

4. Provide proper type and size fuses for all fusible devices, including equipment furnished by owner. When selecting fuses, follow the recommendation of the protected equipment manufacturer.

5. Provide 10% spare fuses, with a minimum of 3 for each size and type, of each size and type fuse used on this facility. Deliver fuses to the owner's representative and provide a spare fuse cabinet on the HVAC Equipment Room Wall as shown.

6. Fuses above 600V shall be the type recommended for the equipment by the manufacturer and acceptable to the local utility company. Provide 3 spares of each such type and size of fuse installed.

7. Fuses shall be manufactured by Bussman, Shawmut or Littlefuse.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install circuit breaker in accordance with manufacturer recommendations.

END OF SECTION

SECTION 16450 - GROUNDING

PART 1 - GENERAL

1.01 WORK DESCRIPTION: All electrical systems shall be grounded in accordance with the National Electrical Code, Local Codes, these specifications and the contract drawings.

1.02 WORK DESCRIBED ELSEWHERE: "Conductors" section 16120.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. GENERAL:

1. Use green colored and coded insulated copper conductors.

2. Use approved ground clamp manufactured for such purpose.

3. Use approved grounding electrodes and rod.

4. Make all conductor to conductor, conductor to ground rod and conductor to steel grounds connections with approved exothermic welding method.

5. Ground rods: 5/8" diameter copper clad steel, minimum ten feet in length.

2.02 APPROVED MANUFACTURERS:

A. Approved manufacturers for exothermic welding process are as follows:

1. CADWELD

PART 3 - EXECUTION

3.01 INSTALLATION:

A. GENERAL:

1. Ground all systems and equipment with the best applicable industry practice.

2. Building steel shall be grounded in the area of main switchboard, and electric closets. A total of 15% of all steel columns shall be grounded through a driven ground rod system, #1/0 AWG cu. stranded conductor shall connect the rod to the steel columns.

3. Utilize the main water service pipe only if it is metallic type, minimum of 100' buried and the grounding effectiveness is established.

4. The point of connection to the service shall be as near to the water meter as possible.

5. Provide copper wire shunt at the street side of the water meter and/or main shut-off valve.

6. Where the domestic water service is non-metallic, installed with the use of insulated couplings, or installed in such a manner to negate the effectiveness of the ground, a supplemental ground shall be installed. The installation shall be as per contract drawings.

7. Install metallic raceways mechanically and electrically secure at all joints and at all boxes, cabinets, fittings and equipment. At the point of electrical service entrance, bond all metallic raceways together, with a ground conductor, and connect to the system ground bus. Bond all boxes as specified for equipment.

8. Provide separate green equipment ground conductor in all electrical raceways, to effectively ground all fixtures, panels, controls, motors, disconnect switches, exterior lighting standards, and non-current carrying metallic enclosure. Use bonding jumpers, grounding bushings, lugs, busses, etc., for this purpose.

9. Connect the equipment ground to the building system ground. Use the same size equipment ground conductors as phase conductors, up through No. 10 AWG. Use NEC Table 250-95 for conductor size with phase conductors No. 8 and larger, if not shown on the contract drawings.

10. Permanently connect the green ground conductor to each receptacle junction box (self-tapping screw).

11. Connect the ground conductor to the conduit with an approved grounding bushing, and to the metal frame with a bolted solderless lug. Bolts, screws and washers shall be bronze or cadmium-plated steel.

12. Provide a flexible ground strap, No. 6 AWG equivalent, at each flexible duct connection at each air handler, exhaust fan, and supply fan, and install to preclude vibration.

13. Provide one No. 6 TW copper wire in 1/2" conduit from the main telephone cabinet to the street side of the domestic water service (street side of water meter) or building ground connection.

14. Concrete encased rods or wires in foundations and footings with adequate electrical connections from each main reinforcing member to structural steel may be used, providing soil conditions are not restrictive and the net ground resistance is acceptable.

15. Provide separate grounding conductor in all feeders to 480V distribution panelboard feeders. Size of ground to be per NEC table 250-95.

16. Isolated ground is derived from the grounded Xo terminal of the secondary of a stepdown transformer. A separate insulated conductor(s) shall connect the Xo terminal to the isolated ground bar in panelboard(s) requiring isolated ground provisions. No portion of any isolated ground system shall be used to provide ground for any raceway and/or equipment.

B. SERVICE ENTRANCE:

1. Where the primary grounding electrode is not a metallic water service pipe utilize a made electrode system.

2. The service entrance shall be grounded at the transformer (outside the building) per Utility Co. requirements as well as at the switchboard ground bus.

END OF SECTION

SECTION 16500 - LIGHTING

PART 1 - GENERAL

1.01 WORK DESCRIPTION:

A. WORK INCLUDED: This section includes indoor and outdoor lighting fixtures and associated supports and lenses.

1.02 SUBMITTALS: Submit shop drawings for approval.

1.03 RESPONSIBILITY:

A. LIGHTING FIXTURES: All lighting fixtures and lamps shall be furnished and installed under the General Contract. Only lighting fixtures as indicated on the Lighting Fixture Schedule modified to satisfy local codes and ordinances, if required, and as manufactured by the "Approved Manufacturers" shall be accepted.

1. Even though a manufacturers catalog and/or drawing number is listed on the lighting fixture details, it shall be this Contractor's responsibility to furnish all required accessories or modifications to meet the specification requirements for lighting fixtures. This Contractor shall be responsible for verifying voltage requirements of fluorescent/HID lighting fixtures prior to ordering and, where required for plaster/gypboard ceiling, to order frames and/or modifications to fixtures.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. FIXTURES, GENERAL: Comply with the requirements specified below and lighting fixture schedule on the drawings.

1. Comply with Underwriters' Laboratories requirements. Lighting fixtures shall be listed and bear the U.L. label.

2. Comply with local building and electrical codes.

B. FIXTURE COMPONENTS, GENERAL: Furnish fixtures complete with all required accessories, components and hangers.

1. Metal parts shall be free from burrs and sharp corners and edges.

2. Sheet metal components shall be steel except as noted otherwise. Components shall be formed and supported to prevent warping and sagging. Pre-painted steel, before forming, shall not be used.

3. Doors, frames, and other internal access pieces shall be smooth operating and free from light leakage under operating conditions. Relamping shall not require use of tools. Doors, frames, lenses, diffusers, louvers, and other pieces shall be designed to prevent accidental falling during relamping and when secured in the operating position.

4. Suspended Fixture Support Components:

    a. Single stem hangers: 1/2 inch steel tubing with swivel ball fitting and ceiling canopy. Finish same as fixture.

    b. Rod hangers: 3/16 inch diameter steel rod, threaded and rust inhibited.

    c. Chain: 150 lb. rating. Use same gauge steel "s" hooks for attachment to fixture.

5. Sockets:

    a. All fluorescent sockets shall be held rigidly in place and shall contain spring brass contacts.

    b. Screw sockets shall be nickel-plated brass with a porcelain envelope.

    c. Mogul sockets shall have internal spring grips and a porcelain envelope.

6. Housings: Unless noted otherwise shall be of heavy gauge steel (CRS) and shall be formed so as to preclude sag, distortion, or "oil canning".

    a. Spun housings shall be brushed to remove tool marks.

b. Pre-painted steel, before forming, shall not be used.

C. FINISHES:

1. Fluorescent fixtures: All housing, door frames, ballast covers, and all other reflective surfaces shall be painted after fabrication with baked-on white enamel with a minimum reflectance of 89%.

2. All aluminum louver for fluorescent fixtures shall have iridescent inhibiting process treatment.

D. WIRING: All internal wiring shall be copper, 600 volt, temperature rated per U.L. standards.

1. Conform to local codes and ordinances.

2. Incandescent sockets shall be wired with high temperature wire per requirements of U.L. Internal wires (within fixture housing) shall be protected by braided sleeve. Auxiliary J-box shall be pre-wired and U.L. approved for 60°C supply wires.

3. Fluorescent fixtures shall have internal wiring sized not less than 18 gauge with thermoplastic insulation type required for U.L. listing and local codes and ordinances. Wiring connections within the wireway for stranded conductors shall be made using fully insulated, compression type, copper connectors. "Wirenuts" shall only be used with solid conductors.

E. GASKETS: Shall be of a closed cell material suitable for the applicable temperature and proposed environment. No gasket material shall be used which shall age, harden or permanently deform under pressure.

F. ACCESSORIES: All fixtures shall include plaster frames, trims, yokes, lenses in place, and all other appurtenances necessary to affect a complete installation. All fixtures shall be fabricated in a neat and workmanlike manner and shall conform to industry standards with regard to modularity, length and overall size.

G. LABELS: Label stating fixture type number and manufacturer name shall be placed in a conspicuous location on the exterior of the luminaire. Label stating voltage and maximum wattage shall be placed on the interior if

incandescent fixtures.

H. OUTDOOR FIXTURES: Lighting and/or components of lighting fixtures which are exposed to the weather, shall be constructed of anodized aluminum or stainless steel.

1. Lighting fixtures and/or components not directly exposed to the weather, such as under extended canopies, may be constructed of steel with 2 coats of zinc chromate prime before application of the final finish.

O. EXIT SIGNS: Conform to UL924, "Emergency Lighting and Power Equipment. U.L. label shall be affixed.

1. Sign colors: Letters shall be red unless required otherwise by local code.

2. Minimum height of letters shall be 6" unless required otherwise by local code.

3. Stencil face shall consist of a brushed (Satin finish) aluminum faceplate with letters backed with break resistant translucent plastic. Include arrows as indicated from Plans.

4. Lamps for AC operation shall be two (2) each compact fluorescent with minimum 10,000 hrs. rated life. Lamps for DC operation shall have 50,000 hrs. rated life.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. GENERAL:

1. Where surface mounted fixtures are indicated for installation on low-density cellulose fiberboard, provide 1-1/2" ceiling spacers, unless U.L. approved for mounting directly to the ceiling material.

2. Provide plaster frames for all recessed lighting fixtures installed in gypboard/plaster ceilings unless otherwise approved by the Architect. Provide plaster frame designed and fabricated of such material to preclude the possibility of staining the plaster.

3. Properly support and align fixtures and provide all necessary steel shapes for support of the fixtures. Where local codes or ordinances require, provide independent support for each fixture. Coordinate complete fixture installation with the building construction.

4. Lighting fixture enclosures in fire rated ceilings shall conform to U.L. and lighting fixture manufacturers' requirements.

5. Square and rectangular fixtures shall be mounted with sides parallel to building lines, and parallel with ceiling lines.

6. Verify all ceiling systems and coordinate fixture type and accessories prior to ordering fixtures. Coordinate and cooperate with ceiling supplier in the preparation of ceiling shop drawings.

7. Install fluorescent fixtures as recommended by the manufacturer or as necessary to provide exact horizontal alignment, preventing horizontal or vertical deflection or angular jointing of fixtures suspended in continuous rows.

END OF SECTION

16920 - CONTROL WIRING

PART 1 - GENERAL

1.01 WORK DESCRIPTION:

1. All power and line voltage (120V or higher) control wiring and associated conduits to be furnished and installed by the Electrical Contractor.

2. All low voltage control/interlock wiring and associated conduits shall be furnished and installed by the HVAC Contractor.

3. All HVAC control devices (except manual motor start switches, hp rated control switches, and pilot light only units) for Electrical Contractor installed control systems shall be furnished and delivered by the HVAC Contractor to the Electrical Contractor for installation and connection. (Refer to Division 15 HVAC for equipment list.)

4. All installations shall be done in accordance with the approved drawings under the direct supervision of the HVAC Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. GENERAL:

1. Provide all conduit, wire and necessary appurtenances for a complete installation power system for the "furnished by others" equipment in accordance with these specifications and applicable code requirements.

2. Provide all disconnecting means called for on drawings and/or required by national electrical code or governing authorities.

3. Provide all fuses for equipment supplied by others.

4. Coordinate over-current protection types and sizes with the supplied equipment.

5. Manual motor start switch shall be equal to Square-D class 2510. Provide OL sized per HVAC Contractor instruction. Hp rated switches and pilot lights per section 16140 "Devices".

PART 3 - EXECUTION

3.01 INSTALLATION:

A. GENERAL: Install a complete system for the operation of the HVAC equipment requirements and these specifications.

END OF SECTION