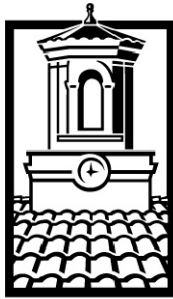


**JONES AUDITORIUM
PHASE II
ACOUSTICAL UPGRADE
TAMU-K PROJECT NO. 110302**



**TEXAS A&M
UNIVERSITY
KINGSVILLE**



615 N. Upper Broadway
Suite 1250
Corpus Christi, TX 78401-0750
T: 361 884-3295
F: 361 884-3298

www.clkarch.com



May 6, 2011

Set No. _____

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PHASE II – ACOUSTICAL UPGRADE**

TEXAS A&M UNIVERSITY - KINGSVILLE

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REQUEST FOR BID PROPOSAL

Bid Number:

Name of Project: Jones Auditorium Phase II – Acoustical Upgrade
PROJECT NO. 110302

Bids, including a sealed Bid Proposal, for **Project No. 110302** for Texas A&M University-Kingsville shall be received in the office of Procurement & General Services, 955 University Blvd., Room 121 College Hall, Kingsville, Texas on **June 2, 2011**. Closing time for the receipt of the sealed bid Proposals and the HUB Subcontracting Plan (HSP) is **2:00 PM**. Bids will be publicly opened and read aloud in room 121 at that time.

The Proposal form, Information to Bidders, Plans (drawings), Conditions of the Contract, Technical specification and other documents that constitute the contract may be examined at the office of **Jack Culbertson, Project Manager, Facilities Planning and Engineering, Texas A&M University – Kingsville, 1010 Retama Dr, Kingsville, Texas 78363, (361-593-2645), OR at CLK Architects & Associates, Inc. 615 N. Upper Broadway, Suite 1250, Corpus Christi, Texas 78401, 361-884-3295 OR they can be downloaded from the Electronic State Business Daily – (Contractor is responsible for frequently checking this website for updates).**

A Pre-Proposal Conference shall be held on Wednesday **May 18, 2011 at 2:00pm at 1010 N. Retama Ave., Kingsville, TX 78363**

The Owner reserves the right to waive any formalities or to reject any or all Bids. Alteration or modification of the Bid Forms shall be cause for rejection of the Bid.

Each Bidder must deposit with the Bid, a Bid Security in the amount, form and subject to the conditions provided in the Information to Bidders.

No bidder may withdraw his bid within thirty (30) days after the actual date of the opening thereof.

Date: May 6, 2011

Name: Jack Culbertson

Project Manager

1010 Retama Dr.

Kingsville, TX., 78363

361.593.4770

UNIVERSITY OFFICIALS

June 2009

The Texas A&M University-Kingsville

* Executive Officers

Dr. Steven Tallant	President
J. Randy Hughes	Chief of Staff
Dr. Rex Gandy	Provost & Vice President for Academic Affairs
Dr. Marilyn Fowlé	Vice President for Finance and Administration
Dr. Terisa Remelius	Vice President for Student Affairs
Manuel Lujan	Vice President for Enrollment Management
D. Scott Gines	Vice President for Institutional Advancement

The Texas A&M University System

* Board of Regents

Mr. Morris E. Foster	Chairman
Mr. James P. Wilson	Vice-Chairman
Mr. Phil Adams	
Dr. Richard A. Box	
Mr. Lupe Fraga	
Mr. Bill Jones	
Mr. Jim Schwertner	
Mr. Gene Stallings	
Mrs. Ida Clement Steen	
Anthony Cullins.	Student Regent

* Chancellor

Dr. Michael D. McKinney

* A/E or Consultant

Architectural - CLK Architects & Associates, Inc.
MEP - NRG Engineering
Structural - Garza-McLain
Civil - Urban Engineering

The Official Address for Texas A&M University-Kingsville is:
U.S. Mail: 700 University Blvd, MSC 212, Kingsville, TX 78363
Physical: 955 University Blvd, Room 121 College Hall, Kingsville, TX 78363

INSTRUCTIONS TO BIDDERS

1.0 RECEIPT OF BIDS:

- 1.1 Proposals will be received at the time, place and under conditions set for the in the published Request for Bid Proposals (RFBP).
- 1.2 Bidding documents are obtainable from the Architect/Engineer (A/E) under conditions set forth in the RFBP.

2.0 DISCREPANCIES AND INTERPRETATIONS:

- 2.1 Notify the Architect/Engineer (A/E), in writing, at least five (5) business days prior to the scheduled bid opening date, if discrepancies, ambiguities or omissions are found in the bidding documents, or if further information or interpretation is desired.
- 2.2 Answers will be given in writing to all bidders in addenda form. All provisions and requirements of such addenda will supersede or modify affected portions of the bidding documents. All addenda will be incorporated in and bound with the Contract Documents. No other explanation or interpretation will be considered binding.

3.0 SUBMITTAL PROCEDURE:

- 3.1 Submit the Proposal in a sealed unimailer envelope bearing the bidder identification information and the project name for which the Proposal is submitted.
- 3.2 Enclose the Proposal Guaranty in the small envelope affix to the outside of the unimailer envelope, containing the Proposal.
- 3.3 If the Proposal and Guaranty are submitted by mail then place the unimailer envelope in a mailing envelope and address it to the Owner's attention:

*Mr. Ralph Stephens
Director of Procurement and General Services
Room 121; College Hall
Texas A&M University-Kingsville
MSC 212
Kingsville, Texas 78363
361-593-3814
Fax: 361-593-2719*

Delivery of the Proposal and the Guaranty prior to the advertised time set for receipt of the Proposal is the responsibility of the Bidder. See section 4.5 for procedures regarding FAX or telegraphic modifications of Proposal prior to the closing time for their receipt. Such modifications shall be sent to the address shown in 3.3.

3.4. Historically Underutilized Business Plan (HSP) Submittal:

3.4.1. Refer to Article XVIII, Special Conditions, to determine if a HSP is required.

3.4.2. If an HSP is required, then submit one copy of all documents that are required for the HSP in a separate envelope, at the time and place set in the Advertisement for Bids, or in subsequent Addenda. The purpose of the HSP is to demonstrate bidder's compliance with HUB Policy requirements as detailed in Article XVIII, Supplementary Uniform General Conditions. The HSP should be organized in a professional manner.

3.4.3. If the HSP is to be submitted by mail, then place the Plan in a large envelope and address as specified in paragraph 3.2, Instruction to Bidders. Label the outside of the envelope to indicate the following information:

HSP

Bid Number _____

Project Name _____

Bidder's Name _____

Bidder's Address _____

3.4.4. Delivery of the HSP to the place specified, and prior to the advertised set time of receipt of the Proposal, is the responsibility of the Bidder.

3.4.5. A Bidder may modify an HSP by telegraphic or facsimile (FAX) communication provided such communication is received at the place and time set for receipt of the Proposal. However, written confirmation of the modification must be received within two working days following the actual bid opening, or else no consideration will be given to the modification. No modifications will be allowed after the bid opening.

4.0 PROPOSALS:

4.1 The Proposal must be based on conditions at the project site, the bidding documents and addenda issued.

4.2 The Proposal shall be authoritatively executed **in ink** and submitted on the Proposal form furnished by the A/E.

4.3 A Proposal showing omissions, alterations, conditions, or carrying riders or qualifications, which modify the Proposal form will be rejected as irregular.

4.4 Only one Proposal shall be submitted. If two or more Proposals are submitted by a bidder, either in one envelope or in separate envelopes, then such multiple Proposals may be subject to rejection. The blank Proposal form bound in the bidding documents is for the bidder's information only.

4.5 The bidder may modify a Proposal by telegraphic or facsimile (FAX) communication using company letterhead and executed by a company officer provided such communication is received by the presiding official at the location of the bid opening prior to the closing time set for receipt of the Proposals as published in the RFPB. The communication must not reveal the Proposal price but should identify the addition or subtraction or other modification(s) so that the final prices will not be known until the sealed Proposal is opened. If original, written confirmation of the modification is not received within two (2) working days after the date of the bid opening, then the Proposal modifications will be ignored and the total Proposal may be rejected.

- 4.6 If an HSP is required, then the presiding official shall make a preliminary examination of the bidder's HSP, before publicly opening the Proposals, to determine if an apparent good faith effort has been made and for apparent acceptability. If an error or omission is discovered and classified by the presiding official as a technicality that the Owner has reserved the right to waive, the bidder's representative may be permitted to make the appropriate correction. If no HSP is submitted, or if the submitted HSP is not complete and can not be made complete under this procedures, or if the submittal is not indicative of a good faith effort as defined in Article XVIII, Supplementary Uniform General Conditions and Special Conditions, then the presiding official will publicly this to those in attendance at the opening, reject and return the submitted Proposal to the bidder unopened. Within five working days after the HSP receipt, the Owner shall examine the bidder's HSP in detail. If from this detail examination of the HSP, the Owner determines that the Plan is incomplete and/or that a good faith effort has not been made, the proposal shall be declared non-responsive and will be rejected. The bidder will be notified of this action in writing and the submittal proposal shall be returned to the bidder.
- 4.7 Proposal amounts may not be amended or modified in any manner after the time set for receipt of Proposals in the published RFBP. However, after all Bids are publicly opened, but before they are read aloud, they will be examined by the presiding official to determine if they are in proper form and properly signed. If an error or omission is discovered and classified by the presiding official as a technicality, which the Owner had reserved the right to waive, the bidder's representative may be permitted to make the appropriate correction. Any such correction will be announced and explained to the others present at the bid opening. A Proposal that cannot be made eligible for consideration under this procedure will not be read, nor will the Proposal prices be revealed.
- 4.8 Proposals, and HSP's, if required, received after the advertised time for receipt of Proposals will be Ineligible and returned unopened.
- 4.9 The Owner reserves the right to reject any or all Proposals.

5.0 PROPOSAL GUARANTY:

- 5.1 A certified or cashier's check on a State or National Bank in the State of Texas, or a bid bond on The Texas A&M University-Kingsville (TAMUK) Form C-2, Bid/Proposal Bond, from a Surety authorized to transact business in the State of Texas, or as listed in the Department of Treasury's list of companies holding Certificated of Authority as acceptable Sureties on federal bonds and as acceptable reinsuring companies, in the amount of not less than five percent (5%) of the greatest total amount bidder's Proposal, payable without recourse to the order of Texas A&M University-Kingsville, must accompany the Bid Proposal as a guarantee that, if awarded the Contract, the bidder will promptly execute the Agreement, Performance and Payment Bonds (Bonds) on the forms provided.
- 5.2 The Bid/Proposal Bond must be accompanied by an executed Power of Attorney with a live Surety seal on each document. Failure to do so will constitute an irregular bid, which may be rejected. Use of a Surety bid bond form will not be acceptable and will cause the Proposal to be rejected.
- 5.3 Should the successful bidder fail to execute the Contract and Bonds within fifteen (15) working days after the date of transmittal of the Contract Documents for his execution, this Proposal Guaranty becomes the property of the Owner, not as a penalty, but as liquidated damages.
- 5.4 Proposal Guaranties of all bidders shall be retained until after the Contract and Bonds have been executed.

6.0 QUALIFICATIONS OF BIDDER:

- 6.1 The Owner may make such investigations as necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish any requested information and data including an audited financial statement within 5 days of the Bid Opening. The Owner reserves the right to reject any Proposal if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to complete the Work.
- 6.2 Each bidder submitting a Proposal must be prepared to furnish the firm's State Comptroller's Vendor Identification Number, or the date on which an application was submitted. Contract payments to the successful bidder are contingent on submittal of this identification number.
- 6.3 Corporate bidders must submit a State Comptroller "Certificate of Good Standing" with the Proposal.
- 6.4 As required by Chapter 231 Texas Family Code, a bid for a contract to be paid from state funds must include the name and social security number of the individual or sole proprietor and each partner, shareholder or owner with an ownership interest of a least 25 percent of the business entity submitting the Proposal.
- 6.5 The Texas Family Code requires each Proposal to include the following statement: "Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract bid or application, is not ineligible to receive the specified grant, loan or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate." Bidder agrees with this certification statement upon submittal of a properly executed proposal.
- 6.6 Out of State corporate bidders must submit a Certificate of Good Standing or a Certificate of Authority with the Proposal. These certificates may be applied for through the office of the Texas Secretary of State.

7.0 SITE INVESTIGATION:

- 7.1 It is the responsibility of each bidder to examine the project site, existing improvements and adjacent property and be familiar with existing conditions before submission of a Proposal.
- 7.2 After investigating the project site and comparing the Drawings and Specifications with the existing conditions, the bidder should immediately notify the A/E, in accordance with paragraph 2.0 of this Instructions to Bidders, of any conditions for which requirements are not clear, or about which there is any question regarding the extent of the Work involved.
- 7.3 Should the successful bidder fail to make the required investigation and should a question arise later as to the extent of the Work involved in any particular case, after receiving recommendation from the A/E, the Owner will make the proper interpretation of the Contract Documents.

8.0 CONTRACT AWARD:

- 8.1 The Owner agrees that should the Contract be awarded, it will be awarded to the lowest responsible bidder and the award will be made within thirty (30) days of the bid opening date, unless otherwise stated.
- 8.2 Immediately following action by the awarding authority, the successful bidder will be notified of the award by telegraphic or facsimile message.
- 8.3 The Owner reserves the right to accept or reject any or all alternates or to accept any combination of alternates considered advantageous.

Project No. 110302

Proposal of: _____

(Legal Firm Name)

PROPOSAL
to
TEXAS A&M UNIVERSITY-KINGSVILLE
FOR THE FOLLOWING WORK

JONES AUDITORIUM PHASE II – ACOUSTICAL UPGRADE
CONSTRUCTION DOCUMENTS AND SPECIFICATIONS
DATED May 6, 2011 - PROJECT NO. P110302

The undersigned, as bidder, declares that the only person or parties interested in this Proposal as principals are those named herein; that this Proposal is made, without collusion with any other person, firm or corporation; that he has carefully examined the form of Contract, Instructions to Bidders, Addenda, Specifications and the Drawings therein referred to and that he has carefully examined the locations, conditions, and the classes of materials of the proposed Work; and agrees that he will provide all the necessary machinery, tools, apparatus and other means of construction and will do all the Work and furnish all the materials called for in the Contract Documents in the manner therein prescribed.

It is further agreed that the quantities of Work to be done and materials to be furnished may be increased or decreased as may be necessary, in the opinion of the Owner's Representative, to complete the Work as planned and contemplated. Adjustment for changes to Work will be in accordance with Article VI of the General Provisions.

It is understood that the funds for payments of the Work contemplated by the Proposal are to be derived from an appropriation heretofore made or to be made by Texas A&M University-Kingsville and that payments on the Contract will be by bank checks or State of Texas treasury warrants, cashable at face value.

Proposal amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

The bidder acknowledges receipt and incorporation into this bid of the following addenda:

No: _____

Dated: _____

IF A BIDDER'S BOND IS FURNISHED, and not a Certified or Cashier's Check, it is understood that the bond will be executed on the Texas A&M University-Kingsville BID BOND FORM, provided with the Proposal form. Failure to do so will constitute an irregular bid which will be rejected. Use of Surety Company's Bid Bond form will NOT be acceptable. Bidder acknowledgment -- (check) _____.

If BIDDER IS A CORPORATION, the following applies:
Corporate bidder must submit with the Proposal, a Certificate of Good Standing by the Texas State Comptroller.

Bidder Acknowledgment:

Bidder is not a corporation: _____.

Bidder is a corporation and Certificate of Good Standing is attached: _____.

Failure to complete applicable portions of this page may cause the total Proposal to be rejected.

A "nonresident bidder" as defined hereafter may be awarded a Contract in accordance with Act of May 8, 1985, Ch. 83 1, 1985 Tex. Sess. Law Serv. 330 (Vernon) to be codified at Tex. Rev. Civ. Stat. Ann. art. 601g, 1,2 (Vernon) as partially quoted below:

“Section 1.(a)(1)***

(2) “Nonresident bidder” means a bidder whose principal place of business is not in this state, but excludes a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

(3) “Texas resident bidder” means a bidder whose principal place of business is in this state, and includes a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

(b) The state or a governmental agency of the state may not award a contract for general construction, improvements, services or public works projects or purchases of supplies, materials, or equipment to a nonresident bidder unless the nonresident’s bid is lower than the lowest bid submitted by a responsible Texas resident bidder by the same amount that a Texas resident would be required to underbid a nonresident bidder to obtain a comparable contract in the state which the nonresident’s principal place of business is located.

(c) This section does not apply to a contract involving federal funds.”

Each Bidder shall write on this page of this Proposal the bidder’s address of principal place of business and if applicable, the name and address of the bidder’s ultimate parent company or majority owner. Additionally, if the bidder is a “nonresident bidder” as defined above, the bidder shall furnish this OWNER a copy of the relevant current statute of the state which the bidder has its principal place of business for purposes of allowing the OWNER to calculate the bidder’s nonresident bid differential.

Bidder’s name and address of principal place of business:

Ultimate parent company or majority owner’s name and address of principal place of business:

Copies of nonresident State statutes and other material attached:

Yes _____ No _____

The bidding General Contractor shall, in accordance with the laws of the State of Texas, make a good faith effort to award at least 30 percent of the total value of this Contract for the acquisition of supplies, materials, services, and equipment from a HUB (historically underutilized business), and will be required to demonstrate by documentation after award of a contract that such an effort has been made. A HUB is defined as a business formed for the purpose of making a profit in which at least 51 percent of all classes of the shares of stock or other equitable securities are owned or controlled by one or more persons who are socially disadvantaged because of their identification as members of certain groups, including women, black Americans, Hispanic Americans, Asian Pacific Americans or Native Americans. A list of certified HUBs may be obtained from the Small Business Programs of the Texas General Services Commission, (512)463-3612.

The bidder agrees that the percentage of work to be performed on the site by its own organization in compliance with the requirements set forth by Paragraph 5.3.3, Item 5.3.4 of the General Conditions.

The undersigned agrees and pledges himself to complete the Work in the following specified number of calendar days: **180**.

BASE PROPOSAL: Bidder agrees to perform all of the labor, supervision, supplies, materials, and other work described in the specifications and shown on the plans, for the sum of _____ (\$ _____). (Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.)

ALTERNATES:

1. Additive Alternate No. 1: _____
_____ Add the Sum of: _____ (\$ _____)

The Performance and Payment Bonds, as required by the Specifications and the laws of Texas, will be submitted with the executed Contract if this Proposal is accepted.

Accompanying this Proposal is a certified or cashier's check on a State or National Bank of the State of Texas or a Bidder's Bond in the amount of not less than five percent (5%) of the greatest total amount of this Proposal payable without recourse to the order of Texas A&M University-Kingsville. Said check or bond to be returned to the bidder, unless, in case of the acceptance of the Proposal it shall fail to execute a Contract and furnish Performance and Payment Bonds (and provide an acceptable financial statement if required) within fifteen (15) days after the date of transmittal of the Contract Documents. In this case, the check or bond shall become the property of said Owner and shall be considered as payment for damages due to delay and other inconveniences suffered by said Owner because of failure of the bidder to execute the Contract Documents. It is understood that the Owner reserves the right to reject any or all bids, to accept or reject any or all alternates, or to accept a combination of alternates considered advantageous.

The Work proposed to be done shall be accepted when completed as set forth in Article X of the General Conditions.

The bidder agrees that he will not withdraw this proposal for a period of **Sixty (60)** days from the bid opening.

The bidder further agrees to pay as Liquidated Damages the sum of **One-Hundred dollars (\$100.00)** per calendar day for failure to complete the work on time as set forth in Article VIII of the General Provisions.

Bidder: _____
(Legal Firm Name)

By: _____
(Must be authoritatively signed in INK)

Title: _____

Address: _____

Phone No. _____

Fax No. _____

THE TEXAS A&M UNIVERSITY SYSTEM
BID/PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
(Name and Address of Bidder/Proposer)

hereinafter called the Principal, and _____

a corporation or firm duly authorized to transact surety business in the State of Texas or as listed in the current notice of the Department of Treasury list of companies holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, hereinafter called the Surety, are held and firmly bound unto the Board of Regents of The Texas A&M University System, College Station, Texas 77843, hereinafter called the Obligee, in the sum of not less than five percent (5%) of the greatest total amount of the bid or proposal, as a guarantee, the payment of which sum will and truly be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid or proposal for: Project Number _____

(Full name and location of project)

NOW, THEREFORE, if the Obligee shall award the Contract to the Principal and the Principal shall enter into the Contract in writing with the Obligee in accordance with terms of such bid or proposal, and furnish such bonds and other instruments as may be specified in the Contract Documents with good and sufficient Surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, then this bond shall be null and void. If in the event of failure of the Principal to execute such Contract and furnish such bonds and other instruments required by the Contract Documents within fifteen (15) days after the date of transmittal of the Contract Documents to the Principal for execution, this bond shall become the property of the Obligee, without recourse of the Principal and/or the Surety, not as a penalty, but as liquidated damages.

Signed this _____ DAY of _____ A.D., 20_____.

By: _____
(Principal)

(Signature and Title)

* By: _____
(Surety)

(Attorney-in-Fact)

*Attach Power of Attorney for Surety's for Attorney-in-Fact with "live seal".

Surety Seal

DISCLOSURE OF GUARANTY FUND NONPARTICIPATION

In the event the Surety is unable to fulfill its contractual obligation under this bond, the Obligee is not protected by an insurance guaranty fund or other solvency protection arrangement.

PAYMENT BOND

STATE OF TEXAS

COUNTY OF _____ KNOW ALL MEN BY THESE PRESENTS

That we, _____, as Principal

And _____, as surety are
hereby held and firmly bound unto the State of Texas in the penal sum of:

_____ and No/100 Dollars \$ _____
for the payment whereof, the said Principal and Surety bind themselves, their heirs, executors,
administrators and successors, jointly and severally firmly by these presents.

The conditions of this obligation are such that, whereas the Principal entered into a certain
contract, hereto attached and made a part hereof, with the State of Texas or as listed in the current notice of
the Department of Treasury list of companies Holding Certificates of Authority as Acceptable Sureties on
Federal Bonds and as Acceptable Reinsuring Companies, acting by and through the Board of Regents of
The Texas A&M University System, as Obligee,

Dated _____ 200_, for the _____

Now, if the Principal shall promptly make payments to all claimants, as defined in Chapter 2253,
Texas Government Code, supplying labor and materials in the prosecution of the work provided for in said
Contract Documents, this obligation shall be null and void, otherwise it shall remain in full force and effect.
This Bond is made and entered into solely for the protection of all claimants supplying labor and material
in the prosecution of the Work provided for in said Contract Documents, and all such claimants shall have a
direct right of action under the Bond as provided in Chapter 2253, Texas Government Code.
The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or
addition to the terms of the Contract Documents or to the Work to be performed thereunder shall in any
way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of
time, alteration or addition to the terms of the Contract Documents or to the Work to be performed
thereunder.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several

seals this _____ day of _____, 200_, the name
and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its
undersigned representative pursuant to authority of its governing body.

_____, Principal

(PRINCIPAL'S SEAL
if a corporation)

By _____

Title: _____

_____, Surety

(SURETY'S SEAL)

By _____

Attorney-in-Fact

PERFORMANCE BOND

STATE OF TEXAS

COUNTY OF _____ KNOW ALL MEN BY THESE PRESENTS

That we, _____, as Principal,
and _____
as Surety, are hereby held and firmly bound unto the State of Texas in the penal sum of:

_____ and No/100 Dollars \$ _____
for the payment whereof, the said Principal and Surety bind themselves, their heirs, executors, administrators and successors, jointly and severally firmly by these presents.

The conditions of this obligation are such that, whereas the Principal entered into a certain contract, hereto attached and made a part hereof, with the State of Texas or as listed in the current notice of the Department of Treasury list of companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, acting by and through the Board of Regents of The Texas A&M University System, as Obligee,

Dated _____ 200_, for the _____

Now, if the Principal shall faithfully perform the Contract in accordance with the Contract Documents, and shall fully indemnify and save harmless the State of Texas from all costs of damage which the State of Texas may suffer by reason of the Principal's default or failure to perform and shall fully reimburse and repay the State of Texas all outlay and expense which the State of Texas may incur in making good any such default, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

In the event Principal is in default under the Contract Documents, Surety will within fifteen (15) days of the determination of such default take over and assume completion of such Contract and become entitled to the payment of the balance of the Contract price, or the Surety shall make other arrangements satisfactory with the Obligee for the completion of the defaulted Work but in no event shall the Surety's liability exceed the penalty of this Bond.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or to the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several

seals this _____ day of _____, 200_, the name and corporate seal of each party being hereto affixed, and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

_____, Principal

(PRINCIPAL'S SEAL
if a corporation)

By _____

Title _____

_____, Surety

(SURETY'S SEAL)

By _____
Attorney-in-Fact

**UNIFORM GENERAL CONDITIONS
FOR
STATE BUILDING CONSTRUCTION CONTRACTS**

***NOTICE:** This set of Uniform General Conditions is made a part of the Contract pursuant to Government Code § 2166.305. The set contains those contract conditions adopted by the Texas Building and Procurement Commission in the Spring of 2000. The Texas A&M University System has made modifications to the originally approved document that were deemed necessary for clarity and convenience and to expand upon and describe the standard procedures and requirements for the administration of contracts issued by The Texas A&M University System*

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Article I - General Contract Definitions

Unless the context clearly requires another meaning, the following terms shall have the meaning assigned herein:

- 1.1 *Agreed Change Order* means a Change Order jointly executed by the Owner, the Contractor and the A/E, in which each agrees to all of the terms of the Change Order
- 1.2 *Architect/Engineer (A/E)* means a person registered as an architect pursuant to Article 249a, Tex. Civ. Stat. Ann.; as a landscape architect pursuant to Article 249c, Tex. Civ. Stat. Ann.; and/or a person licensed as a professional engineer pursuant to Article 3271a, Tex. Civ. Stat. Ann.; or a firm employed by the Owner to provide professional architectural or engineering services and exercising overall responsibility for the design of a Project or a significant portion thereof, and performing certain contract administration responsibilities as set forth in the Contract.
- 1.3 *Change Order Authorization (COA)* means a Change Order Proposal (COP) which has been marked “Accepted” by the Owner’s Designated Representative (ODR) and, upon receipt of the COA by the Contractor, constitutes a notice to proceed with the changed Work described therein. All COAs will be included in the next Change Order.
- 1.4 *Change Order* means a written modification of the Contract between the Owner and the Contractor, signed by the Owner, the Contractor and the A/E.
- 1.5 *Change Order Proposal (COP)* means a Contractor-generated document in response to a Change Order Request (COR) which states the adjustments necessary to the Contract Sum and Time, if any, in response to a change in the Work described in the Change Order Request (COR).
- 1.6 *Change Order Request (COR)* means an Owner-generated document which describes a change in the Work, including a description and Drawings and Specifications, as necessary, to inform the Contractor of the nature of the change.
- 1.7 *Close-out Documents* means the standard product brochures, product/equipment maintenance and operations instructions, manuals, etc., and other materials as may be further defined or identified and required by the Contract Documents.
- 1.8 *Contract* means the agreement between the Owner and the Contractor.
- 1.9 *Contract Date* is the date the Owner-Contractor agreement is effective between the Owner and the Contractor.
- 1.10 *Contract Documents* means the Owner-Contractor agreement, the conditions of the Contract (general, supplementary general and special conditions), the Drawings, the Specifications, the bidding documents, advertisement, invitation to bidders/proposers,

instruction to bidders/proposers, Contractor's proposal, post proposal amendment, all addenda issued prior to and any Request for Information (RFI), Architect's Supplemental Instruction and Change Orders issued after execution of the Contract.

- 1.11 *Contractor* means the individual, corporation, company, partnership, firm or other organization that has contracted with the Owner to perform the Work under the Contract.
- 1.12 *Contract Sum* means the total compensation payable to the Contractor for completion of the Work in accordance with the Contract Documents as originally contracted for and as subsequently adjusted by Change Order.
- 1.13 *Contract Time* means the period between Date of Commencement and the date scheduled for Substantial Completion in the Contract Documents, as may be amended by Change Order.
- 1.14 *Date of Commencement* means the date designated in the Notice-to-Proceed that Contract Time shall begin.
- 1.15 *Day* means a calendar day, unless otherwise specifically stipulated.
- 1.16 *Drawings* mean the work product of the A/E which graphically, depicts the character location and quantity of elements of the Work.
- 1.17 *Final Completion Date* means the date established by the A/E and ODR in a certificate when the Contract is fully performed according to the Contract Documents and is acceptable to the Owner.
- 1.18 *Interim Change Authorization (ICA)* means an Owner generated document which authorizes the Contractor to proceed with changes in the Work before submitting a COP. An ICA is required when Work must proceed in order to prevent damage to Work in place, to prevent significant delay in the Project schedule or to maintain safety.
- 1.19 *Notice-to-Proceed* means the Written Notice provided to the Contractor by the Owner which establishes the Date of Commencement of Contract Time.
- 1.20 *Owner* means the State of Texas acting through any responsible instrumentality of the State of Texas, which is identified in the Contract as the Owner. For purposes of this Contract, the Owner is defined as The Texas A&M University System.
- 1.21 *Owner's Designated Representative (ODR)* means the individual appointed or assigned by the Owner to be its on-site representative during the Project, to exercise certain power on behalf of the Owner and to undertake certain contract administration activities as specifically outlined in the Contract. For purposes of this Contract, the ODR is the Executive Director, Facilities Planning and Construction or other individual appointed by the Executive Director.

- 1.22 *Project* means the Work as described by the Contract Documents.
- 1.23 *Quality Assurance* is the laboratory testing services performed for the benefit of and paid for by the Owner to confirm that performance and quality of the Work is in conformance with the Contract Documents.
- 1.24 *Quality Control* means all actions taken and laboratory design and certification testing performed on the Work and its components for the benefit of and paid for by the Contractor.
- 1.25 *Record Documents* means the operating and maintenance manuals, contract warranties and guaranties, Manual of Materials and Finishes, Listing of all Subcontractors, suppliers and vendors, updated and annotated Specification, updated and annotated “red lined” drawings, all ASIs, RFIs, Shop Drawings and other documents specifically required by the ODR.
- 1.26 *Samples* means the physical examples of materials, equipment or workmanship, that are representative of some portion of the Work and which establish standards by which the Work will be judged.
- 1.27 *Schedule of Values* means the detailed breakdown of the cost of the materials and labor necessary to accomplish the Work as described in the Contract Documents, submitted by the Contractor for approval by the ODR and A/E.
- 1.28 *Shop Drawings* means the drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor, and which illustrate some portion of the Work.
- 1.29 *Site* means the geographical area at the location where the Work is to be performed.
- 1.30 *Special Conditions* means the documents containing terms and conditions, which relate to a specific project and are peculiar to it. Special Conditions, when used, are a part of the Contract Documents and supercede the Uniform General Conditions and the Supplemental General Conditions to the extent of conflict.
- 1.31 *Specifications* mean the A/E’s work product which establishes the quality of the materials and processes to be used to produce the Work.
- 1.32 *Subcontractor* means a person or organization who, as an independent contractor, contracts directly or indirectly with the Contractor to perform part or all of the Contract between the Owner and the Contractor. The term does not include the A/E.
- 1.33 *Substantial Completion Date* means the date certified by the ODR and A/E when the Work or a designated portion thereof, is so sufficiently complete, in accordance with the Contract Documents, as to be fully operational in all its components and suitable for the use for which it is intended.

- 1.34 *Supplementary General Conditions* means the standard procedures and contract administration requirements of an individual State contracting agency that alter or expand upon matters covered in the Uniform General Conditions. Supplementary General Conditions, when used, are a part of the Contract Documents and supercede the Uniform General Conditions to the extent of conflict.
- 1.35 *Surety* means a corporate body authorized to do business in the State of Texas and bound with the Contractor by means of the Performance and Payment Bonds for the faithful performance of the Work and for the payment of due and unpaid claims.
- 1.36 *Unit Price Work* means Work to be paid for on the basis of unit prices.
- 1.37 *Unilateral Change Order (ULCO)* means a Change Order issued by the Owner without the agreement of the Contractor.
- 1.38 *Work* means all labor, plant, materials, facilities, and all other things, including the construction and services necessary or incidental to fulfill the Contractor's obligations for the Project in conformance with the Contract Documents.
- 1.39 *Work Progress Schedule (WPS)* is an accurate and reliable representation of the progress of the Work and of the Contractor's plans for its completion.
- 1.40 *Written Notice* is considered to have been duly given if a document is delivered in person to the individual or member of the firm or to an officer of the corporation for whom it is intended; if delivered or sent by registered or certified mail to the last business address known to the one who gives the notice; or transmitted by fax machine, with a receipt retained to prove delivery. Notice is deemed effective when given rather than when received.

Article II - General Laws Governing Construction

- 2.1 Compliance with Laws. In the execution of the Contract Documents and the Work, the Contractor shall comply with all applicable State and Federal laws including, but not limited to, laws governing labor, equal employment opportunity, safety, environmental protection and prevailing wage rates. The Contractor shall make itself familiar with and at all times shall observe and comply with all Federal, State and Local laws, ordinances and regulations which in any manner affect the conduct of the Work. The Contractor shall indemnify and hold harmless the State and its official representatives against any claim arising from violation of any such law, ordinance or regulation by the Contractor, and/or its Subcontractors. Except where expressly required otherwise by applicable laws and regulations, neither the Owner nor the A/E shall be responsible for monitoring the Contractor's compliance with any laws or regulations.
- 2.1.1 The Contractor shall cooperate with city or other governmental officials at all times where their jurisdiction applies. The Contractor shall make application, pay all fees and provide supporting documentation necessary

to secure permits, which are required for the performance of the Contract Documents and the Work. The Contractor has a continuing obligation throughout the term of the Contract to conduct its' operations under duly issued permits and, in the event the Contractor loses or has a necessary permit revoked, the Contractor must take immediate steps to apply for and receive another permit.

- 2.2 State Sales and Use Taxes. The Owner qualifies for exemption from State and Local Sales and Use Taxes pursuant to the provisions of Chapter 151, Texas Tax Code (Limited Sales, Excise and Use Tax). The Contractor may claim exemption from payment of applicable State sales taxes by complying with such procedures as may be prescribed by the State Comptroller of Public Accounts.
- 2.3 Antitrust Claims. The Contractor hereby assigns to the Owner any and all claims for overcharges associated with this Contract which arise under the antitrust laws of the United States, 15 U.S.C.A. Sec. 1 et seq.
- 2.4 Venue for Suits. The venue for any suit brought for breach of Contract for this Project shall be in a court of competent jurisdiction in Travis County, Texas.
- 2.5 Licensing of Trades. The Contractor shall comply with all applicable provisions of State law related to required licensing of skilled tradesmen, contractors, material men, suppliers and/or laborers, as necessary to accomplish the Work.
- 2.5.1 In the event the Contractor or one of its Subcontractors loses its license for any reason during the term of performance of the Contract, the Contractor shall promptly hire or contract with a licensed provider of the service at no additional cost to the Owner.
- 2.6 Patents and Copyrights. The Contractor shall be responsible at all times for compliance with applicable patents or copyrights encompassing, in whole or in part, any design, device, material, or process utilized, directly or indirectly, in the performance of the Work.
- 2.6.1 Whether or not the Owner has specified the use of a particular design, device, material or process, the Contractor shall pay all royalties and license fees and shall provide, prior to commencement of the Work hereunder, and at all times during the performance of same, for the lawful use of any design, device, material or process covered by letters, patent or copyright by suitable legal agreement with patentee, copyright holder or their duly authorized representative.
- 2.6.2 The Contractor shall defend all suits or claims for infringement of any patent or copyright and shall save the Owner harmless from loss or liability, direct or indirect, arising with respect to the Contractor's process in the formulation of its bid or performance of the Work or otherwise arising in connection therewith. The Owner reserves the right to provide its own defense to any suit or claim of infringement of any patent or

copyright, in which event the Contractor shall indemnify and hold harmless the Owner from all costs and expenses, including reasonable attorney's fees and judgments, arising from such defense.

- 2.7 Environmental Regulations. At all times, the Contractor shall conduct its activities in compliance with applicable laws and regulations relating to the environment, and its protection. The Contractor covenants to conduct its operations consistent with stormwater run-off permit conditions. The Contractor shall be responsible for any hazardous materials brought to the site by the Contractor, Subcontractor, suppliers or anyone else for whom the Contractor is responsible.
- 2.8 Antiquities. The Contractor shall take precaution to avoid disturbing items of primitive records and antiquities of archaeological, paleontological or historical significance. No objects of this nature shall be disturbed without the written permission of the Owner and the Texas Historical Commission. When such objects are uncovered unexpectedly, the Contractor shall stop all Work in close proximity to such objects and notify the ODR and the Texas Historical Commission of their presence and shall not disturb them until written permission and a permit to do so is granted. All primitive rights and antiquities, as defined in Chapter 191, Texas Natural Resource Code, discovered on the Owner's property shall remain property of State of Texas, Texas Historical Commission. If it is determined by the Owner, in consultation with the Texas Historical Commission, that exploration or excavation of primitive records or antiquities on the Project Site is necessary to avoid loss, the Contractor shall cooperate in salvage work attendant to preservation. If the Work stoppage or salvage work causes an increase in the Contractor's cost of, or time required for, performance of the Work, the Contractor may file with the ODR a Notice of Claim as described in § 21.2.3 (Notice of Claim for Type II Change Orders).

Article III- Compliance with and Enforcement of Prevailing Wage Laws

- 3.1 Duty to Pay Prevailing Wage Rates. The Contractor shall pay not less than the wage scale of the various classes of labor as shown on the Prevailing Wage Schedule provided by the Owner in the Contract Documents. The specified wage rates are minimum rates only. The Owner will not consider any claims for additional compensation made by the Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract. The "Prevailing Wage Schedule" is not a representation that adequate quantities of qualified labor to perform the Work may be found locally at the specified wage rates.
- 3.2 Prevailing Wage Schedule. The Prevailing Wage Schedule shall be determined by the Owner in compliance with Chapter 2258, Texas Government Code (Prevailing Wage Rates). Should the Contractor at any time become aware that a particular skill or trade not reflected on the Owner's Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a Subcontractor, the Contractor shall promptly inform the ODR, and the Owner shall specify a wage rate for that skill or trade, which shall bind the Contractor.

3.3 Penalty for Violation. The Contractor and any Subcontractor shall pay to the State a penalty of sixty dollars (\$60.00) for each worker(s) employed for each calendar Day, or portion thereof, that the worker is paid less than the wage rate stipulated in the Prevailing Wage Schedule or any supplement thereto pursuant to §3.2 (Prevailing Wage Schedule). The Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the Work, and showing the actual per diem wages paid to each worker. These records shall be available at all reasonable hours for the inspection by the ODR or shall be provided to the ODR upon request.

3.4 Complaints of Violations of Prevailing Wage Rates.

3.4.1. Owner's Determination of Good Cause. Before the 31st day after receipt of information concerning a violation of Chapter 2258, Texas Government Code (Prevailing Wage Rates), the ODR shall make an initial determination as to whether good cause exists to believe a violation occurred. The ODR's decision on the initial determination shall be reduced to writing and sent to the Contractor and/or Subcontractor against whom the violation was alleged, and to the affected worker(s). When a good cause finding is made, the ODR shall retain the full amounts claimed by the claimant(s) as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

3.4.2. Arbitration Required if Violation not Resolved. After the ODR makes its initial determination, the affected Contractor and/or Subcontractor and the worker(s) have 14 days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by the Owner or paid to the affected worker(s). If the Contractor and/or Subcontractor and the affected worker reach an agreement concerning the worker's claim, the Contractor shall promptly notify the ODR in a written document signed by the worker. If the Contractor and/or Subcontractor and the affected worker(s) do not agree before the 15th day after the ODR's determination, the Contractor and/or Subcontractor and the affected worker(s) must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, Tex. Civ. Prac. & Rev. Code. The parties to the arbitration have 10 days after the expiration of the 14 days referred to above, to agree on an arbitrator. If by the 11th day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

3.4.3. Arbitration Award. If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the Contractor or Subcontractor the amount of penalty as provided in §3.3 (Penalty for Violation) hereof and the amount owed the worker. The Owner may use any amounts retained under §3.4.1 (Owner's Determination of Good

Cause) hereof to pay the worker the amount as designated in the arbitration award. If the ODR has not retained enough from the Contractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor and/or Subcontractor as appropriate, and the surety of either to receive the amount owed, attorney's fees and court costs. The Contractor shall promptly furnish a copy of the arbitration award to the ODR.

- 3.5 Prevailing Wage Retainage. Money retained pursuant to §3.4 (Arbitration Award) shall be used to pay the claimant or claimants the difference between the amount the worker(s) received in wages for labor on the Project at the rate paid by the Contractor or Subcontractor and the amount the worker(s) would have received at the prevailing wage rate as provided by the agreement between the claimant and the Contractor and/or Subcontractor affected, or in the arbitrator's award. The full statutory penalty of \$60.00 per day of violation per worker shall be retained by the Owner to offset its administrative costs, pursuant to Texas Government Code §2258.023 (Prevailing Wage Rates). Any retained funds in excess of these amounts shall be paid to the Contractor on the earlier of the next progress payment or final payment. Provided, however, that the Owner shall have no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award as provided under §§3.4.2 (Arbitrator Required if Violation not Resolved) and 3.4.3 (Arbitration Award).
- 3.6 No Extension of Time. If the Owner determines that good cause exists to believe a violation has occurred, the Contractor shall not be entitled to an extension of time for any delay arising directly or indirectly from the procedures set forth in §3.4 (Complaints of Violations of Prevailing Wage Rates).

Article IV - Drawings and Specifications

- 4.1 Ownership of Drawings and Specifications. All Drawings, Specifications and copies thereof produced and furnished by the A/E are, and shall remain, its property. They are not to be used on any other project and, with the exception of one set for each party to the Contract, are to be returned to the A/E, upon request, following completion of the Work.
- 4.2 Copies Furnished. The Contractor will be furnished, free of charge, the number of complete sets of the Contract Drawings and Specifications as provided in the Supplementary General Conditions or Special Conditions. Additional complete sets of Drawings and Specifications, if requested, will be furnished at reproduction cost to the party requesting such additional sets.
- 4.3 Interrelation of Documents. The Drawings graphically depict the character, location and quantity of elements of the Work. The specifications indicate quality of materials and the process(es) to be used in the execution of the Work. All documents are intended to be complimentary to produce the Work.

4.4 Resolution of Conflicts in Documents.

- 4.4.1 In the event of conflict between Drawings and Specifications, the Specifications shall prevail. In the event of conflict among provisions of Specifications using the Construction Specifications Institute MasterFormat, what is called for in the division of the predominant discipline will govern over inconsistent provisions found elsewhere.
- 4.4.2. In the event of conflict among the drawings, the large scale and more detailed drawings prevail over the small scale drawings and “not-to-scale” diagrams and schematics.

4.5 Contractor's Duty to Review Contract Documents. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to commencing the Work, the Contractor shall examine and compare: the Contract Documents; information furnished by the Owner pursuant to §4.7 (Other Information Provided to Contractor); relevant field measurements made by the Contractor; and any visible conditions at the Site affecting the Work.

4.6 Discrepancies and Omissions in Drawings and Specifications.

- 4.6.1 If in the course of the performance of the obligations in § 4.5 (Contractor’s Duty to Review Contract Documents), the Contractor discovers any errors, omissions or inconsistencies in the Contract Documents, the Contractor shall promptly report them to the Owner. It is recognized, however, that the Contractor is not acting in the capacity of a licensed design professional, and that the Contractor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations.
- 4.6.2 The Contractor has no liability for errors, omissions, or inconsistencies described in §§ 4.5 (Contractor’s Duty to Review Contract Documents) and 4.6.1 (Discrepancies and Omissions in Drawings and Specifications) unless the Contractor knowingly failed to report a recognized problem to the Owner. If, however, the Contractor fails to perform the examination and reporting obligations of these provisions, the Contractor shall be responsible for any avoidable costs or direct damages.
- 4.6.3 The Owner shall develop a solution and provide it to the Contractor. If the solution prompts changes to the Contract Sum or Contract Time, the contract shall be adjusted under Article XX (Change Orders).

4.7 Other Information Provided to Contractor.

- 4.7.1 The Owner may provide the Contractor with information, reports, pictures or other items which are not contained within the Contract Documents ,

but which the Contractor should review and use pursuant to § 4.5 (Contractor's Duty to Review Contract Documents).

Article V - Construction Bonds

- 5.1 Performance and Payment Bonds. The Contractor is required to tender to the Owner, prior to commencing the Work, Performance and Payment Bonds, as required by Chapter 2253, Texas Government Code (Public Works Performance and Payment Bonds).
- 5.1.1 A Performance Bond is required if the Contract Price is in excess of \$100,000. The Performance Bond is solely for the protection of the Owner, and shall be in the full amount of the Contract and conditioned on the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Attorney General of Texas.
- 5.1.2 A Payment Bond is required if the Contract Price is in excess of \$25,000. A Payment Bond is payable to the Owner, in the full amount of the Contract and solely for the protection and use of Payment Bond beneficiaries who have a direct contractual relationship with the Contractor or a Subcontractor to furnish required materials, labor or equipment on the Contract. The form of bond shall be approved by the Attorney General of Texas.
- 5.1.3 Corporate Sureties authorized to issue bonds shall be qualified and comply with relevant provisions of the Texas Insurance Code.
- 5.1.4 Each bond shall be executed and contain an embossed seal by a Surety(ies) on forms approved by the Attorney General of Texas. If any Surety upon any bond furnished in connection with the contract becomes insolvent, or otherwise not authorized to do business in the State of Texas, the Contractor shall promptly furnish equivalent security to protect the interests of the State and of persons supplying labor, materials and/or equipment in the performance of the Work.
- 5.2 The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with Chapter 2253, Texas Government Code (Public Works Performance and Payment Bonds). If for any reason a statutory Payment or Performance Bond is not honored by the Surety, the Contractor shall fully indemnify and hold the Owner harmless of and from any costs, losses, obligations or liabilities it incurs as a result.
- 5.3 The Owner shall furnish certified copies of a Payment Bond and the related Contract to any qualified person seeking copies who complies with §2253.026, Texas Government Code (Public Works Performance and Payment Bonds).

- 5.4 Claims on Payment Bonds. Claims on Payment Bonds must be sent directly to the Contractor and the Surety in accordance with §2253.041, Texas Government Code (Public Works Performance and Payment Bonds). All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on this Contract, and that reliance on notices sent to the Owner may result in loss of their rights against the Contractor and/or the Surety. The Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.
- 5.5 Payment Claims when Payment Bond not Required. When the value of the Contract between the Owner and the Contractor is \$25,000.00 or less, claimants and their rights are governed by Texas Property Code, §§53.231 – 53.239 (Mechanic’s, Contractor’s or Materialmen’s Leins). These provisions set out the requirements for filing a valid lien on funds unpaid to the Contractor as of the time of filing the claim, and the actions necessary to release the lien and satisfaction of such claims.

Article VI - Insurance Requirements

6.1 Insurance Requirements.

6.1.1 The Contractor shall carry insurance in the types and amounts indicated in this Article for the duration of the Contract, and this coverage shall include items owned by the Owner in the care, custody and control of the Contractor prior to, during construction and during the warranty period. In this circumstance, the Owner will provide in the Special Conditions a listing of such equipment and its value. The Contractor must also complete and file the declaration pages from the insurance policies with the Owner whenever a previously furnished policy period expires during the term of the Contract, as proof of continuing coverage. Acceptance of the insurance policy declaration pages by the Owner shall not relieve or decrease the liability of the Contractor.

6.1.2 Unless otherwise provided for in the Supplementary General Conditions or Special Conditions, the Contractor shall provide and maintain, until the Work covered in this Contract is completed and a report of final acceptance is issued by the Owner, the insurance coverages in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company, or otherwise acceptable to the Owner.

<u>Type of Coverage</u>	<u>Limits of Liability</u>
a. Worker's Compensation	Statutory
b. Employer's Liability Bodily Injury by Accident	\$500,000 Ea. Accident

Bodily Injury by Disease \$500,000 Ea. Employee
Bodily Injury by Disease \$500,000 Policy Limit

- c. Commercial General Liability, including coverage of Combined Single Limit of Bodily Injury and Property Damage of \$1,000,000 per occurrence or its equivalent for the following:
- 1) Premises Operations
 - 2) Independent Contractors
 - 3) Products/Completed Operations
 - 4) Personal Injury
 - 5) Contractual Liability
 - 6) Explosion, Collapse, Underground
 - 7) Broad form property damage, to include fire legal liability
- d. Business Automobile Liability owned/leased, owned, hired Combined single limit for Non-Bodily Injury and Property Damage of \$1,000,000 Per Occurrence or its Equivalent
- e. Owner's Protective Liability Insurance Policy, naming the State of Texas, its employees, The Texas A&M University System and its employees and the A/E as insured with the following limits:

Bodily Injury \$1,000,000 Each Occurrence
\$1,000,000 Aggregate

- f. Builder's Risk Insurance
- An all risk policy including workmanship acceptable to the Owner, in the amount equal at all times to 100% of the insurable value of materials delivered and labor performed. The policy shall be issued in the name of the Contractor and shall name the Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:
1. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.
 2. For renovation projects and or Work, the Owner waives subrogation for damage by fire to existing building structure(s), if building structure(s) is in care, custody or control of the Contractor.
 3. Builder's Risk Policy shall be endorsed to include coverage for existing building structure(s).

- g. Flood insurance is required when specified in the Supplementary General Conditions or the Special Conditions.
- h. Umbrella coverage is required when specified in the Supplementary General Conditions or the Special Conditions.

6.1.3 Policies must include the following clauses, as applicable.

- a. “This insurance shall not be canceled, limited in scope or coverage, or non-renewed until after thirty (30) days prior written notice, or ten (10) days for non-payment of premium, has been given to the Owner.”
- b. “It is agreed that the Contractor’s insurance shall be deemed primary with respect to any insurance or self insurance carried by the State agency for liability arising out of operations under the Contract with the Owner.”
- c. “The Owner, its officials, directors, employees, representatives, and volunteers are added as additional insured as respects operations and activities of, or on behalf of the named insured performed under contract with the Owner.” This is not applicable to the workers’ compensation policy.
- d. “The workers’ compensation and employers’ liability policy will provide a waiver of subrogation in favor of the Owner.”

6.1.4 The workers’ compensation insurance coverage must include the responsibility of the Contractor to provide coverage for every worker either under the Contractor's policy or under the policy provided by a Subcontractor. The Contractor's policy shall provide that, in the event that a Subcontractor's policy fails to provide worker's compensation coverage of a worker, such insurance coverage is provided by the Contractor's policy. The Contractor shall obtain certificates of coverage from Subcontractors carrying their own policies, prior to any Subcontractor providing services to the Project.

6.1.4.1 By signing the Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers’ compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier, or in the case of self-insured, with the Texas Workers' Compensation

Commission. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties or other civil actions.

- 6.1.5 If insurance policies are not written for the amounts specified in 6.1.2 (Insurance Requirements), the Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of the primary coverage.
- 6.2 The furnishing of the above listed insurance coverage, as may be modified by the Supplementary General Conditions or Special Conditions, must be tendered prior to performance of the Contract, and in no event later than ten (10) days from the date of the Notice-to-Proceed. Failure to provide the insurance in a timely fashion may result in loss of the Contractor's bid security.
- 6.3 The Owner shall be entitled, upon request and without expense, to receive copies of the policies and all endorsements as they apply to the limits set out in §6.1.2 (Insurance Requirements).

Article VII - General Responsibilities of the Owner and the Contractor

- 7.1 Owner's General Responsibilities.
 - 7.1.1 The Owner is the entity identified as such in §1.19 (General Contract Definitions) and is referred to throughout the Contract Documents as if singular in number.
 - 7.1.2 Preconstruction Conference. In conjunction with the issuance of the Notice-to-Proceed, a conference will be held and attended by the Owner, the Contractor, the A/E and appropriate Subcontractors, to establish a working understanding among the parties as to the Work, schedules, procedures for handling Shop Drawings and other submittals, processing applications for payment, maintaining required records and all other matters of importance to the Project and effective communications on Site.
 - 7.1.3 Owner's Designated Representative. The Owner's Designated Representative (ODR) for The Texas A&M University System projects shall be the Executive Director for Facilities Planning and Construction. Acting on behalf of the Executive Director for Facilities Planning and Construction in day-to-day construction contract administration activities shall be the Director, Facilities Construction Division or designee. Each of these individuals shall have expressed authority to act and bind the Owner to the extent and for the purposes described in the various Articles of the Contract, including responsibilities for general administration of the Contract. Unless otherwise specifically provided for, the ODR is the single point of contact between the Owner and the Contractor. Notice to the

ODR, constitutes notice to the Owner under the Contract.

7.1.4 The Owner shall furnish all surveys describing the physical characteristics, legal description and limitations, site utility locations and other information under the Owner's control which is necessary to the Contractor. Necessary actions of the Owner, including processing of payments to the Contractor, shall be accomplished with reasonable promptness and subject to Article XIII (Contract Payments) hereof. The Owner shall pay for all testing of materials agreed by the Owner and the A/E to be required by the Contract Documents. Retesting of materials failing the initial test shall be paid for by the Contractor.

7.1.5 Owner Supplied Materials and Information. Materials, information, equipment and/or services under the Owner's control shall be furnished by the Owner to the Contractor with reasonable promptness to avoid delay in the orderly progress of the Work.

7.1.6 Availability of Lands. The Owner shall furnish, as indicated in the Contract Documents, all required rights to use the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for use by the Contractor. The Owner shall identify any encumbrances or restrictions specifically related to the use of lands so furnished and with which the Contractor will have to comply. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the Owner, unless otherwise provided in the Contract Documents. If the Owner fails to furnish these lands, rights of way or easements in a timely manner and under the conditions set forth in the Contract Documents, the Contractor may make a claim under Article XXI (Administration of Change Order Requests).

7.1.7 The foregoing listing is in addition to the specific duties and authority of the Owner and the ODR found in other Articles of the Contract.

7.2 Limitation on the Owner's Duties. The Owner will not supervise, direct, control or have authority over or be responsible for the Contractor's means, methods, technologies, sequences, procedures of construction or the safety precautions and programs incident thereto. The Owner is not responsible for any failure of the Contractor to comply with laws and regulations applicable to furnishing or performing the Work. The Owner is not responsible for the failure of the Contractor to perform or furnish the Work in accordance with the Contract Documents. The Owner is not responsible for the acts or omissions of the Contractor, or of any Subcontractor, any supplier, or of any other person or organization performing or furnishing any of the Work.

7.3 Role of the Architect/Engineer.

- 7.3.1 In General. Unless otherwise provided for in the Contract Documents, the A/E will perform the duties of the A/E as described in this Contract during construction and until conclusion of the one (1) year warranty period, including advising the ODR on matters where the A/E's assistance is needed. The assignment of any authority, duties or responsibilities to the A/E under these Contract Documents, or under any agreement between the Owner and A/E, or any performance thereof by the A/E is for the exclusive benefit of the Owner and not for the benefit of the Contractor, any Subcontractors, suppliers or their respective employees or Sureties.
- 7.3.2 The A/E has the authority to act on behalf of the Owner to the extent provided for in the Contract Documents, unless otherwise modified by written instrument which will be furnished to the Contractor. The A/E will advise and consult with the Owner, and the Owner's instructions to the Contractor can be issued through the A/E, and the Owner reserves the right to issue instructions directly to the Contractor.
- 7.3.3 All instructions affecting the Contract Sum, Contract Time or Contract interpretation, shall be confirmed by Change Order. No instruction affecting the A/E's design liability shall be issued without the A/E's prior written consent.
- 7.3.4 The A/E shall have the authority to recommend to the Owner the rejection of Work performed by the Contractor which, in the opinion of the A/E, does not meet the requirements of the Contract Documents. The A/E shall communicate with the ODR upon discovery of non-compliant Work and shall provide a recommendation upon request for review by the ODR. The ODR shall order in writing that such non-compliant Work be removed and replaced in accordance with Article XII (Inspection of the Project During Construction).
- 7.3.5 Visits to Site. The A/E will make visits to the Site at intervals appropriate to the various stages of construction as the A/E and Owner deem necessary or as provided in the A/E's contract with the Owner, in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of the Contractor's executed Work. Based on information obtained during such visits and observations, the A/E will determine, in general, if the Work is proceeding in accordance with the Contract Documents. The A/E will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work, unless otherwise noted. The A/E's efforts will be directed toward providing the Owner a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, the A/E will keep the Owner informed of the progress of the Work and will endeavor to guard the Owner against defective Work. The A/E visits and on-site observations are subject to all the limitations on the A/E's

authority and responsibility set forth in § 7.4 (Limitations on the A/E Authority).

7.3.6 Clarifications and Interpretations. The A/E may determine that written clarifications or interpretations of the requirements of the Contract Documents (in the form of drawings or otherwise) are necessary. Such written clarifications or interpretations will be consistent with the intent of and are reasonably inferable from the Contract Documents, and will be issued with reasonable promptness by the A/E with the concurrence of the Owner and are binding on the Contractor. If the Owner or Contractor believes that a written clarification or interpretation justifies an adjustment in the Contract Sum or the Contract Time, the Owner and/or the Contractor may make a claim therefore as provided in Articles XX (Change Orders) and XXI(Administration of Change Order Requests).

7.3.7 The duties listed above are in addition to other duties, responsibilities and actions to be undertaken by the A/E as specified in other Articles of the Contract Documents.

7.4 Limitations on the Architect/Engineer's Authority. The A/E will not supervise, direct, control or have authority over or be responsible for the Contractor's means, methods, techniques, sequences, procedures of construction, or the safety precautions and programs incident thereto. The A/E is not responsible for any failure of the Contractor to comply with laws and regulations applicable to the performance of the Work. The A/E is not responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents. The A/E is not responsible for the acts or omissions of the Contractor, or of any Subcontractor, any supplier, or of any other person or organization performing any of the Work.

7.5 Contractor's General Responsibilities.

7.5.1 The Contractor is the person or entity identified as such in §1.10 (General Contract Definitions) of the Contract and is referred to throughout the Contract Documents as if singular in number. The Contractor shall supervise and direct the Work using the best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, safety, sequences and procedures, and for coordinating all portions of the Work under the Contract. The Contractor shall be responsible to see that the completed Work complies with the Contract Documents.

7.5.2 Contractor's Superintendent. The Contractor shall employ a competent resident superintendent who shall be in attendance at the Project Site during the progress of the Work. The superintendent shall be satisfactory to the Owner, and shall not be changed except with the written approval of the Owner unless the individual leaves the employment of the Contractor. The replacement superintendent must be approved by the Owner. The superintendent shall represent the Contractor at the Site and shall have full

authority to act on behalf of the Contractor. All communications given to the superintendent shall be binding on the Contractor. All oral communications affecting Contract Time, Contract Sum and contract interpretation will be confirmed in writing by the Owner and included in a Change Order.

- 7.5.3 Labor. The Contractor shall provide competent and qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the Site.
- 7.5.4 Services, Materials, and Equipment. Unless otherwise specified in the Supplementary General Conditions or Special Conditions, the Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- 7.5.5 No Substitutions Without Approval. After issuance of the Notice-to-Proceed, the Contractor may make substitutions only with the consent of the Owner, after the evaluation and recommendation by the A/E.
- 7.5.6 Documents and Samples at the Site. The Contractor shall maintain at the Site, for the Owner, one record copy of the Drawings, Specifications, addenda, Change Orders and other modifications, in good order and currently marked to record field changes and selections made during construction, and one record copy of approved Shop Drawings, Samples and similar required submittals. These documents shall be available to the A/E and shall be delivered to the A/E for submittal to the Owner upon completion of the Work.
- 7.5.7 Non-Compliant Work. Should Work be identified by either the A/E and/or the ODR as not being in compliance with the Contract Documents, the ODR shall communicate the finding to the Contractor and such Work shall be corrected by the Contractor at its expense. The approval of Work by the ODR does not relieve the Contractor from compliance with all requirements of the Contract Documents where such requirements are not judged at the time of observation of the Work due to work sequences by the Contractor or the lack of time to judge the performance characteristics of the particular Work item.
- 7.5.8 Subcontractors. The Contractor shall not employ any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom the Owner may have a reasonable objection. The Owner will communicate such objection(s) in writing. If a rejection causes a change to the Contract Sum, the Contractor may file a

Contractor-initiated Type I claim under Article XX. The Contractor shall not be required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom the Contractor has reasonable objection. The Contractor will not substitute Subcontractors without the approval of the Owner. Any such substitutions will be made in compliance with the Article XVIII (Historically Underutilized Businesses) and recorded in a Change Order.

7.5.8.1 The Contractor shall enter into written agreements with all Subcontractors and suppliers which specifically binds the Subcontractors and suppliers to the applicable terms and conditions of the Contract Documents for the benefit of the Owner and the A/E. The Owner reserves the right to specify that certain requirements shall be adhered to by all Subcontractors and sub-subcontractors as indicated in other portions of the Contract Documents and these requirements shall be made a part of the agreement between the Contractor and Subcontractor(s) or supplier(s).

7.5.8.2 The Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor. The Contractor shall require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the Owner through the Contractor.

7.5.9 Continuing the Work. The Contractor shall continue the Work and adhere to the Work Progress Schedule during all disputes, disagreements or alternative resolution processes with the Owner. No Work shall be delayed or postponed pending resolution of any disputes, disagreements or processes, except as the Owner and Contractor may agree in writing.

7.5.10 Cleaning. The Contractor shall at all times keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. Upon completion of the Project, and prior to the final inspection, the Contractor shall have the Work in a neat and clean condition.

7.5.11 Acts and Omissions of the Contractor, its Subcontractors and their employees. The Contractor shall be responsible for the acts and omissions of its employees and its Subcontractors, their agents and employees.

7.5.12 Indemnification of the Owner. The Contractor covenants and agrees to FULLY INDEMNIFY and HOLD HARMLESS, the Owner and the elected officials, employees, officers, directors, volunteers, and representatives of the Owner, individually or collectively, from and

against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the Owner directly or indirectly and arising out of, resulting from or related to the Contractor's activities under this Contract, including any acts or omissions of the Contractor, any agent, officer, director, representative, employee, consultant or Subcontractor of the Contractor, and their respective officers, agents, employees, directors and representatives while in the exercise of performance of the rights or duties under this Contract. The indemnity provided for in this paragraph shall not apply to any liability resulting from the negligence of the Owner, its officers or employees, separate contractors or assigned contractors, in instances where such negligence causes personal injury, death, or property damage. In the event the Contractor and the Owner are found jointly liable by a court of competent jurisdiction, the liability shall be apportioned comparatively in accordance with the laws of The State of Texas without, however, waiving any governmental immunity available to the State under Texas Law and without waiving any defenses of the parties under Texas Law.

7.5.12.1 The provisions of this Indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

7.5.12.2 The Contractor shall promptly advise the Owner in writing of any claim or demand against the Owner or other contractor related to or arising out of the Contractor's activities under this Contract.

7.5.13 The duties listed above are in addition to the duties, responsibilities and activities to be undertaken by the Contractor as specified throughout the Articles of this Contract.

Article VIII - Additional Contractor Responsibilities when the Owner Awards Separate Contracts

8.1 Separate Contracts. The Owner reserves the right to award other contracts in connection with other portions of the Project under these or similar contract conditions. The Owner also reserves the right to perform operations related to the Project with the Owner's own forces.

8.1.1 When separate contracts are awarded for different portions of the Project, the "contractor" in the contract documents in each case shall be the contractor who signs each separate contract. This Contractor shall cooperate with the separate contractors and the Owner's own forces. This Contractor shall properly connect and coordinate its Work with the work

of the separate contractors as defined in these Contract Documents.

If any part of this Contractor's Work depends, for proper execution or proper results, on the work of any of the separate contractors, this Contractor shall inspect and promptly report in writing to the ODR any visually apparent discrepancies or defects found in such other work that render it unsuitable for such proper execution and results. Failure of this Contractor to inspect and report the visually apparent discrepancies or defects shall constitute an acceptance of the separate contractor's work as fit and proper to receive this Contractor's Work, except as to defects which may develop in the separate contractor's work after the execution of this Contractor's Work.

8.1.2 Should this Contractor cause damage to the work or property of any separate contractor on the Project, this Contractor shall, upon due written notice, endeavor to settle with the separate contractor by agreement. If such separate contractor does not settle with this Contractor, the Owner shall initiate a dispute resolution process and each party to the dispute shall be financially accountable for any damages or loss based on their proportionate fault determined by the Dispute Resolution process.

8.1.3 This Contractor shall afford the Owner, the A/E, the separate contractors and the Owner's own forces, as necessary, the reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work.

8.2 The Owner shall provide for coordination of the activities of the Owner's own forces and each separate contractor with the Work of this Contractor, who shall cooperate with them. This Contractor shall participate with other separate contractors and the Owner in reviewing the respective construction schedules, when directed to do so. This Contractor shall make any revisions to its construction schedule as necessary, after receiving the Owner's instructions.

8.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate contractor because of delays, improperly timed activities damage to the Work or defective construction by the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work or defective construction by a separate contractor. The Contractor may make claim for such amounts as outlined in Articles XX (Chance Orders), and XXI(Administration of Change Order Request).

Article IX - The Contractor's Responsibility for Jobsite Safety

9.1 Unless otherwise specified in the Supplementary General Conditions or the Special Conditions, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. It shall

be the duty and responsibility of the Contractor and all Subcontractors to be familiar and comply with all requirements of Public Law 91-596, 29 U.S.C. §§ 651 et. seq., the Occupational Safety and Health Act of 1970, (OSHA) and all amendments thereto, and to enforce and comply with all of the provisions of that law. The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss and shall install and maintain all necessary safeguards for such safety and protection.

9.1.1 The Contractor shall notify the owners of adjacent property, underground facilities and utilities when prosecution of the Work may affect them or their facilities, and shall cooperate with them in the protection, removal, relocation and replacement of their facilities and/or utilities.

9.2 In any emergency affecting the safety of persons or property, the Contractor shall act reasonably to prevent damage, injury or loss. The Contractor shall give the ODR and the A/E prompt notice if the Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by its emergency response. Any additional compensation or extension of time claimed by the Contractor resulting from the emergency work shall be considered in accordance with Articles XX (Chance Orders), and XXI(Administration of Change Order Request).

9.2.1 Authorized agents of the Contractor shall respond immediately to call-out at any time of day or night when circumstances warrant the presence of the Contractor to protect the Work or adjacent property from damage, restriction or limitation or to take such action pertaining to the Work as may be necessary to provide for the safety of the public. Should the Contractor fail to respond, the Owner is authorized to direct other forces to take action as necessary and the Owner may deduct any cost of remedial action from the funds due the Contractor under the Contract by issuance of a deductive Change Order.

9.3 In the event of an accident involving a lost time injury to an individual on or near the Work, the Contractor shall notify the ODR within 24 hours of the event. The Contractor shall record the location of the event and the circumstances surrounding the event, by using photography or other means, and shall gather witness statements and other documentation which describe the event. The Contractor shall supply the ODR and the A/E with a set of such documents no later than 36 hours after the occurrence of the event.

9.4 Environmental Safety and Control. Upon encountering any previously unknown potentially hazardous materials, the Contractor shall immediately stop Work in and secure the affected area, and notify the ODR. All Subcontracts shall expressly bind Subcontractors to the same duty. Upon receiving such notice, the ODR shall promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or the extent of any environmental hazard. As soon as possible after completion of this investigation, the ODR shall issue a written report to the Contractor identifying the material(s) found and

indicating any necessary steps to be taken to treat, handle, transport or dispose of the material(s). The Owner may hire third-party contractors to perform any or all such steps. Should compliance with the ODR's instructions result in an increase in the Contractor's cost of performance, or delay execution of the Work, an adjustment in the contract price and/or time may be claimed by the Contractor pursuant to the provisions of Articles XX (Change Orders), XXI (Change Order Request), XXII (Chance Order Work) and XXIII (Construction Schedule). The Contractor shall fully indemnify, save and hold harmless the Owner from any costs, losses, damages or liabilities resulting from its failure, or the failure of its Subcontractors, to strictly comply with these provisions.

9.4.1 The Contractor shall be responsible for coordinating the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in connection with laws and regulations.

Article X - Materials and Workmanship; Licensing and Testing

10.1 Materials and Workmanship. The Contractor warrants and guarantees that all Work shall be executed in a good and workmanlike manner in accordance with the Contract Documents, complete in all parts and in accordance with generally accepted industry standards and practices. Unless otherwise specified, all materials and equipment incorporated into the Work under the Contract shall be new.

10.2 Contractor's Warranty of Workmanship.

10.2.1 Limits on Warranty. The Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

- a. Abuse, modification or improper maintenance or operation by persons other than the Contractor, Subcontractors, suppliers or any other individual or entity for whom the Contractor is responsible, or
- b. Normal wear and tear under normal usage.

10.2.2 Events Not Affecting Warranty. The Contractor's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the Contractor's obligation to perform the Work in accordance with the Contract Documents:

- a. Observation by the Owner and/or the A/E;
- b. Recommendation to pay any progress or final payment by the A/E;

- c. The issuance of a Certificate of Substantial Completion or any payment by the Owner to the Contractor under the Contract Documents;
- d. Use or occupancy of the Work or any part thereof by the Owner;
- e. Any acceptance by the Owner or any failure to do so;
- f. Any review of a Shop Drawing or sample submittal; or
- g. Any inspection, test or approval by others.

10.3 Routine Testing. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the Contractor shall give the ODR and the A/E timely notice of its readiness and the date arranged so the ODR and/or the A/E may observe such inspection, testing or approval. Should the material or Work fail to comply with the requirements of the Contract Documents, the Contractor shall bear all costs of re-testing, re-inspection or approval as well as the cost of replacement of unsatisfactory material or Work as provided by Article XII (Inspection of the Project during Construction).

10.3.1 The costs of routine testing shall be borne by the Owner, but the Contractor shall be responsible for the cost of material tested. When directed by the ODR, demonstration of a material's compliance with the Specifications shall be made by one of the following:

- a. Manufacturer's certificate of compliance;
- b. Mill certificate;
- c. Testing laboratory certification; and
- d. Report of actual laboratory test from the Owner's laboratory or from a laboratory satisfactory to the Owner. Samples tested shall be selected by or in the presence of the Owner and the method of testing shall comply with the appropriate professional societies' standard specifications.

10.3.2 Materials incorporated into the Work will be subject to routine tests as required to insure their compliance with the Specifications. Materials to be tested include, but are not limited to, the following:

- a. Concrete - Primary mix design, slump tests and cylinder compression tests.
- b. Steel - Tensile tests, field inspection and X-ray of welds.
- c. Soils - Physical analysis and compaction tests.
- d. Pavement - Physical analysis and compaction tests.
- e. Roofing - Samples cut from in-place roof.

Any other materials, for which standard laboratory test procedures have been established, may also be included if doubt as to their quality should

arise. Any testing, as described above, will be done at the discretion of the Owner who will bear all costs. The Contractor shall be held responsible for providing samples of sufficient size for test purposes and for cooperating with the Owner or its representative in obtaining and preparing samples for tests. All tests will be in accordance with standard test procedures and will be performed by a laboratory selected by the Owner. Results of all tests will be provided to the Owner, the A/E and the Contractor.

10.3.2.1 Not included in tests provided by the Owner are:

- a. Any test of material or fabricated equipment offered as a substitute for a specified item on which a test may be required in order to prove its compliance with the Specifications, which testing shall be paid for by the Contractor.
- b. Tests on mechanical systems required to insure their proper installation and operation, which, if undertaken, shall be paid for by the Contractor.

10.3.3 Should any of the routine tests indicate that a material does not comply with the Contract Documents, the burden of proof of compliance shall be with the Contractor, subject to the following conditions:

- a. The Contractor may select the laboratory for further testing, but selection must be approved by the Owner.
- b. The quality and nature of tests will be determined by the Owner.
- c. All tests shall be taken in the presence of the ODR.
- d. If tests prove that the material complies with Specifications, the testing fees will be paid by the Owner. If noncompliance is proved, the testing fees will be paid by the Contractor.
- e. Proof of noncompliance will make the Contractor liable for any corrective action which the Owner feels is prudent, including complete removal and replacement of the defective material.

10.3.3.1. All subsequent tests on original or replaced materials conducted as a result of prior failure shall be paid by the Contractor.

10.3.4 Special Testing. The Owner or the A/E may require special inspection, testing or approval of material or Work for compliance with requirements of the Contract Documents. Upon direction by the ODR, the Contractor shall promptly arrange for such special testing, inspection or approval procedure. The costs of special testing shall be at the Owner's expense, except if the materials fail, the Contractor shall reimburse the Owner for the expense.

- 10.4 If any Work that is to be inspected, tested or approved is covered by the Contractor without written concurrence of the ODR, or if any Work is covered contrary to the written direction of the ODR or A/E, the covered Work must, if requested by the Owner, be uncovered and re-covered at the Contractor's expense, except as set forth in § 12.2.3 (Inspection of the Project during Construction).
- 10.5 Contractor's Testing. Nothing contained herein is intended to imply that the Contractor does not have the right to have tests performed on any material at any time for his own information and job control so long as the Owner is not charged for costs or forced to rely upon such tests when appraising the quality of materials. Any modification of, or elaboration on, test procedures which may be included for specific materials under the respective sections of the Specifications shall take precedence over the procedures performed for the Contractor.

Article XI - Shop Drawings and Submittals

- 11.1 Contractor's Submittals. The Contractor shall submit, with reasonable promptness consistent with the WPS and in orderly sequence, all Shop Drawings, Samples or other information required by the Contract Documents, or subsequently required by the A/E as governed by Change Orders. The Contractor shall review each submittal for compliance with Contract Documents and shall certify that it has done so by stamp, or otherwise, affixed to each copy thereof. Submittal data presented without the Contractor's certification will be returned without review or comment, and any delay resulting therefrom will be the Contractor's responsibility.
- 11.1.1 Shop Drawings, Samples or other required information shall be properly identified, as specified or as the ODR and/or the A/E may require. At the time of submission, the Contractor shall inform the ODR and the A/E in writing of any deviation in the Shop Drawings or Samples from the requirements of the Contract Documents.
- 11.1.2 By submitting Shop Drawings, Samples or other required information, the Contractor thereby represents that it has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that it has checked and coordinated each Shop Drawing and Sample with the requirements of the Contract Documents and shall so certify as required by § 11.1.
- 11.2 Nature and Effect of Review. The A/E will review and approve all submittals with reasonable promptness in accordance with Supplemental General Conditions, Special Conditions and Division 1, but only for conformance with the design concept of the Project and with the information in the Contract Documents. Such approval will be indicated in writing. The approval of a separate item shall not indicate approval of an assembly in which the item functions. The approval of the Shop Drawings or Samples shall not relieve the Contractor of the responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Owner and the A/E in writing of such deviation at the time of submission and the ODR or the A/E has not objected to the specified deviation. The approval shall not

relieve the Contractor from the responsibility for errors or omissions in the Shop Drawings or Samples.

- 11.3 Correction and Resubmission. The Contractor shall make any corrections required to a submittal and shall resubmit, until approved, the required number of corrected copies of the submittals promptly so as to avoid delay. The Contractor shall direct attention in writing to the A/E and the ODR, to any new revisions other than the corrections required on previous submissions.
- 11.4 Limits on Shop Drawing Approvals. No Work requiring a Shop Drawing or Sample submission shall be commenced until the submission has been approved. All such Work shall be in accordance with approved Shop Drawings and Samples. Approvals of Shop Drawings and Samples is not authorization to the Contractor to perform extra work or changed work unless the procedures of Articles XX (Change Orders) and XXI (Administration of Change Order Requests) are followed. The A/E's approval does not relieve the Contractor from responsibility for defects in the Work resulting from errors or omissions of any kind on the approved Shop Drawing or Sample.
- 11.5 The Owner may establish routine review procedures and schedules for submittals at the preconstruction conference.
- 11.6 Intent of Contract Documents. It is the intent of the Contract Documents to not limit materials, equipment or fixtures to products of any particular manufacturer. Where definite materials, equipment and/or fixtures have been specified by name, manufacturer or catalog number, it has been done to set a definite standard and a reference for comparison as to quality, application, physical conformity, and other characteristics. It is the Owner's or A/E's intention to not discriminate against or prevent any dealer, jobber or manufacturer from furnishing materials, equipment, and/or fixtures which meet or exceed the characteristics of the specified items. Substitution of materials shall not be made without the prior written approval from the A/E.
- 11.7 Unauthorized Substitutions at Contractor's Risk. All proposed substitutions of materials, equipment or fixtures shall be presented through the submittal process. The Contractor shall be responsible for any additional costs or delays resulting from using materials, equipment or fixtures other than those specified, and shall reimburse the Owner for any increased design or contract administration costs resulting from such unauthorized substitutions.

Article XII - Inspection of the Project During Construction

- 12.1 Contractor Quality Control. The Contractor is responsible for controlling the quality of the Work as set forth in the Contract Documents.
- 12.2 Owner Quality Assurance.
- 12.2.1 The ODR will make periodic visits to the site to familiarize itself with the

progress and quality of the Work, conduct inspections and tests and to determine if the Work is proceeding in accordance with the Contract Documents. The Contractor shall provide sufficient, safe and proper facilities at all reasonable times for observation and/or inspection of the Work by the ODR.

12.2.2 The Contractor shall not cover up any Work with finishing materials or other building components prior to an inspection of the Work by the ODR. Should corrections of the Work be required for approval, cover-up shall be delayed until another inspection can be made and approval is granted.

12.2.3 The Contractor shall be responsible for providing notification of at least fourteen (14) working days, to the ODR of the anticipated need for a cover-up inspection. Should the ODR fail to make the necessary inspection within the fourteen (14) working days, the Contractor may proceed to cover up the Work.

12.3. Condemnation and Removal of Defective Work.

12.3.1 The ODR has the authority to reject and condemn Work which does not meet the requirements of the Contract and to order such Work removed and replaced in accordance with §12.3.2. The approval of a Work item by the ODR does not relieve the Contractor from compliance with the requirements of the Contract Documents.

12.3.2 If any materials or Work furnished under this Contract are condemned by the ODR, the Contractor shall, after notice from the ODR, proceed to remove the materials, whether worked or unworked, and to take down all portions of the condemned Work. The Contractor shall make good all Work damaged or destroyed by the removal and replacement process without additional cost to the Owner.

12.3.3 Upon notice of condemnation, the Contractor may request to prove to the ODR, at the Contractor's sole cost, that the Work should be accepted because it meets performance, and other relevant standards. The ODR shall respond in writing to the Contractor's effort to show proof.

Article XIII - Contract Payments

13.1 Prior to the first pay request the Contractor shall provide a one-time breakdown of the original Contract Sum into the required asset categories. Each line item on the breakdown shall be coded with one of the category codes which are outlined section 01290.

13.2 Schedule of Values. After issuance of the Notice to Proceed, the Contractor shall submit to the ODR and the A/E, a Schedule of Values (SOV) for approval, accurately

itemizing material and labor for the various classifications of the Work. The approved Schedule of Values will be used as the basis for the progress payments under the Contract. No payments will be made to the Contractor until the ODR and A/E have approved the SOV.

13.3 Progress Payments. Periodic progress payments will be made to the Contractor for Work performed, and materials suitably stored and protected on site or as otherwise agreed to by the ODR and the Contractor. Payment shall not become due in accordance with Chapter 2251, Government Code until receipt by the ODR, of a correct and complete periodic invoice, certified by the A/E.

13.3.1 Preliminary Pay Worksheet. Each month, or other period agreed to by the Contractor and the ODR, the Contractor shall submit a preliminary pay worksheet to the A/E and the ODR for review. The worksheet shall consist of the following items:

- a. The approved Schedule of Values with the amount complete shown for each Work category listing and compiled to indicate the total amount due to date;
- b. An updated Work Progress Schedule;
- c. The monthly HUB Subcontracting Plan progress report and;
- d. Any additional documentation that the ODR may require and specified in the Supplementary General Conditions or Special Conditions.
- e. Contractor Daily Reports.

13.3.2 On the basis of the review of the preliminary pay worksheet, the ODR and the A/E may require modifications and additional documentation prior to submitting it as a periodic invoice.

13.3.3 Contractor's Periodic Invoice. As soon as practicable, but in no event later than seven (7) days after receipt of the preliminary pay worksheet, the A/E and ODR shall meet at the Project Site with the Contractor for the monthly progress meeting (MPM) to review the periodic invoice and to observe the condition of the Work. At the MPM, the Contractor shall submit a periodic invoice reflecting the required modifications and additional documentation required by the ODR and the A/E. No periodic invoice shall be complete unless it fully reflects all required modifications, and all required documentation including the Contractor's affidavit are attached.

13.3.4 Certification by Architect/Engineer. As soon as practicable, but in no event later than five (5) days following the A/E's receipt of the Contractor's periodic invoice, the A/E shall review the same for completeness, and shall forward the periodic invoice to the ODR, together with the A/E's certificate that the application is complete and payable, or that it is incomplete, stating in particular what is missing. If the periodic invoice is incomplete, the Contractor shall make the required corrections

and resubmit the periodic invoice for processing in accordance with this §13.3.4. Should the A/E fail to certify and forward a complete periodic invoice to the ODR within the time specified, the periodic invoice shall be deemed approved by the A/E, and the Contractor shall be entitled to submit the periodic invoice directly to the ODR with an affidavit certifying the expiration of the A/E review period and providing such supporting documentation to confirm the expiration of the review period. Upon receipt of a periodic invoice, the Owner shall make payment as though the periodic invoice had been certified for payment by the A/E.

- 13.4 Owner's Duty to Pay. The Owner shall have no duty to pay the Contractor except upon receipt of:
- a. a periodic invoice executed by the Contractor, and certified by the A/E or
 - b. receipt of a periodic invoice executed by the Contractor and accompanied by the contractor's signature certifying the failure of the A/E to timely certify a periodic invoice, pursuant to §13.3 (Progress Payments).
- 13.5 Retainage. The Owner shall withhold from each progress payment, as retainage, the amount authorized by law. Retainage so withheld shall be managed in conformance with Subchapter B, Chapter 2252, Texas Government Code.
- 13.5.1 TAMUS Retainage Policy. The Texas A&M University System, as the Owner, shall withhold an amount equal to 5% of the Work completed to date and materials suitably stored in accordance with §13.3 (Progress Payments).
- 13.6 Reduction to Cover Loss. The Owner may reduce any periodic invoice prior to payment to the extent necessary to protect the Owner from loss on account of actions of the Contractor, including, but not limited to:
- a. Defective Work not remedied;
 - b. Damage to the work of a separate contractor;
 - c. Failure to maintain scheduled progress;
 - d. Failure to comply with the requirements of Texas Government Code, Chapter 2258 (Prevailing Wage Rates); or
 - e. For Contracts with a value of less than \$25,000 for which no payment bond is required, receipt of written notice by the Owner of unpaid bills, filed in conformance with § 53.232, Texas Property Code. Any funds so withheld shall be released to the Contractor if he furnishes a bond for release of lien as provided in § 53.236, Texas Property Code or the unpaid debt is satisfied.
- 13.7 Title to all material and Work covered by progress payments transfers to the Owner upon payment. Transfer of title to the Owner does not relieve the Contractor of the responsibility for the care and protection of materials and Work upon which payments have been made, or the restoration of any damaged Work, or waive the right of the Owner to require the fulfillment of all the terms of the Contract.
- 13.8 Progress payments to the Contractor shall not release the Contractor or its surety from

any obligations under this Contract.

Article XIV - Closing Inspections

- 14.1 Substantial Completion Inspection. When the Contractor considers the entire Work Substantially Complete, the Contractor shall so notify the ODR and the A/E in writing that the Work will be ready for Substantial Completion inspection on a specific date. The Contractor shall include, with this notice, a list of items to be completed or corrected prior to the final inspection. On the date indicated by the Contractor, or as soon thereafter as is practicable, the ODR, the A/E, and the Contractor shall inspect the Work and if the A/E and the ODR determine that the Work is Substantially Complete, a Certificate of Substantial Completion shall be issued by the ODR to the Contractor, establishing the date of Substantial Completion. The A/E and the ODR shall submit with this certificate, a list of items (the pre-final punchlist) to be completed prior to final inspection. This list may include additional items not included on the Contractor's list, which are deemed necessary by the A/E and/or the ODR to correct or complete prior to final inspection.
- 14.2 Final Inspection The Contractor shall fully complete the list of items listed on the prefinal punchlist prior to the Final Inspection. Unless otherwise specified in Special Conditions, or otherwise agreed in writing by the parties, the Contractor shall make a good effort to complete this Work within thirty (30) days of the date of Substantial Completion. When the Contractor has completed the prefinal punchlist, Written Notice shall be given to the ODR and A/E that the Work will be ready for Final Inspection on a specific date. On this date, or as soon thereafter as practicable, the ODR, the A/E and the Contractor shall inspect the Work and the A/E and ODR shall submit to the Contractor the final punchlist which the ODR and the A/E have determined requires correction or completion before the Work will be accepted.
- 14.3 The Contractor shall correct or complete all items on the final punchlist before acceptance and final payment. Unless otherwise specified in the Special Conditions, or otherwise agreed to in writing by the parties, the Contractor shall complete this work within seven (7) days of receiving the final punchlist. Upon completion of the final punchlist, the Contractor shall notify the A/E and ODR, and they shall promptly inspect the completed items. When the final punchlist has been completed, the Contract is fully performed according to the Contract Documents and is acceptable to the ODR, a certificate establishing the date of Final Completion shall be issued. Final Completion shall be a condition precedent to the Contractor's right to receive final payment.
- 14.4 Annotation. Any Certificate issued under this Article may be annotated to indicate that it is not applicable to specified portions of the Work.
- 14.5 Purpose of Inspection. Inspection by the Owner and the A/E is for the purpose of determining the completion of the Work, and does not relieve the Contractor of its responsibility for completing the Work in a good and workmanlike fashion, in compliance with the Contract Documents. Failure of the Owner or the A/E to

identify Work that is not in compliance with the Contract Documents, or which is defective in operation or workmanship, or acceptance of the Work with punchlist items left incomplete, does not constitute a waiver of such a defect or of the Owner's rights under the Contract Documents or relieve the Contractor of warranties contained in Article XVII (Contract Warranty and Guarantee).

14.6 Additional Inspections.

14.6.1 If, on the basis of the Substantial Completion inspection, the A/E and the ODR determine that the Work is not Substantially Complete, they shall give the Contractor Written Notice thereof, and shall inform the Contractor what Work was found to be incomplete, out of compliance with the Contract Documents, or defective in operation or workmanship, and setting a time in which incomplete or defective Work is to be completed or corrected. The Contractor shall complete or correct all Work so designated prior to requesting a second Substantial Completion inspection.

14.6.2 If, on the basis of the final inspection, the A/E and the ODR determine that the Work is not complete according to the Contract Documents, or that the Work required by the prefinal punchlist had not been performed, the A/E and the ODR shall give the Contractor Written Notice thereof, and shall inform the Contractor what Work was found to be incomplete, out of compliance with the Contract Documents or defective in operation or workmanship, and setting a time in which incomplete or defective Work is to be completed or corrected. The Contractor shall complete or correct all Work so designated prior to requesting a second final inspection.

14.6.3 This Contract identifies three closing inspections: the Substantial Completion inspection, the final completion inspection, and the inspection of completed final punchlist items. The cost to the Owner, of any and all additional inspections deemed necessary by the A/E and the ODR because the Work was not ready for one or more of these inspections, shall be borne by the Contractor, and the Owner may issue a Change Order, including a Unilateral Change Order, deducting these costs from the Contract amount. Upon the Contractor's written request, the Owner shall furnish documentation of all costs so deducted. Work added to the Contract by Change Order after final inspection shall not be considered as corrective work for purposes of determining timely completion or assessing the cost of additional inspections.

14.7 Phased Completion. The Contract Documents may provide that designated elements or parts of the Work shall be completed in phases. When phased completion is required, the provisions of Articles XIV (Closing Inspections) and Article XV (Early Occupancy) shall apply independently to each designated element or part of the Project. For all other purposes, unless otherwise agreed to in writing by the contracting parties, Substantial Completion of the Work as a whole shall be the date on which the last element or part of the Work to be completed is certified as

Substantially Complete, and final completion of the Work as a whole shall be the date on which the last element or part of the Work is certified as complete.

Article XV - Early Occupancy

- 15.1 Right of Occupancy. The Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion, provided that such occupancy or use is consented to by any and all insurers of the Work. Should the Owner wish to use or occupy the Work, or a portion(s) thereof, prior to final completion, the ODR shall so notify the Contractor and the A/E in writing. Work performed on the premises by third parties on the Owner's behalf does not constitute occupation or use of the Work by the Owner for purposes of this Article.
- 15.2 Occupancy of Substantially Completed Work. If the Owner wishes to occupy all or a portion(s) of the Work that has been Substantially Completed, it shall so notify the Contractor and the A/E prior to the Substantial Completion inspection, and the A/E shall annotate the Certificate of Substantial Completion to set out, pursuant to §§ 14.4 (Annotation), 14.6 (Additional Inspections) or the parties' written agreement, the responsibilities of the Owner and the Contractor for maintenance, heat, utilities, operation of permanent equipment, and insurance. The Certificate of Substantial Completion shall be submitted to the ODR and the Contractor for their written acceptance of the responsibilities assigned to each of them in the Certificate. The executed Certificate shall have the effect of a Change Order. See Article XX (Change Orders).
- 15.3 Occupancy of Work Prior to Substantial Completion.
- 15.3.1. Notice and Early Occupancy Proposal. If the Owner determines that substantial hardship will result if it is unable to occupy all or some portion(s) of the Work prior to Substantial Completion, it shall so inform the A/E and the Contractor no less than thirty (30) days before the date the Owner wishes to occupy the Work, and designate those portions of the Work to be occupied and the uses to be made of the occupied premises. As soon as practical, but not less than five (5) working days after receiving this notice, the Contractor shall make the designated portions of the Work available to the A/E and the ODR for inspection. The A/E and the ODR shall inspect the Work jointly with the Contractor. As soon as practical, but not later than the third day next following the date of the inspection, an early occupancy proposal shall be prepared and submitted by the Contractor to the A/E and the ODR. The early occupancy proposal shall specify any Work that must be completed or corrected as well as any operation and maintenance manuals or other documentation necessary for the Work to be occupied by the Owner and used for the purposes designated by the ODR in its notice. The early occupancy proposal shall set out the responsibilities of the Owner and the Contractor for utilities, security, maintenance, insurance and liability for damage to the Work or damage arising from the condition of the Work. The early occupancy proposal shall also specify whether the area to be occupied must be

Substantially Complete before occupation, and shall specify the date for Substantial Completion of the Work to be occupied if other than the date previously specified by the Contract Documents.

- 15.3.2. Early Occupancy Implemented by Change Order. The early occupancy proposal shall be implemented by an Interim Change Authorization pursuant to the provisions of § 21.5 (Interim Change Authorization), except that the Contractor shall submit a COP as soon as possible, but not later than the seventh (7th) day next following receipt of the early occupancy proposal. All cost adjustments, including any increased costs of insurance, related to the early occupancy proposal, shall be stated in the COP; any such relief not so requested shall be deemed waived by the Contractor. If the early occupancy proposal requires early Substantial Completion, the Contractor shall be entitled to an equitable cost adjustment for acceleration and impact costs, to be submitted pursuant to §22.2 (Type II Changes). If an early Substantial Completion date is not required, the Contractor shall submit any claim for time extension as a Type I change in the Work and Interim Change Authorization. If, by the date designated by the Owner as the proposed date of occupancy, the ODR and the Contractor have not reached an agreement concerning the adjustment of time and/or cost, or the division of responsibility for the occupied portions of the Work, the ODR may issue a ULCO.
- 15.3.3. Project Completion with Early Occupancy. When, under the provisions of this Article, the Contract Time is modified for any part of the Work due to early occupancy, then the provisions of §14.6 (Additional Inspections) shall apply. All required documentation shall be furnished by the Contractor to the ODR on or before the date of early occupation by the Owner.
- 15.3.4. Non-waiver of Timely Completion. Early occupancy of any portion of the Work does not waive the Contractor's duty to complete the remaining Work within the Contract Time as specified in the Contract Documents or as subsequently modified by Change Order.

Article. XVI - Contract Final Acceptance and Payment

- 16.1 Prerequisite to Final Payment. Prior to being eligible for final payment, the Contractor shall submit to the Owner all project close-out documentation, including the maintenance and operating instructions and manuals, guarantees and warranties, certificates, record documents and all other items required by the Contract Documents. In addition, the Contractor shall submit the red-line marked construction drawings to the A/E for preparation of record drawings.
- 16.2 Initiation of Final Payment. At such time that all Work has been completed and accepted by the Owner, all documentation required by the Contract Documents has

been submitted to the Owner, the redline construction drawings submitted to the A/E, and a final Change Order has been approved by all parties, the ODR shall initiate the final payment process.

16.2.1 The final payment shall be determined by the final Contract Sum for the Contract less all previous payments to the Contractor on the Contract.

16.2.2 The Contractor shall include, with the final payment documents, a letter certifying that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work have been paid or will be paid or otherwise satisfied within the period of time required by Chapter 2251, Texas Government Code (Payment for Goods and Services). If required by the ODR, the Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims arising out of the Contract, to the extent and in such form as may be designated by the ODR. The Owner is entitled to rely upon this certification for the purposes of making final payment.

16.2.3 The Contractor may not submit a claim on behalf of a Subcontractor or supplier, if that claim has not been noted as an exception in the letter of certification for payment of Contract obligations associated with the final payment process.

16.3 Architect/Engineer Approval. The A/E shall review a submitted application for final payment promptly, but in no event later than ten (10) days after its receipt. Prior to the expiration of this deadline, the A/E shall either:

(1) return the application for final payment to the Contractor with corrections for action and resubmission; and

(2) accept it, indicate approval and send to the Owner. Should the A/E fail to take action by the deadline specified, the application for final payment shall be deemed approved by the A/E. The Contractor shall be entitled to submit the application for final payment directly to the ODR with an affidavit certifying the passage of the A/E review deadline and providing such supporting documentation as to prove the passage of the deadline.

16.4 Offsets and Deductions: If the Certificate of Final Completion notes any Work remaining incomplete or defects not remedied, the Owner may deduct the reasonable cost of remedying such deficiencies from the final payment and issue a deductive Type I Change Order. If such deductions are made, the Owner shall identify each deduction made and the reason(s) therefore, and furnish the Contractor with an explanation of the deduction and the amount deducted by Change Order on or by the twenty-first (21st) day after the Owner's receipt of an approved, or deemed approved application for final payment.

16.5 Final Payment Due. Final payment shall become due and payable by the Owner,

subject to all Change Orders and payments to date, on the thirty (30th) day next following the receipt of the approved or deemed approved Application for Final Payment. If the Contractor disputes any amount deducted by Change Order, the Contractor shall give notice of the dispute on or before the thirty (30th) day next following receipt of final payment; failure to do so will bar any subsequent claim for payment of amounts deducted.

16.6 Effect of Final Payment: Final payment shall constitute a waiver of all claims by the Owner relating to the condition of the Work except those arising from:

- a. faulty or defective Work appearing after Substantial Completion;
- b. failure of the Work to comply with the requirements of the Contract Documents;
- c. terms of any special warranties required by the Contract Documents, and
- d. claims arising from personal injury or property damage to third parties. Final payment shall constitute a waiver of all claims by the Contractor except those specifically enumerated at the time of final payment. Provided, however, that the Contract shall not be deemed fully performed and closed until the expiration of all periods provided under the Contract Documents for the Contractor to submit a claim or protest a ULCO.

Article XVII - Contract Warranty and Guarantee

17.1 Contractor's General Warranty and Guarantee. The Contractor warrants to the Owner that all Work has been executed in accordance with the Contract Documents, complete in all parts and in accordance with generally accepted standards and practices, and with the best finish and workmanship. Unless otherwise specified, all materials and equipment incorporated in the Work under the Contract shall be new. The Owner may, at its option, agree in writing to waive any failure of the Work to conform to the Contract Documents, and to accept a reduction in the Contract Price for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, however, the Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute and is not waived by any inspection or observation by the Owner, the A/E or others, or by making any progress payment or the final payment, except as provided in §16.6 (Effect of Final Payment), or by the use or occupancy of the Work or any portion thereof by the Owner, at any time, or by any repair or correction of any defect made by the Owner.

17.2 Warranty Period. Except as otherwise specified, the Contractor shall repair all defects in materials, equipment or workmanship appearing within one year from the date of Substantial Completion of the Work as a whole. Upon Written Notice from the Owner regarding the discovery of any defects, the Contractor shall promptly, and at its own cost, remedy the defect(s) and replace any property damaged therefrom. In case of emergency, where delay would cause serious risk of loss or damage to the

Owner, or if the Contractor, after being notified, fails to proceed promptly to remedy within 30 days, or within another period of time which has been agreed to in writing, in compliance with the terms of the warranty and guarantee, the Owner may have the defect(s) corrected and the Contractor and the Surety shall be liable for all expenses incurred.

17.2.1 One Year Warranty Inspection Prior to the expiration of the warranty the ODR will initiate an inspection of the project with the Contractor and the A/E for the purpose of identifying any defect(s) or items not in accordance with the Contract Documents.

17.3 Separate Warranties. Where a particular piece of equipment or component of the Work for which a separate warranty is required under the Contract Documents is placed in continuous service before Substantial Completion, the date of service commencement shall be certified by the A/E and the ODR and the warranty period for that equipment or component shall run from the date so certified. In addition to the Contractor's warranty and duty to repair, as set forth in §17.1 (Contractor's General Guaranty and Warranty) and §17.2 (Warranty Period), the Contractor expressly assumes all warranty obligations required under the Contract Documents for specific building components, systems and equipment. The Contractor may satisfy any such obligation by obtaining and assigning to the Owner a complying warranty from a manufacturer, supplier, or Subcontractor. When an assigned warranty is tendered and accepted by the Owner which does not fully comply with the requirements of the Contract Documents, the Contractor shall remain liable to the Owner for all elements of the required warranty that are not provided by the assigned warranty.

Article XVIII - Good Faith Effort Subcontracting Program (HUBs)

18.1 General Program Description. State agencies are required by statute to make a good faith effort to assist Historically Underutilized Businesses (HUBs) in participating in contract awards issued by the State. The Texas Building and Procurement Commission rules, 1 TAC 111.11-111.28, outline the state's policy to encourage outreach to and potential utilization of HUBs in state contracting opportunities through race, ethnic, and gender neutral means. The goal of this program is to promote full and equal business opportunity for all businesses in state contracting in accordance with the goals specified in the State of Texas Disparity Study.

A Contractor, who contracts with the State for an amount in excess of \$100,000, shall be required to make a good faith effort to award subcontracts to HUBs in accordance with TAC Rule 111.14. The Contractor shall submit a HUB Subcontracting Plan (HSP) at the time of bidding, and if the HSP is acceptable to the Owner and a contract awarded the Contractor shall comply with the HSP for the duration of the Contract. The annual program goal for building construction contracts that an agency expects to award in a fiscal year is 25.1% for Black Americans, Hispanic Americans, and American Women, and 1.0% for Asian Pacific Americans and Native Americans. The Commodity purchase goal is 12.6% of annual purchases. The goal for heavy construction (non-building) is 11.9% of annual purchases. These good faith effort

goals do not prevent any business group from participating in contracting opportunities with the State of Texas.

- 18.2 Compliance with Accepted HUB Subcontracting Plan. The Contractor, having been awarded this Contract in part by complying with the HUB Program statute and rules, hereby covenants to continue to comply with the HUB Program as follows.

The Contractor shall:

- a. Prior to substituting a Subcontractor, promptly notify the Owner in the event a change is required, for any reason, to the accepted HUB Subcontracting Plan;
- b. Conduct the good faith effort activities required and provide the Owner with necessary documentation to justify approval of a change to the accepted HUB Subcontracting Plan;
- c. Cooperate in the execution of a Change Order or such other approval of a change in the HUB Subcontracting Plan as the Contractor and the Owner may agree to;
- d. Maintain and make available to the Owner, upon request, business records documenting compliance with the accepted HUB Subcontracting Plan;
- e. Upon receipt of payment for performance of Work, the Contractor shall submit to the Owner a compliance report, in the format required by the Owner, that demonstrates the Contractor's performance of the HUB Subcontracting Plan;
- f. Promptly and accurately explain and provide supplemental information to the Owner to assist in the Owner's investigation of the Contractor's good faith effort to fulfill the HUB Subcontracting Plan and the requirements of TAC 111.14 (Subcontracts).

- 18.3 Failure to Demonstrate Good Faith Effort. Upon a determination by the Owner that the Contractor has failed to demonstrate a good faith effort to fulfill the Subcontracting Plan or any Contract covenant detailed above, the Owner may, in addition to all other remedies available to it, report the failure to perform to the Texas Building and Procurement Commission Vendor Performance and Debarment Program.

Article XIX - Concealed Site Conditions

- 19.1 The Contractor is responsible for having visited the Site and having ascertained pertinent local conditions such as location, accessibility, and general character of the Site or building, the character and extent of existing work within and adjacent to the Site, and any other work being performed thereon at the time of the submission of its proposal. Any failure to do so will not relieve the Contractor from responsibility for successfully performing the Work without additional expense to the Owner.
- 19.2 If, in the performance of the Contract, subsurface, latent or concealed conditions at the Site are found to be materially different from the information included in the Contract Documents, or if unknown conditions of an unusual nature are discovered differing materially from the conditions usually inherent in work of the character

shown and specified, the Contractor shall notify the ODR in writing of such conditions before proceeding with the Work. If necessary, the A/E and/or Owner shall develop a solution and provide it to the Contractor. If the solution prompts changes to the Contract Amount and/or Time, the Contract shall be adjusted under Article XX (Change Orders).

19.3 For environmental matters, see § 9.4 (Environmental Safety and Control).

Article XX - Change Orders

20.1 Change Order Defined. A Change Order is a written modification of the Contract between the Owner and the Contractor, signed by the Owner, the Contractor and the A/E.

20.2 Effect of a Change Order. A Change Order authorizes a modification in the scope of the Work or an adjustment in the Contract Sum or the Contract Time. Work performed under a Change Order is subject to all provisions of the Contract Documents.

20.3 Modifications for which a Change Order is Required. All changes in the scope of Work, the Contract Sum and the Contract Time shall be documented by a Change Order. Change Orders are the exclusive method for modifying the scope of Work, The HUB Plan, the Contract Sum or Contract Time. Neither the A/E nor the ODR may change the scope of the Work, the Contract Sum or the Contract Time by any method, expressed or implied, other than a Change Order.

20.4 Agreed Change Order and Unilateral Change Order. A Change Order may be either an Agreed Change Order or a Unilateral Change Order.

20.4.1 Agreed Change Orders. An Agreed Change Order is a Change Order jointly executed by the Owner, the Contractor and the A/E, in which each agrees to all of the terms of the Change Order.

20.4.2 Effect of An Agreed Change Order. The execution of an Agreed Change Order constitutes the full, final and complete settlement of all claims with regard to the modifications contained in the Change Order for foreseeable impacts on the Contract Sum or the Contract Time; provided, however, that an Agreed Change Order may be reformed by a written modification signed by the Contractor and the ODR, for the limited purpose of correcting an error in computation. A corrected Change Order will be issued to document such actions, when deemed necessary by the ODR.

20.4.3 Unilateral Change Order (ULCO). A Unilateral Change Order is a Change Order issued by the Owner without the agreement of the Contractor.

- 20.4.4 Effect of a Unilateral Change Order; Conversion to an Agreed Change Order. The issuance of a Unilateral Change Order does not prejudice any of the Contractor's rights to relief otherwise available under the Contract Documents. The Contractor may preserve such rights by submitting a written objection to the Unilateral Change Order within 30 days of receipt of the Unilateral Change Order. If the Contractor does not submit a written objection within that time, the Contractor shall be deemed to have accepted the terms of the Unilateral Change Order and the Unilateral Change Order shall have the full force and effect of an Agreed Change Order.
- 20.5 Who May Request Change Orders. Change Order Requests may be initiated by the Owner or by the Contractor as provided in §§20.6 and 20.7 (Type I, Type II Change Orders).
- 20.6 Type I Change Orders. A Type I Change Order adjusts the Contract Sum and/or Contract Time because of an actual or constructive change in the scope or character of the Work, which originates from the Owner or the A/E. Type I Change Orders are initiated in one of two ways:
- 20.6.1 Owner-Initiated Changes. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions.
- 20.6.2 Contractor-Initiated Changes. If the Contractor claims that it will incur additional cost or time because of any document containing an interpretation of the Contract Documents, or instruction concerning the execution of the Work, issued by the Owner or the A/E, and constituting a constructive change in the scope or character of the Work, the Contractor may request a Change Order pursuant to this Article and, if appropriate, a Time Extension Request as provided by Article XXIV (Modification of the Contract Time).
- 20.6.3 Commencement of Work. The Contractor shall not commence work on a Type I Change Order prior to the receipt of a Change Authorization, or an Interim Change Authorization, as set out in §§ 21.3.3 (Change Order Authorization) and 21.5 (Interim Change Authorization), respectively.
- 20.7 Type II Change Orders. A Type II Change Order adjusts the Contract Sum and/or Contract Time because of a change in the conditions of performance of the Work that changes the cost and/or time required for performance without changing the scope of the Work to be performed under the Contract Documents. The Contractor may request a Type II Change Order under the following circumstances only:

- a. The occurrence of excusable, compensable delays as designated in § 24.1.3 (Non-weather Excusable Compensable Delay);
- b. Unanticipated physical conditions at the Site, pursuant to §19.2 (Concealed Site Conditions), which the A/E addresses by means of changes in the Drawings and Specifications, or unanticipated conditions at the Site as described in §§2.7 (Environmental Regulations) and 2.8 (Antiquities);
- c. The existence of errors, omissions and imperfections in the design documents which the A/E corrects by means of changes in the Drawings and Specifications;
- d. The failure of the Owner and/or the A/E to take timely actions required under the Contract Documents or to provide information required by the Contractor to proceed with the Work;
- e. The failure of the Owner to provide reasonable access to the Site;
- f. The failure of the Owner to timely provide materials which are to be furnished by the Owner under the Contract Documents;
- g. Detrimental or obstructive actions by the Owner or by separate contractors employed by the Owner; and
- h. The failure of the Owner to grant a meritorious request for time extension pursuant to Art XXIV (Constructive Acceleration).

20.8 Contractor's Risk of Performance. Except as expressly provided in this Article XX (Change Orders), the Contractor shall not be entitled to an increase in the Contract Sum or the Contract Time and shall bear full responsibility for all risks affecting the Contractor's cost of performance.

Article XXI - Administration of Change Order Requests

21.1 Time Extension Requests. All relief related to excusable and compensable delays, including monetary compensation for the delay itself, shall be governed by the provisions of Article XXIV (Modification of the Contract Time), and any time extension granted or compensation for delay shall be made pursuant to that Article. A single Change Order may be issued, adjusting both the Contract Time and the Contract Sum, where both arise from the same claim.

21.2 Requests for Cost Adjustment. All requests for adjustment in the Contract Sum shall be made as follows:

- 21.2.1. Owner-initiated Type I Change Orders. When the Owner wishes to order changes in the Work, the ODR shall submit to the Contractor a Change Order Request (COR), consisting of a description of the request, including such Drawings and Specifications as are reasonably necessary to inform the Contractor of the nature of the change. Within thirty (30) days of receipt of the Owner's COR, the Contractor shall submit a Change Order Proposal (COP) to the ODR, stating that the proposed change is a no-cost change, or proposing an adjustment in the Contract Sum, as provided under Article XXII (Pricing Change Order Work). When an Owner-

initiated change in the Work requires no increase in cost, the ODR shall issue a COA and the Owner and Contractor shall execute a Change Order.

- 21.2.2. Contractor-initiated Changes. When the Contractor considers that any written instruction or interpretation of the Contract Documents issued by the Owner and/or the A/E constitutes a change in the Work affecting the Contract Sum, the Contractor shall notify the Owner as soon as possible, but not later than fifteen (15) days after receipt of the instruction or interpretation, and shall submit a COP to the ODR as soon as possible thereafter, but not later than thirty (30) days after issuance of the notice. This COP shall contain a proposal for an adjustment in the Contract Sum, as provided under Article XXII (Pricing Change Order Work). The COP shall be accompanied by a copy of the document containing the instruction or interpretation, evidence of the date the Contractor received the document and an explanation of how the document creates the need for a Change Order.
- 21.2.3. Notice of Claim for Type II Change Orders. If the Contractor claims that additional cost is involved because of the occurrence of one or more of the circumstances set forth in §20.7 (Type II Change Orders), the Contractor shall give the ODR Written Notice of the intent to submit a claim and shall proceed immediately to document all increased costs actually incurred as a result. Such notice shall be given as soon as the Contractor becomes aware that such circumstances exist, but not later than thirty (30) calendar days after the onset of the circumstance giving rise to the claim. This notice shall identify:
- a. the circumstances giving rise to the additional cost;
 - b. the elements of cost affected; and
 - c. the claimed contractual basis for entitlement to relief. Such notices shall be accompanied by sufficient written evidence to document the occurrence of a cost impact, but the full amount of the claim need not be stated at the time the notice is given to the ODR. The Contractor and the Owner recognize and agree that it is beneficial to identify factors affecting the Contractor's cost of performance, and to take prompt action to control them. Therefore, it is agreed that the Contractor shall not be entitled to request a Type II Change Order cost adjustment unless the required notice is submitted timely.
- 21.2.4. Submission of Claim for Type II Change Orders. Claims for adjustment of the Contract Sum by Type II Change Orders shall be made in the form of a COP submitted to the ODR no later than ninety (90) calendar days after the cessation of the circumstances giving rise to the claim. The COP shall set forth the Contractor's proposed cost adjustment, computed pursuant to Article XXII (Pricing Change Order Work), together with the Contractor's documentation of costs incurred.
- 21.3 Processing Requests for Change Orders.

- 21.3.1 Response to COP. As soon as possible, but not more than thirty (30) days after receipt of any COP submitted by the Contractor, the ODR shall respond in writing by either:
- a. accepting the Contractor's proposal,
 - b. rejecting the same,
 - c. initiating negotiations with the Contractor concerning the proposed cost adjustment, or
 - d. requesting additional information.
- 21.3.2 Effect of Owner's Failure to Respond Timely. If the ODR, without justification, fails to respond to the Contractor in writing during the required time, the Contractor's COP shall be deemed accepted as proposed as of the thirty-first (31st) day next following the receipt of the COP by the ODR, and shall be administered as a COA and incorporated in the next Change Order.
- 21.3.3 Change Order Authorization. When agreement has been reached concerning the adjustment of cost, the ODR shall accept the Contractor's COP, or any subsequently revised COP issued pursuant to negotiation, by endorsing the COP "Accepted", dating, and returning it to the Contractor. A COP that has been accepted is a Change Order Authorization (COA). A COA is effective upon transmittal and to the Contractor it constitutes the Notice to Proceed for the changed Work and entitles the Contractor to submit the adjusted cost of the Work on succeeding pay applications, as it is completed. The COA will be incorporated into the next Change Order.
- 21.3.4 Execution of Change Order. Not more than forty-five (45) days following the date of acceptance noted on the COA, or the deemed effective date pursuant to §21.3.2 (Effect of Owners Failure to Respond Timely), but not later than the ninetieth (90th) day following the date of Substantial Completion, the ODR shall issue a Change Order, for execution by the Contractor, the Owner and the A/E, attaching a copy of the accepted COA and incorporating it fully by reference. The Contractor shall execute the Change Order within ten (10) days of receipt.

21.4 Unilateral Change Orders.

- 21.4.1 For any Type I or Type II change, the ODR may issue a Unilateral Change Order (ULCO), establishing such cost adjustment, if any, as the Owner deems fair and reasonable, under the following circumstances:
- a. If the Contractor fails to submit a COP within the time required under §§21.2.1 (Contractor-Initiated Type I Change Order) and 21.2.2 (Owner-Initiated Type II Change Order), or fails or refuses to execute an Change Order within the time required by §21.3.4 (Execution of Change Order);
 - b. If negotiations fail to achieve an agreed price; and

- c. If, in the Owner's judgment based on the Work Progress Schedule, the Contractor fails to proceed with a Type I Change Order which may adversely affect the timely completion of the Work.
- d. In addition to the above, the ODR shall issue a ULCO on any COP that remains unresolved ninety (90) days after Substantial Completion of the Project.

21.4.2 A ULCO is effective upon transmittal to the Contractor. The ULCO obligates the Contractor to perform the Work according to its terms, and authorizes the Contractor to submit the adjusted cost of the Work on succeeding pay applications.

21.4.3 The issuance of a ULCO does not prejudice any of the Contractor's rights to relief otherwise available under the Contract Documents. The Contractor may preserve such rights by submitting a written objection to the ULCO within thirty (30) days of receipt of the ULCO. If the Contractor does not submit a written objection within that time, the Contractor shall be deemed to have accepted the terms of the ULCO and the ULCO shall have the full force and effect of an Agreed Change Order.

21.5 Interim Change Authorization. If the Owner determines that an Owner-initiated Type I change in the Work, or a written instruction or interpretation of the Contract Documents for which the Contractor has given notice of its intent to initiate a Type I claim, may impact or damage the Work in place, or cause significant delay in the Project schedule or the need to maintain safety, the ODR may issue an Interim Change Authorization (ICA) directing the Contractor to proceed with the changed Work before submitting a COP. The ICA shall authorize the Contractor to bill for the changed Work completed on the basis of either:

- a. time and materials,
- b. cost not to exceed a specified amount or
- c. a combination of (1) and (2).

Upon receipt of an ICA, the Contractor shall proceed immediately to document all increased costs actually incurred as a result of the Work required under the ICA which shall be submitted to the ODR for verification. At any time prior to the completion of the changed Work, the Contractor may submit a COP containing a lump sum proposal for the cost of the changed Work, which shall be administered as a Type I Change Order; provided, however, that if the Work is completed prior to acceptance of the Contractor's COP by the ODR, the Contractor's adjustment of the cost shall be limited to the actual cost of the Work. If the ODR determines that a Contractor initiated Type I Change Order is without merit, the ODR shall notify the Contractor to proceed according to the subject written interpretation or instruction. Such a notice to proceed shall have the same effect as a Unilateral Change Order pursuant to §20.4.4 (Effects of an Unilateral Change Order, Conversion to an Agreed Change Order), and the Contractor's rights shall be as set forth in that subsection

Article XXII - Pricing Change Order Work

22.1 Lump Sum Cost Proposals. All proposals for an adjustment in the Contract Sum shall be made on a lump sum basis, setting forth the Contractor's estimated or actual costs attributable to the changed Work only. The proposed lump sum cost adjustment shall consist of a base cost, reflecting the Contractor's actual or estimated cost of performing the changed Work, in the case of a Type I change, or the increased cost of performance in the case of a Type II change. If the Contractor believes that the mark-up is insufficient to cover actual or anticipated impact costs, the Contractor may submit a Type II change request for these additional costs. These lump sum cost provisions also apply to Work performed by or claims submitted by Subcontractors as part of the Contractor's COP.

22.1.1 Base Cost Computation for Type I Changes. The base cost computation includes the following elements only, as relevant:

- a. The total cost of materials and supplies, incorporated into the Work reflecting all available discounts, itemized by unit cost and quantity;
- b. The total cost of all labor for performing the additional Work, including supervision below the level of Project Superintendent, itemized to show manhours by trade and classification, burdened hourly rates, and total labor cost;
- c. The equipment cost calculated for each type of equipment used in performing the changed Work, based on hours of use, and multiplied by the most recent version of the Rental Rate Blue Book for Construction Equipment (published by Primedia Information, Inc.) to yield total cost. Mobilization costs will not be allowed except when the Contractor demonstrates that the need to mobilize a piece of equipment arose solely because of the changed Work;
- d. All transportation costs for delivery and handling of materials, equipment and supplies, and the removal of waste or debris; and
- e. All storage costs in excess of thirty (30) days for materials and supplies, if necessitated solely by the changed Work.
- f. The cost of small tools will not be allowed.
- g. The cost of per diem or travel will not be allowed.

22.1.2 Mark-up on Type I Changes.

The base cost of Type I changes may be marked up to cover the Contractor's profit, general conditions costs, scheduling costs, bonding and insurance costs, home office, and all other costs associated with the performance of the Work. The mark-up also covers all foreseeable impact costs on unchanged Work.

- a. The amounts that the Contractor and/or its Subcontractors may add to a Change Order for mark-up to the base cost, which is the sum of the cost of the changed Work identified as items a-f in §22.1.1 (Base Cost Computation for Type I Changes), are as follows:

1. For each Contractor or Subcontractor contractually above the performing Subcontractor, a sum equal to 8% of the total in 22.1.1 (Cost Computation for Type I Changes) may be added to the cost for markup.
 2. For work performed by the Contractor's or Subcontractor's own forces a sum equal to 20% may be added to the total in 22.1.1 if the sum is greater than \$3,000.00. If the sum is less than \$3,000.00 a sum equal to 25% may be added.
 3. A minimum of \$50.00 will be allowed for markup on any Type 1 Change.
- b. On changes involving both additions and deletions, percentages for mark-up will be allowed only on the net addition.

22.1.3 Unit Prices. Unit prices bid by the Contractor, or subsequently agreed upon, by the Contractor and the ODR shall include only those cost elements as those set out in §22.1.1 (Base Cost Computation for Type I Changes), §22.1.2 (Mark-up on Type I Changes).

22.2 Cost Computation for Type II Changes.

22.2.1 Costs and documentation. For a Type II change, the COP shall include a reasonably detailed narrative setting forth:

- a. the nature of the cost impact and its cause,
- b. the basis of the Contractor's claim for entitlement to a cost adjustment,
- c. description and documentation of steps taken by the Contractor to mitigate the claimed cost impact, and
- d. such other information that the Contractor considers necessary to justify its claim. The cost adjustment proposal for a Type II Change shall be based on itemized documented costs actually incurred. If, and only if, the actual cost claimed cannot be demonstrated with reasonable certainty, the Contractor may utilize mathematical formulas or models to compute the proposed cost adjustment, but no COP will be valid unless accompanied by documentation showing that the increased costs claimed, in fact, resulted from the alleged cause.

22.2.2 No Mark-up Authorized. No mark-up is authorized on the cost of a Type II claim.

22.2.3 Certification. On COPs for Type II changes, the Contractor shall certify in writing that all information contained in the COP is true and correct, and that the costs claimed were incurred as a result of the alleged cause, and were reasonably necessary for the performance of the Work. In the case of Subcontractor pass-through claims, the Contractor shall further certify that the claim stated by the Subcontractor constitutes a legitimate claim

against the Contractor, that it is not barred by the terms of the subcontract, and whether, and to what extent, the claim has been paid by the Contractor. The Contractor may not subsequently modify a claim that has been so certified except for the correction of errors. No Type II COP shall be considered valid that has not been so certified.

22.2.4 Cost Computations Under Interim Change Authorizations. When the Owner issues an ICA authorizing the Contractor to proceed on:

- a. a time and materials basis,
- b. a cost not to exceed basis, or
- c. a combination of (1) and (2),

The Contractor may submit the cost of the Work completed to date for payment, as authorized by the ICA, in succeeding pay applications. Any time after receipt of an ICA, the Contractor may submit a COP proposing a lump sum cost for the changed Work, which shall be processed as a Type I change under §22.1 (Lump Sum Cost Proposals).

Article XXIII - Time Allotted for Performance; Construction Schedules

23.1 Contract Time. The Contract Time will be measured from the date designated in the Notice to Proceed and shall be completed in the time specified in the Contract Documents, including any modification by Change Order. Failure to achieve Substantial Completion within the Contract Time will subject the Contractor to Liquidated Damages as provided in § 24.3.1 (Collection of Liquidated Damages). Unless otherwise specified in the Special Conditions or elsewhere in the Contract Documents, the date of Contract completion shall be the date on which the Work is certified as Substantially Complete, pursuant to Article XIV (Modification of the Contract Time).

23.2 Work Progress Schedule. Within sixty days of the Notice-to-Proceed, the Contractor shall submit, in duplicate, to the Owner and third copy to the A/E, for review and acceptance, a proposed Work Progress Schedule. The Work Progress Schedule shall show the dates for starting and completing the various component activities making up the Work, and the logical relationships between them, and shall be in a format and in sufficient detail to permit the Work to be competently managed and its progress monitored. Unless otherwise provided in the Supplementary General Conditions, Special Conditions or Division I of the Specifications, the schedule should utilize the Critical Path Method. The Work Progress Schedule shall take into account the time required for the preparation and review of required Shop Drawings and submittals. If required by the Supplementary General Conditions, Special Conditions or Division 1 of the Specifications, the Contractor shall also submit a separate submittal schedule, correlated with the Work Progress Schedule that shows the dates the Contractor intends to make the required submittals.

23.2.1 Schedule Requirements. The Work Progress Schedule should be an

accurate and reliable representation of the progress of the Work to date, and of the Contractor's actual plans for its completion. The Work Progress Schedule shall be capable of measuring completed events and forecasting the effect of delaying events on uncompleted activities. Submittal of a schedule, schedule revision or schedule update constitutes the Contractor's representation to the Owner and the A/E that the Contractor will follow the schedule as submitted in performing all Work not yet completed, and that all progress to date shown on the schedule is accurately depicted.

- 23.2.2 Schedule Updates. The Work Progress Schedule and submittal schedule, shall be updated periodically to reflect progress to date, and current plans for completing the Work. The form and contents of the updates, and the required update interval, shall be as specified the Supplementary General Conditions, the Special Conditions or Division I of the Specifications. The updated Work Progress Schedule shall be submitted to the Owner, and the A/E for acceptance, and the Owner shall have no duty to make progress payments until the updated Work Progress Schedule has been submitted. The Contractor shall show the anticipated date of completion reflecting all extensions of time granted as of the date of the update. The Contractor may revise the Work Progress Schedule at any time when, in the Contractor's judgment, it becomes necessary for the management of the Work. The Contractor shall submit any schedule revision to the Owner and the A/E for acceptance before it is implemented.
- 23.2.3 Effect of Schedule Submittal. Submittal of the Work Progress Schedule, and successive updates or revisions, are for the information of the Owner and the A/E, and to permit the coordination of their activities with those of the Contractor. The Owner and the A/E shall accept or reject the submittal of a Work Progress Schedule within the same period allowed for review of other submittals in accordance with Article XI (Shop Drawings and Submittals). Acceptance of a schedule, schedule update or revision constitutes the Owner's agreement to coordinate its' own activities with the Contractor's activities as shown on the schedule. Acceptance of a Work Progress Schedule, update or revision does not indicate the approval of the Contractor's proposed sequences and duration. Acceptance of a Work Progress Schedule update or revision indicating late completion does not constitute the Owner's consent to a late finish, or waive either the Contractor's responsibility for timely completion or the Owner's right to damages for the Contractor's failure to do so.
- 23.2.4 Ownership of Float. Float time contained in the Work Progress Schedule is not for the exclusive benefit of the Contractor or the Owner, but may be consumed by either as needed.

Article XXIV - Modification of the Contract Time

24.1 Delays and Extension of Time. When a delay, defined herein as excusable, prevents the Contractor from completing the Work within the Contract Time, the Contractor shall be entitled to an extension of time, as set forth in §24.1.3 (Non-Weather Excusable Compensable Delay), and in certain instances to compensation for the direct cost of delay. The Contract Time shall be extended by the number of working days lost by reason of the excusable delay, as measured by the Contractor's Work Progress Schedule (or current update). All extensions of time shall be given in Calendar Days. However, in no event will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which consume only float without delaying the project completion date.

All adjustments to the Contract Time shall be by Change Order, as provided under Article XX (Change Orders).

24.1.1 Time Extensions for Weather Days. A "weather day" is a day on which the Contractor's current schedule indicates Work is to be done, on which inclement weather and related site conditions prevented the Contractor from performing seven hours of Work between the hours of 7:00 AM and 6:00 PM. Weather days are excusable noncompensable delays. At the end of each calendar month, the Contractor shall submit to the Owner and the A/E a list of weather days occurring in that month. The ODR and the A/E shall meet with the Contractor to discuss and resolve any disagreements concerning the number of weather days. If by the close of the seventh (7th) business day after the Owner's receipt of the Contractor's list, the Contractor and the Owner have not reached an agreement on the total number of days in the month in accordance with the rainfall table in the Special Conditions, and signed a memorandum to that effect, the Owner in its sole discretion shall determine the number of days it will allow, and the completion time shall be adjusted accordingly by Change Order. The Owner shall so notify the Contractor in writing by 5:00 PM on the next business day. Should the Owner fail to do so, the Contract Time shall be extended by the number of weather days claimed by the Contractor. The requirements of §24.2 (Time Extension Requests) concerning requests for time extension shall not apply to requests for extensions of time for weather days, which are governed by this section alone. The Contractor's only relief for delay for weather days will be a time extension.

24.1.2 Non-Weather Excusable Noncompensable Delay. The Contractor shall be entitled only to an extension of time for unforeseeable delays not within the control of or arising from the fault of either the Contractor or the Owner caused by the following:

- a. Unusual delay in the delivery of materials, components or equipment to be incorporated into the Work. Strikes and labor disputes (but not the availability of adequately skilled labor, unless such impact is caused solely by the conduct of the Owner);

- b. Physical damage to the Work caused by circumstances beyond the control of the Contractor;
- c. War, civil unrest or insurrection;
- d. Other unforeseeable causes beyond the control of either the Contractor or the Owner.

24.1.3 Non-Weather Excusable Compensable Delay. The Contractor shall be entitled to an equitable adjustment of cost, as well as a time extension for delays, caused by the following:

- a. Failure of the Owner or the A/E to take timely actions required under the Contract Documents, or to provide information required by the Contractor to proceed with the Work in a timely manner.
- b. Detrimental or obstructive actions by separate contractors employed by the Owner.
- c. Failure of the Owner to provide access to the Site of the Work.
- d. Failure of the Owner to provide materials, consistent with the Work Progress Schedule, which are to be furnished by the Owner under the Contract Documents.
- e. Errors, omissions and imperfections in the design which the A/E corrects by means of changes in the Drawings and Specifications.
- f. Unanticipated physical conditions at the Site which the A/E corrects by means of changes to the Drawings and Specifications.
- g. Changes in the Scope of Work ordered by the Owner or the A/E.
- h. Suspensions for cause under § 24.1.4 (Suspension of Work for Cause), which are determined not to have been within the control of the Contractor; or
- i. Suspensions for convenience under § 24.1.5 (Suspension of Work for Owner's Convenience), which prevents the Contractor from completing the Work within the Contract Time.

The Contractor's compensation in the event of such delays shall be the cost of extended general conditions for the period of delay. In the event that additional direct costs are incurred solely as a result of the delay, they shall be determined pursuant to Article XXII (Pricing Change Order Work).

24.1.4 Suspension of Work for Cause. The Owner may, at any time without prior notice, suspend all or any part of the Work, if, in the Owner's sole discretion, it is considered reasonably necessary to do so to prevent or correct, any condition of the Work, which constitutes an immediate safety hazard, or which may reasonably be expected to impair the integrity, usefulness or longevity of the Work when completed. The Owner shall give the Contractor a Written Notice of suspension for cause, setting forth the reason for the suspension and identifying the Work to be suspended. Upon receipt of such notice, the Contractor shall immediately stop the

Work so identified. As soon as practicable following the issuance of such a notice, the Owner, with the assistance of the A/E, shall initiate and complete an investigation of the circumstances giving rise to the suspension, and shall issue a written determination of their causes. The Contractor will not be entitled to an extension of time or compensation for delay resulting from a suspension if the Owner's investigation determines that the cause was within the control of the Contractor. If the cause is determined not to have been within the control of the Contractor, and the suspension prevents the Contractor from completing the Work within the Contract Time, the suspension is an Excusable Compensable Delay. Suspensions of work under this provision shall be no longer than is reasonably necessary to identify and remedy the conditions giving rise to the suspension.

- 24.1.5 Suspension of Work for Owner's Convenience. Upon seven (7) calendar days' prior written notice to the Contractor, the Owner may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to thirty (30) days for its own convenience. The Owner shall give the Contractor a Written Notice of suspension for convenience, which shall set forth the number of days for which the Work, or any portion of it, will be suspended, and the date on which the suspension of Work shall cease. When such a suspension prevents the Contractor from completing the Work within the Contract Time, it is Excusable Compensable Delay. A notice of suspension for convenience may be modified by the Owner at any time upon seven (7) calendar days' prior Written Notice to the Contractor. If the Owner suspends the Work for its convenience for more than sixty (60) consecutive calendar days, the Contractor may elect to terminate the Contract pursuant to the provisions of Article XXV (Termination and Suspension of the Contract Prior to Completion).
- 24.1.6 Concurrent Delay. When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable under the Contract Documents, the Contractor shall be entitled only to a time extension, and not compensation, for the period of concurrent delay. When the completion of the Work is simultaneously delayed by an excusable compensable delay and an excusable non-compensable delay, the Contractor shall be entitled to a time extension and compensation, as provided under §24.1.3 (Non-Weather Excusable Compensation Delay).
- 24.1.7 Except as expressly provided in this § 24.1 (Delays and Extension of Time), the Contractor shall not be entitled to an extension of the Contract Time, and shall bear all responsibility for financial risks which may accrue from various causes of delay in the construction progress.

24.2 Time Extension Requests. If the Contractor believes that the completion of the Work has been delayed by a circumstance other than inclement weather designated as excusable under §24.1.3 (Delays and Extension of Time), Written Notice shall be given to the ODR, within thirty (30) calendar days after the onset of the event or circumstance giving rise to the excusable delay, stating the nature of the delay and the activities potentially affected. Such claims should be accompanied by sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one claim is necessary. Claims for extensions of time shall be stated in numbers of whole or half calendar days. All requests for extensions of time not submitted in connection with proposed costs for changed or added work must be made in writing within thirty (30) calendar days after the cessation of the delay. Claims for the cost of Excusable Compensable Delays shall be submitted in writing within ninety (90) calendar days after the cessation of the cause of the delay. The Contractor and the ODR recognize and agree that it is beneficial to each to identify delays and make necessary schedule adjustments promptly, and that a Work Progress Schedule prepared and updated by the Contractor provides an effective tool for measuring and tracking the impact of delays. Therefore, it is agreed that no extension of time will be granted unless the required notice is submitted timely, and with sufficient documentation.

All changes to the Contract Time or Contract Sum made as a result of such claims shall be by Change Order, as provided under Article XX (Change Orders).

24.2.1 Contents of Time Extension Requests. Each time extension request shall be accompanied by a quantitative demonstration of the impact of the delay on Project completion time, based on the current Work Progress Schedule. Time extension requests shall include a reasonably detailed narrative setting forth:

- a. the nature of the delay and its cause,
- b. the basis of the Contractor's claim of entitlement to a time extension,
- c. documentation of the actual impacts of the claimed delay, and any concurrent delays,
- d. description and documentation of the steps taken by the Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule, and
- e. such other information that the Contractor considers necessary to justify its claim for an extension of time. No time extensions shall be granted for delays that do not affect the Project completion time.

24.2.2 Owner's Response. The ODR shall respond to the time extension request by providing, to the Contractor, Written Notice of the number of days granted, and giving the reason(s) if this number differs from the number of days requested by the Contractor. Such an extension of time is effective on transmittal of the ODR's notice. A Change Order, reflecting

the extension of time, shall be executed by the parties in accordance with Article XX (Change Orders). The Owner will respond to each properly submitted time extension request within fifteen (15) calendar days following its receipt. If the ODR cannot reasonably make a determination about the Contractor's entitlement to a time extension within that time, the ODR shall so notify the Contractor in writing. Upon written concurrence from the Contractor, the ODR shall then have not more than thirty (30) additional calendar days to prepare a final response. If the Owner fails to respond within the agreed time, or in the absence of an agreement, within forty-five (45) calendar days from the date the time extension request was originally submitted, then the Contractor shall be entitled to a time extension in the amount requested.

24.3 Failure to Complete Work Within the Contract Time. Time is of the essence in this Contract. The Contractor's failure to complete the Work within the Contract Time will cause damage to the Owner. These damages shall be liquidated by agreement of the Contractor and the Owner, as set forth in the Special Conditions, the Proposal and the Contract.

24.3.1 Collection of Liquidated Damages. The Owner will collect Liquidated Damages due by reducing the Contract Sum by Change Order.

Article XXV - Termination and Suspension of the Contract Prior to Completion

25.1 Termination by Owner for Cause. The Owner may, without prejudice to any right or remedy, terminate the employment of the Contractor and take possession of the Site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, under the following circumstances:

- a. Persistent or repeated failure or refusal, except during complete or partial suspensions of Work authorized by the ODR under the Contract Documents, to supply enough properly skilled workmen or proper materials;
- b. Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction;
- c. Persistent failure to prosecute the Work in accordance with the Contract Documents, and to insure its completion within the time, or any extension thereof, specified in this contract;
- d. Failure to remedy defective Work condemned by the ODR pursuant to Article XII (Inspection of the Project During Construction);

- e. Failure to pay Subcontractors, laborers, materialmen and suppliers pursuant to Texas Government Code, Chapter 2251 Government Code;
- f. Persistent endangerment, by the Contractor or its Subcontractors or other vendors, and disregard of the safety of laborers or of the Work itself;
- g. Failure to supply or maintain statutory bonds, pursuant to Article V (Construction Bonds), or to supply or maintain required insurance, pursuant to Article VI (Insurance Requirements);or
- h. Any other material breach of the Contract.

The Owner reserves the right to terminate the employment of the Contractor at any time for any of the above listed causes. Failure to exercise the right to terminate in any instance or for any proper reason shall not be construed as a waiver of the right to do so in any other instance or for any other proper reason.

25.1.1 The ODR shall give the Contractor and its Surety thirty (30) days' prior Written Notice of its intent to terminate for any of the above reasons. If the Contractor or the Surety demonstrates, to the satisfaction of the Owner, that the condition or conditions upon which the notice of termination is based have been removed, corrected, or will not recur, then the ODR shall rescind the notice and the Contract shall continue unmodified, and the Contractor shall not be entitled an extension of time.

25.1.2. Should the Contractor or the Surety fail to so demonstrate within thirty (30) days following Written Notice, or fail to satisfy the Owner that the condition or conditions upon which the notice of termination is based have been removed, corrected, or will not recur, the Owner may arrange for completion of the Work and deduct the cost thereof from the unpaid Contract sum remaining, including the cost of additional A/E services made necessary by such default or neglect. In this event, no further payments shall be made to the Contractor by the Owner until all costs for completing the Work have been paid. If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including compensation for the A/E's additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or his Surety shall pay the difference to the Owner. This obligation for payment shall survive the termination of the Contract. The Owner reserves the right, when the Contract is terminated for cause, to take assignment of any and all contracts between the Contractor and its Subcontractors, and suppliers, and the ODR shall promptly notify the Contractor of the contracts that Owner elects to assume. Upon receipt of such notice, the Contractor shall promptly take all steps necessary to effect such assignment.

25.2 Termination for Convenience of Owner. The Owner reserves the right, without breach, to terminate the Contract prior to, or during the performance of the Work, for unforeseen causes not limited to court orders, loss of funding, acts of the federal government to discontinue the Work, etc., that may occur and render the Owner's continued performance of the Contract impossible or illegal. Upon such an occurrence, the following procedures will be adhered to:

- a. The Owner will immediately notify the A/E and the Contractor in writing, specifying the reason for and the effective date of Contract termination. Such notice shall also contain any instructions necessary for the protection, storage or decommissioning of incomplete Work or systems, and for safety.
- b. After receipt of the notice of termination, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due at that point in the Contract:
 1. Stop all work.
 2. Place no further subcontracts or orders for materials or services.
 3. Terminate all subcontracts.
 4. Cancel all materials and equipment orders, as applicable.
 5. Take actions necessary to protect and preserve all property related to this Contract which is in the possession of the Contractor.
- c. When the Contract is terminated for the Owner's convenience, the Contractor may recover payment from the Owner for all Work executed, including any additional Work required pursuant to the notice of termination, and for any provable loss and reasonable expenses attributable to the Work resulting from such termination.

25.3 Termination by Contractor. If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon thirty (30) additional days' Written Notice to the ODR, terminate the Contract and recover from the Owner payment for all Work executed and for any provable loss and reasonable expenses attributable to the Work resulting from such termination. If the cause of the work stoppage is removed prior to the end of the thirty (30) day notice period, the Contractor may not terminate the Contract.

25.4. Settlement on Termination. When the Contract is terminated for any reason, the Contractor shall, at any time within one hundred eighty (180) days of the effective date of termination, submit a final termination settlement proposal to the Owner

based upon recoverable costs as provided under §§25.1 (Termination by Owner for Cause), 25.2 (Termination for Convenience of Owner) or 25.3 (Termination by Contractor). If the Contractor fails to submit the proposal within the time allowed, the Owner may determine the amount due to the Contractor because of the termination and shall pay the determined amount to the Contractor. All settlements on termination shall be administered as Type I Change Orders as provided under Articles XX (Change Orders), XXI (Administration of Change Order Requests) and XXII (Pricing Change Order Work).

Article XXVI - Dispute Resolution

- 26.1 The dispute resolution process provided for in Chapter 2260 of the Texas Government Code shall be used, as further described herein, by the Owner and the Contractor to attempt to resolve any claim for breach of contract made by the Contractor.
- a) A Contractor's claim, for breach of this Contract, that the parties cannot resolve in the ordinary course of business shall be submitted to the negotiation process provided in Chapter 2260, Subchapter B, of the Texas Government Code. To initiate the process, the Contractor shall submit Written Notice, as required by Subchapter B, to the ODR. Said notice shall specifically state that the provisions of Chapter 2260, Subchapter B, are being invoked. A copy of the notice shall also be given to all other representatives of the Owner and the Contractor otherwise entitled to notice under the parties' Contract. Compliance by the Contractor with Subchapter B is a condition precedent to the filing of a contested case proceeding under Chapter 2260, Subchapter C, of the Texas Government Code.
 - b) The contested case process provided in Chapter 2260, Subchapter C, of the Texas Government Code is the Contractor's sole and exclusive process for seeking a remedy for any and all alleged breaches of contract by the Owner, if the parties are unable to resolve their disputes under subparagraph (a) of this article.
 - c) Compliance with the contested case process provided in Subchapter C is a condition precedent to seeking consent to sue from the Legislature under Chapter 107 of the Texas Civil Practices and Remedies Code.
- 26.2 The submission, processing and resolution of the Contractor's claim is governed by the published rules adopted by the State of Texas Attorney General pursuant to Chapter 2260, as currently effective, hereafter enacted or subsequently amended. These rules are found at (TAC §155).

- 26.3 Neither the occurrence of an event nor the pendency of a claim constitutes grounds for the suspension of performance by the Contractor, in whole or in part.

Article XXVII - Miscellaneous

- 27.1 Written Notice. Written notice shall be considered to have been duly given if a document is delivered in person to the individual or member of the firm or to an officer of the corporation for whom it is intended; if delivered or sent by registered or certified mail to the last business address known to the one who gives the notice; or transmitted by fax machine, with a receipt retained to prove delivery. Notice is deemed effective when given rather than when received.
- 27.2 Supplemental General and Special Conditions When the Work contemplated by the Owner is of such a character that these Uniform General Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Supplemental General and Special Conditions as described below:
- 27.2.1 Supplemental General Conditions may describe the standard procedures and requirements of contract administration followed by a contracting agency of the State. Supplemental General Conditions may expand upon matters covered by the Uniform General Conditions, where necessary, provided the expansion does not weaken the character or intent of the Uniform General Conditions. Supplemental General Conditions are of such a character that it is anticipated that a contracting agency of the State will normally use the same, or similar, conditions to supplement each of its several projects.
- 27.2.2 Special Conditions shall relate to a particular project and are peculiar to that project but shall not weaken the character or intent of the Uniform General Conditions.
- 27.3 Federally Funded Projects. If this project is federally funded, the Special Conditions will indicate that fact and will contain any modifications of these Uniform General Conditions required as a condition of obtaining federal funding.
- 27.4 Computation of Time. Other than in reference to the Notice to Proceed letter, in computing any time period set forth in this Contract, the first day of the period shall not be included, but the last day shall be.
- 27.5 Survival of Obligations. All representations, indemnifications, warranties and guarantees made in accordance with the Contract Documents will survive final payment, completion and acceptance of the Work, as well as termination for any reason. All duties imposed upon the Contractor by reason of termination, including

without limitation, the duty to assign subcontracts and contracts with vendors and suppliers, shall likewise survive the termination of the Contract.

- 27.6 No Waiver of Performance. The failure of either party in any instance to insist on the performance of any of the terms, covenants or conditions of the Contract Documents, or to exercise any of the rights granted thereunder, shall not be construed as waiver of any such term, covenant, condition or right with respect to further performance.
- 27.7 Governing Law. This Contract shall be governed by the laws of the State of Texas.
- 27.8 Captions and Catchlines. The captions and catchlines used throughout the Uniform General Conditions are for ease of reference only and have no effect on the meaning of the terms and conditions set forth herein.
- 27.9 Independent Contractor Status. The Contract Documents create an independent contractor relationship between the Owner and the Contractor and neither party's employees or contractors shall be considered employees, contractors, partners or agents of the other party.
- 27.10 No Third Party Beneficiaries. The parties to this Contract do not intend, nor shall any clause be interpreted to create in any third party, any obligations to, or right of benefit by, such third party under these Contract Documents from either the Owner or the Contractor.
- 27.11 Entire Agreement. These Contract Documents supercede, in full, all prior discussions and agreements (oral and written) between the parties relating to the subject matter hereof and constitutes the entire agreement.
- 27.12 Assignment. This Contract may not be assigned by either party without the prior written consent of the other, except either party may, upon Notice to the other party but without the other party's consent, assign this Contract to a present or future affiliate or successor, provided that any such assignment by the Contractor shall be contingent on the Owner's determination that the assignee is qualified to perform the Work, is in good standing with the State of Texas and otherwise eligible to so business with the State of Texas.
- 27.13 Severability. If any provision, sentence, clause or article of this Contract is found to be invalid or unenforceable for any reason, the remaining provisions shall continue in effect as if the invalid or unenforceable provision were not in the Contract. All provisions, sentences, clauses and articles of this Contract are severable for this purpose.
- 27.14 Parties Bound. Execution of this Contract by each party binds the entity represented as well as its employees, agents, successors and assigns to its faithful performance.

27.15 No Waiver of Sovereign Immunity. Nothing herein shall be construed as a waiver of the State's sovereign immunity.

SUPPLEMENTARY UNIFORM GENERAL CONDITIONS

NOTICE

The following **Supplements** modify, change, delete from or add to the “Uniform General Conditions”. Where any Article of the UGC is modified or any paragraph or clause thereof is modified or deleted by these supplements, the unaltered condition of the Article, paragraph, subparagraph or clause shall remain in effect. These conditions, as well as the technical provisions for the Work to be executed and the Specifications bound herein, shall be subject to all of the requirements and are complementary to the provisions of the Instructions for Proposal and the Uniform General Conditions, and shall be used in conjunction with them as a part of the Contract Documents.

ARTICLE I. General Contract Definitions

1.20 The Owner is defined as Texas A&M University Kingsville.

1.21 The Official address for the University is:

U.S. Mail

Texas A&M University-Kingsville
700 University Blvd
MSC 212
Kingsville, TX 78363

Commercial Carrier

Texas A&M University-Kingsville
955 University Blvd
Room 121 College Hall
Kingsville, TX 78363

1.22 U.S. Mail The address for the Project Manager is:

U.S. Mail

Texas A&M University-Kingsville
Division of Support Services
700 University Blvd
MSC 111
Kingsville, TX 78363

Commercial Carrier

Texas A&M University-Kingsville
Division of Support Services
1010 North Retama
Kingsville, TX 78363

ARTICLE IV. Drawings and Specifications

4.2 Copies Furnished: The Contractor will be furnished up to two (2) complete sets of Plans and Specifications at no cost. If additional sets are available, they will also be furnished free of charge. If unavailable, additional sets will be furnished at actual cost of reproduction and costs will be borne by the Contractor.

ARTICLE VII. General Responsibilities of the Owner and the Contractor

7.5.14 The Contractor shall make arrangements with the Owner for access and storage provisions at the site, and the areas around the building at which he shall confine his activities and shall in no way obstruct another part of the campus that will affect the owner's necessary operations. If needed the Owner representative shall identify the area outside the building for this work.

7.5.15 The Contractor shall exercise care to protect and preserve all existing utilities, either concealed or exposed, here scheduled to remain. Where existing electrical and/or mechanical service lines are required to be moved, altered, or connected to, the work shall be scheduled to avoid interference with the Owner's usage of the facility during construction, and to avoid any untimely and extended interruption of the services. A tentative working schedule shall be approved by the Owner representative prior to any work being started that will cause an interruption of service.

7.5.16 The Contractor shall take extra care to protect existing trees, shrubs, and lawn outside and inside of the work area that is not scheduled for removal. If necessary, protective barricades shall be constructed around trees and shrubs for their protection by the Contractor. If pruning of any existing tree or shrubs are required, the contractor must contact the Owner's representative for written permission and directions on how to trim the trees.

7.5.17 The Contractor shall insure all employees to include those associated subcontractors are persons of good character and shall insure that all behave in a manner consistent with recognized adult behavior while working on this Project. In addition, the Contractor shall instruct and/or convey to all such employees that if any display of bad manners or sloppy dress deemed objectionable to University staff, faculty, or students occurs on campus, then that employee will be directed to leave the campus and will not be allowed back on the job site. The Contractor's superintendent shall strictly enforce this requirement.

7.5.18 The Contractor must supply the Owner with Material Safety Data sheets (MSDSs) for all new material being installed in a public building. This requirement includes but is not limited to the following items: floor coverings, floor covering glues, wall coverings, joint compound, sealants, and caulking material. The contractor may not install materials or replacement parts in a public building if a required material safety data sheet has not been obtained, or if the materials or parts, according to the material safety data sheet, contain more than one percent asbestos, and there is an alternative material or part.

ARTICLE XIII. Contract Payments

- 13.1 Modify paragraph 13.1. "Prior to the first pay request the Contractor shall provide a one-time breakdown of the original contract sum into the required asset categories. Each line item on the breakdown shall be coded with one of the category codes which are outlined as follows:

TEXAS A&M UNIVERSITY SYSTEM
GUIDELINES FOR PROJECT PRICE BREAKDOWN

<u>CODE</u>	<u>CATEGORY</u>
001.0	General Condition Items
002.0	Demolition
003.0	Asbestos Abatement
821018	Parking Lots & Driveways
821425	Paved Area - Non Parking
825035	Sidewalks & Paved Walk Areas
825003	Streets or Roads - (includes curbs & gutters)
825021	Electrical Distribution (Site) - (includes elec. lines, equipment & site lighting)
825025	Telephone Distribution - (includes site lines other than fiber optic phone lines)
825024	Fiber Optics - (all site fiber optic lines including fiber optic phone lines)
825022	Natural Gas Lines (Site)
825023	Water Distribution (Site) - (includes heated & chilled water & steam lines)
825013	Sanitary & Storm Sewers (Site)
821213	Fences (other than temporary)
821417	Landscaping
821414	Irrigation System
821418	Retaining Walls & Mow Strips
824125	Improvements - General (Site) - (includes benches, monuments, statues, markers)
825026	Tunnels

Plus the following 11 component categories for EACH building

811011	Building Shell
811023	Roof Coverings
811022	Elevator System
811024	Floor Coverings
811014	Interior Finishes
811020	HVAC System
811015	Plumbing System
811021	Electrical and Lighting System
811018	Fire Protection System
811025	Fixed Equipment Assets
811030	Miscellaneous Construction Features

Exhibit 27a

Code Componentization Descriptions:

- 811011** Building shell: the exterior walls, excavation within the building footprint, foundation, floors, and roof structural system and decking of a building. The walls consist of the wall layers starting with the exterior building skin and ending at the inner thermal layer. The suggested useful life of a building shell is 30 years.
- 811023** Roof Coverings: includes the covering material used to establish the water barrier on the building's roof deck. The roof covering starts with the first membrane above the roof decking materials including the urethane layer, coating, shingles,

films, metal panels, clay tiles and all material installed above the roof deck; The recommended useful life of clay tile is 30 years. The recommended useful life of a metal panel roof is 20 years and a urethane roof or shingle roof is 15 years. The recommended useful life of all other roof types is 15 years.

- 811022** Elevator system: comprised of the elevator and escalator conveyance systems including controls; The recommended useful life of this system is 20 years.
- 811024** Floor Coverings: includes carpet, ceramic tile, stone, terrazzo, vinyl tile, wood, laminate and linoleum floor coverings, and other types of floor coverings and all padding and barrier sheeting installed above the concrete slab or wooden deck; The recommended useful life of ceramic tile, stone and terrazzo is 30 years. All other floor types should have a useful life of 15 years.
- 811014** Interior finish: all walls, partitions, ceilings and millwork that are inside the building shell walls. This will include but not limited to, all framework, interior doors, interior windows, sheet rock, paneling, paint and any other wall and ceiling coverings; The recommended useful life is 15 years.
- 811020** HVAC: includes the chillers, condensers, exhaust fans and coil units, heating strips, chilled/heating water supply and return piping, air ducts, registers, climate control panels and all circuitry connected to the power supply panel. The recommended useful life of this equipment is 15 years.
- 811015** Plumbing system: all piping, drains, fixtures, and associated equipment within the perimeter of the building used for moving domestic water, other fluid gases, compressed air or sewage: The recommended useful life of this system is 20 years.
- 811021** Electrical and lighting systems: all telecommunication and alarm wiring, lighting fixtures, electrical conduit, wire, cables, circuits, switches, and controls within the perimeter of the building that provide power for all electrical apparatuses and lighting instruments. The recommended useful life of this system is 20 years.
- 811018** Fire protection system: comprised of the piping, sprinkler heads and controls (Circuitry for fire detection, alarms, and warning devices are included in 'Electrical'.);
- 811025** Fixed equipment assets: is any equipment other than equipment comprised of the HVAC system, electrical system, fire protection system, plumbing system or elevator system that is installed and permanently attached to some part of the building's structure;
- 811030** Miscellaneous construction features: any building component that does not fit into one of the other ten categories;

The initial contract breakdown may require some revisions by the Contractor after the Owner's review. It is, therefore, recommended that this breakdown be prepared and submitted as soon as possible to avoid delay of the initial payment to the contractor."

ARTICLE XVIII. Good Faith Effort Subcontracting Program (HUBs)

18.4 Refer to the next attached four (4) pages that provide the instructions and forms for the HUB Subcontracting Plan (HSP). The potential subcontracting opportunities for this project are listed in Article XVIII, Special Conditions. The forms can be downloaded from the following website: <http://www.window.state.tx.us/procurement/prog/hub/hub-subcontracting-plan/>

ARTICLE XXIII. Time Allotted for Performance, Construction Schedule

23.2 The Contractor shall submit the proposed work progress schedule within 14 days of the Notice to Proceed.



HUB SUBCONTRACTING PLAN (HSP)

In accordance with Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, respondents, including State of Texas certified Historically Underutilized Businesses (HUBs), must complete and submit a State of Texas HUB Subcontracting Plan (HSP) with their solicitation response.

NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the State of Texas Disparity Study. The HUB goals defined in 1 TAC §111.13 are: *11.9 percent for heavy construction other than building contracts, 26.1 percent for all building construction, including general contractors and operative builders contracts, 57.2 percent for all special trade construction contracts, 20 percent for professional services contracts, 33 percent for all other services contracts, and 12.6 percent for commodities contracts.*

- - Agency Special Instructions/Additional Requirements - -

REFER TO SPECIAL CONDITIONS ARTICLE XVIII, GOOD FAITH EFFORT SUBCONTRACTING PROGRAMS (HUBS) TO DETERMINE IF AN HSP IS REQUIRED AND FOR A MINIMUM LIST OF SUBCONTRACTING OPPORTUNITIES IDENTIFIED BY THE OWNER.

SECTION 1 - RESPONDENT AND SOLICITATION INFORMATION

- a. Respondent (Company) Name: _____ State of Texas VID #: _____
 Point of Contact: _____ Phone #: _____
- b. Is your company a State of Texas certified HUB? - Yes - No
- c. Solicitation #: _____

SECTION 2 - SUBCONTRACTING INTENTIONS

After having divided the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, the respondent must determine what portion(s) of work, including goods or services, will be subcontracted. Note: In accordance with 1 TAC §111.12., a "Subcontractor" means a person who contracts with a vendor to work, to supply commodities, or contribute toward completing work for a governmental entity. Check the appropriate box that identifies your subcontracting intentions:

- Yes, I will be subcontracting portion(s) of the contract.
 (If Yes, in the spaces provided below, list the portions of work you will be subcontracting, and go to page 2.)
- No, I will not be subcontracting any portion of the contract, and will be fulfilling the entire contract with my own resources.
 (If No, complete SECTION 9 and 10.)

Line Item # - Subcontracting Opportunity Description	Line Item # - Subcontracting Opportunity Description
(#1) -	(#9) -
(#2) -	(#10) -
(#3) -	(#11) -
(#4) -	(#12) -
(#5) -	(#13) -
(#6) -	(#14) -
(#7) -	(#15) -
(#8) -	(#16) -

*If you have more than twenty subcontracting opportunities, a continuation page is available at <http://www.window.state.tx.us/procurement/prog/hub/hub-subcontracting-plan/>

Enter your company's name here: _____ Solicitation #: _____

IMPORTANT: You must complete a copy of this page for each of the subcontracting opportunities you listed in SECTION 2. You may photocopy this page or download copies at <http://www.tbpc.state.tx.us.hubforms/index.html>.

SECTION 3 - SUBCONTRACTING OPPORTUNITY

Enter the line item number and description of the subcontracting opportunity you listed in SECTION 2.

Line Item # _____ Description: _____

SECTION 4 - MENTOR-PROTÉGÉ PROGRAM

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting their Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the portion of work (subcontracting opportunity) listed in SECTION 3, constitutes a good faith effort towards that specific portion of work. Will you be subcontracting the portion of work listed in SECTION 3 to your Protégé?

- Yes (If Yes, complete SECTION 8 and 10.) - No / Not Applicable (If No or Not Applicable, go to SECTION 5.)

SECTION 5 - PROFESSIONAL SERVICES CONTRACTS ONLY

This section applies to Professional Services Contracts only. All other contracts go to SECTION 6.

Does your HSP contain subcontracting of 20% or more with HUB(s)?

- Yes (If Yes, complete SECTION 8 and 10.) - No / Not Applicable (If No or Not Applicable, go to SECTION 6.)

In accordance with Gov't Code §2254.004, "Professional Services" means services: (A) within the scope of the practice, as defined by state law of accounting; architecture; landscape architecture; land surveying; medicine; optometry; professional engineering; real estate appraising; or professional nursing; or (B) provided in connection with the professional employment or practice of a person who is licensed or registered as a certified public accountant; an architect; a landscape architect; a land surveyor; a physician, including a surgeon; an optometrist; a professional engineer; a state certified or state licensed real estate appraiser; or a registered nurse.

SECTION 6 - NOTIFICATION OF SUBCONTRACTING OPPORTUNITY

Complying with a, b and c of this section constitutes Good Faith Effort towards the portion of work listed in SECTION 3. After performing the requirements of this section, complete SECTION 7, 8 and 10.

- a. Provide written notification of the subcontracting opportunity listed in SECTION 3 to **three (3)** or more HUBs. Use the State of Texas' Centralized Master Bidders List (CMBL), found at <http://www.window.state.tx.us/procurement/cmb/cmbhub.html> and its HUB Directory, found at <http://www.window.state.tx.us/procurement/cmb/hubonly.html>, to identify available HUBs. **Note: Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.**
- b. Provide written notification of the subcontracting opportunity listed in SECTION 3 to a minority or women trade organization or development center to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. A list of trade organizations and development centers may be accessed at <http://www.tbpc.state.tx.us/hub/minoritywomenbuslinks.htm>. **Note: Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.**
- c. Written notifications should include the scope of the work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. Unless the contracting agency has specified a different time period, you must allow the HUBs no less than five (5) working days from their receipt of notice to respond, **and** provide notice of your subcontracting opportunity to a minority or women trade organization or development center no less than five (5) working days prior to the submission of your response to the contracting agency.

SECTION 7 - HUB FIRMS CONTACTED FOR SUBCONTRACTING OPPORTUNITY

List **three (3)** State of Texas certified HUBs you notified regarding the portion of work (subcontracting opportunity) listed in SECTION 3. Specify the vendor ID number, date you provided notice, and if you received a response. **Note: Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.**

Company Name	VID #	Notice Date (mm/dd/yyyy)	Was Response Received?
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No

SECTION 8 - SUBCONTRACTOR SELECTION

List the subcontractor(s) you selected to perform the portion of work (subcontracting opportunity) listed in SECTION 3. Also, specify the expected percentage of work to be subcontracted, the approximate dollar value of the work to be subcontracted, and indicate if the company is a Texas certified HUB.

Company Name	VID #	Expected % of Contract	Approximate Dollar Amount	Texas Certified HUB?
_____	_____	____%	____\$	<input type="checkbox"/> - Yes <input type="checkbox"/> - No*
_____	_____	____%	____\$	<input type="checkbox"/> - Yes <input type="checkbox"/> - No*

*If the subcontractor(s) you selected is not a Texas certified HUB, provide written justification of your selection process below:

SPECIAL CONDITIONS

NOTICE

The following Special Conditions modify, change, delete from or add to the “Uniform General Conditions (UGC)” and/or the “Supplementary Uniform General Conditions (SUGC)”. Where any Article of the UGC or SUGC is modified or any paragraph or clause thereof is modified or deleted by these special conditions, the unaltered condition of the Article, paragraph, subparagraph or clause shall remain in effect. These conditions, as well as the technical provisions for the Work to be executed and the Specifications bound herein, shall be subject to all of the requirements and are complementary to the provisions of the Instruction for Proposal, UGC, and SUGC, shall be used in conjunction with them as part of the Contract Documents.

ARTICLE I. General Definitions

1.21. The Owner’s designated representative is Micheal R. Foor, P.E., University Engineer. This also modifies UGC, Article VII, 7.1.3.

ARTICLE V. Construction Bonds

5.1.1. A Performance Bond is required for this project.

5.1.2. A Payment Bond is required for this project.

ARTICLE VI. Insurance Requirements

6.1.2.g. Flood Insurance is not required for this project.

6.1.2.h. Umbrella Coverage: \$1,000,000 umbrella coverage required.

6.3. The Contractor shall furnish the Owner with a satisfactory Certificate of Insurance as proof of carriage of the insurance required. The Certificate must be submitted prior the Owner signing the Contract. Any changes in the coverage shall be reported with ten (10) days on a revised Certificate that must be provided to the Owner’s representative.

ARTICLE VII. General Responsibilities of the Owner and the Contractor

7.1.8 The Owner will furnish water and electricity during construction, if available, at no cost to the Contractor. The Contractor shall provide all temporary means of conveying this water and electricity and bear all costs to bring water and electricity to places on the site where it is required by the operation during construction

7.1.9 The Owner Representative will provide to the Contractor one set of keys for the electric panel boxes and building entrances upon receipt of a security deposit, \$50.00 per key. The keys must be returned to the Owner’s representative at the end of the project. Once done, the

Owner's representative will return the deposit.

- 7.5.18 The Contractor shall limit parking of vehicles to areas designated on the Plans or by the Owner's representative. Parking on grassy areas is not normally allowed. The contractor will be responsible for the cost of repairing any damages caused by Contractor's vehicles to grassed areas, sidewalks, fences, etc. during the course of construction work. All parking lots, except for those areas specifically directed in the Plans, shall remain open to the public at all times, except when written permission is received from the Owner's representative. Request for a variance shall be submitted in writing at least 48 hours prior to anticipated need. Regulations concerning parking and traffic on campus have been established and administered by the University Police Department (located in Seale Hall on the southeast side of the campus). Contact the UPD, 361-593-2611, for questions concerning these regulations.
- 7.5.19 The Contractor shall set up his own temporary office in a space designated by the Owner representative. This may be within a specified building. The Contractor has responsibility for securing all items left within this specified space.
- 7.5.20 The Contractor shall use cellular phone service or pay phones on the construction site. Owner telephones will not be available to the contractor.
- 7.5.21 The Contractor shall obtain an Underground Utility Work Permit (Digging Permit) from the TAMUK University Engineer Office in Room 107, Support Services Building at 1010 Retama Street, 361-593-2645, prior to any excavation, trenching, or boring work required for the project. This Digging Permit will identify underground utilities in the location of the project site. The blank form to request the Digging Permit can be obtained from the Owner's representative.

ARTICLE IX. The Contractor's Responsibility for Jobsite Safety

- 9.4.2 The Contractor shall maintain a means of exit and egress of the building throughout the duration of the construction work. The work must be scheduled in a manner to minimize conflicts with the Owner's use of the facility and shall coordinate any specific space needs with the Owner's representative. Electrical service and other utility services to the building shall not be interrupted without 48 hours advance notice to the Owner's representative.
- 9.4.3 The Contractor shall erect and maintain temporary partitions as required to keep construction dust and debris from filtering out into mechanical systems or into other areas used by the Owner's employees and/or students. In addition the Contractor will pay for the cost of changing the air handler filters every thirty (30) days, or more often if dust accumulation has exceeded filter capacity.

ARTICLE X. Materials and Workmanship; Licensing and Testing

- 10.6. Material and Equipment deliveries shall be made directly to the construction site or construction office. All deliveries must be made to the designated contractor representative and not the University.
- 10.7. The Contractor shall not sell or give to any non-employee any demolished or salvaged material from this site, while the material is still on the Texas A&M University campus. Once any demolished/remove material (not scheduled for delivery to owner) is off the campus, then the Contractor may either sell or dispose of it properly.
- 10.8. Private disposal services must be used for trash and debris removal. A dumpster or other type of container may be located outside the building on a location approved by the Owner's representative. The Contractor shall not use any dumpsters located on the University campus for disposal of any debris or material generated from the work of this project. Approval for disposal of trash and debris may be arranged with the City of Kingsville.
- 10.9 The Contractor shall provide an acceptable means of security to protect all existing equipment and property on and around the construction site, and also to protect his work from unauthorized access. All questions regarding campus security shall be referred to the University Police Department.

ARTICLE XI. Shop Drawings and Submittals

- 11.2 Nature and Effect of Review. The A/E, in consultation with owner, will review and approve all submittals with reasonable promptness and return to the Contractor within seven days after having received the submittal. Comments and/or approval will be indicated in writing.

ARTICLE XII. Inspection of the Project During Construction

- 12.2.4 A building permit is not required for this construction project.

ARTICLE XIV. Closing Inspection

- 14.2 Final Inspection. The Contractor shall make a good effort to complete all work on the pre-final punch list within 14 days of the date of Substantial Completion.

ARTICLE XVI. Contract Final Acceptance and Payment

- 16.1.1. Products and Maintenance Manuals (3 copies) are required for this project. Each copy will be in a three ring binder and must include the following information:
- a. Manufacturer catalog description of all products or equipment that will require periodic adjustment, cleaning, or maintenance.

- b. Manufacturer's literature and recommendation for cleaning, maintenance, and adjustment schedule.
- c. Manufacturer model number, and/or serial number of the actual item furnished or installed as part of this project.

ARTICLE XVIII. Good Faith Effort Subcontracting Program (HUBs)

18.9. The Owner has determined that subcontracting opportunities are probable under this contract; therefore a Historically Underutilized Business Subcontractor Plan (HSP) is required as detailed in Article XVIII, Supplementary Uniform General Conditions.

Texas A&M University-Kingsville has identified the following potential subcontracting opportunities for this contract. Bidders should consider this a minimum in formulating their HSP and may add other subcontracting opportunities deemed necessary to complete the contract.

- | | |
|----------------------------------|---|
| 1. Commodity Code: <u>340-24</u> | Description: <u>Fire Escapes and Fire Exit Devices</u> |
| 2. Commodity Code: <u>340-80</u> | Description: <u>Smoke detecting equip. inc smk alarms</u> |
| 3. Commodity Code: <u>910-14</u> | Description: <u>Door Installation</u> |
| 4. Commodity Code: <u>910-25</u> | Description: <u>Flooring Repair</u> |
| 5. Commodity Code: <u>910-54</u> | Description: <u>Painting</u> |
| 6. Commodity Code: <u>910-75</u> | Description: <u>Drywall</u> |
| 7. Commodity Code: <u>910-82</u> | Description: <u>Electrical Services, controls</u> |
| 8. Commodity Code: <u>910-38</u> | Description: <u>Electrical Services, construction</u> |
| 9. Commodity Code: <u>910-47</u> | Description: <u>Glass, Glazing Services, constr</u> |

18.9 This contract does require a Historically Underutilized Business Plan (HSP).

ARTICLE XXIII. Time Allotted for Performance; Construction Schedule

23.1 Contract Time. The work to be performed under this contract shall be completed in 30 consecutive calendar days plus any extended days approved by the Owner's representative in accordance with the Uniformed General Conditions and Supplementary General Conditions. Generally most of the work shall be scheduled during weekdays, between the hours of 8 AM and 5 PM, Monday thru Friday. Work is encouraged during weekends.

23.3 Work Progress Meetings. The contractor’s project manager or project superintendent shall preside over the meeting, prepare agenda, record minutes, and distribute copies within four working days after meeting to participants. The following persons will be expected to attend the meetings: Owner’s representative, Architect/Engineer construction administrator, A/E’s consultants for mechanical, electrical, and structural, contractor’s general superintendent, project superintendent, and project manager, subcontractors who have work in progress, and subcontractors who will start work within the next month. The contractor will provide a written agenda that includes a brief description of construction progress since the last meeting, review of the construction schedule with explanation of existing or anticipated delays or problems, if any, review the submittal schedule/log, review of request for information, review of project documents, review and approval of the progress payment, and general discussion of other outstanding/current business. A minimum of one progress meeting shall be held each month.

23.4 Rainfall Table for Texas A&M University-Kingsville.

January.....3 Days	July.....3 Days
February.....3 Days	August.....3 Days
March.....2 Days	September.....6 Days
April.....2 Days	October.....3 Days
May.....4 Days	November.....3 Days
June.....4 Days	December.....3 Days

ARTICLE XXIV. Modification of the Contract Time

24.3.1. The Contractor shall pay the sum of One Hundred Dollars (\$100.00) in the form of liquidated damages for each consecutive calendar day that the work remains incomplete following the date of completion as amended by approved extensions.

Under Texas Family Code, section 14.52, a sole proprietorship, partnership, corporation, or other entity in which a sole proprietor, partner, a majority shareholder of a corporation or an owner of 10% or more of another business entity is 30 days or more delinquent in paying child support under a court order or a written repayment agreement is not eligible to bid on or receive a state contract. To comply with section 14.52, the affidavit below must be signed by the person who is authorized to sign and submit a bid on behalf of a business entity that is subject to section 14. 52, and thereby bind the bidder. The affidavit must be returned with the bid. **ANY CORPORATION, INCLUDING A NON-PROFIT CORPORATION, THAT DOES NOT HAVE A MAJORITY SHAREHOLDER WHO IS A NATURAL PERSON CAPABLE OR BEING A CHILD SUPPORT OBLIGOR, AND GOVERNMENTAL ENTITIES ARE NOT SUBJECT TO SECTION 14.52 OF THE TEXAS FAMILY CODE. IF A BIDDER IS SUCH A CORPORATION, PLEASE CHECK BELOW**

Corporation without Natural Person-Majority Shareholder

AFFIDAVIT

FAILURE OF AN ENTITY SUBJECT TO SECTION 14.52 OF THE TEXAS FAMILY CODE TO SIGN AND RETURN THIS AFFIDAVIT WITH THIS BID WILL RESULT IN THE DISQUALIFICATION OF THE BID.

I, _____ am authorized to sign this bid on behalf of _____,
(Name and Title) (Name of bidder)
a _____,
(type of business: i.e. sole proprietorship, partnership, corporation, or other)

I certify that no _____
(sole proprietor for proprietorship or, partner for a partnership, or majority shareholder for a corporation, or 10% or more owner for other entity)
is 30 days or more delinquent in child support payments by order or written repayment agreement.

SIGNATURE

DATE

SWORN AND SUBSCRIBED to before me the undersigned notary on

_____, 20____

NOTARY SIGNATURE

(SEAL)

IF AFFIDAVIT IS REPRODUCED OR FAXED, THE NOTARY SEAL MUST BE LEGIBLE TO BE CONSIDERED.



TEXAS A&M UNIVERSITY SYSTEM
200 Technology Way, Suite 1162
College Station, Texas 77845-3424

Fiscal Year: 2008-2009
County: Kleburg

CLASSIFICATION	RATE	NOTES
Acoustic Ceiling Installer	11.04	
Asbestos Abatement Worker	9.49	
Carpenter	11.07	
Concrete – Pour and Finish	12.02	
Drywall Installer	8.88	
Electrician – Journeyman	16.36	
Electrician – Apprentice	9.55	
Elevator Mechanic – Journeyman	23.13	
Elevator Mechanic – Apprentice	14.89	
Fire Protection – Journeyman	13.86	
Fire Protection – Apprentice	9.82	
Formbuilder	9.81	
Glazier	14.72	
HVAC – Journeyman	17.88	
HVAC – Apprentice	10.61	
HVAC – Controls Installer	13.90	
Insulator – Building	10.91	
Insulator – MEP	9.49	
Ironworker	13.12	
Laborer	8.53	
Mason	15.09	
Equipment Operator – Light	12.00	
Equipment Operator – Heavy	13.20	
Painter	10.10	
Plasterer	10.30	
Plumber – Journeyman	19.39	
Plumber – Apprentice	11.17	
Reinforcing Steel Worker	8.53	
Roofer	10.02	
Stone Mason	14.79	
Waterproofor	10.38	
Weldor		Receive rate prescribed for craft performing operation to which welding is incidental.

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

A. SECTION INCLUDES:

1. Work covered by Contract Documents.
2. Contract Method.
3. Starting Work.
4. Work by Others.
5. Contractor's Use of Premises.
6. Owner Occupancy.
7. Partial Owner Occupancy.

B. WORK COVERED BY CONTRACT DOCUMENTS:

1. The Work of this Contract comprises the construction of Jones Auditorium Phase II – Acoustical Upgrade located on the A&M University-Kingsville campus for the Board of Regents of the Texas A&M University System.
2. The Drawings and Specifications do not necessarily indicate or described all Work required for completion of Project.
3. The Contract Documents describe the essential elements sufficiently to determine the scope of the Project.
4. Provide all items required for complete operating systems including items not necessarily shown in these Contract Documents, but that can be reasonably inferred as being required for a complete operating system.
5. The Drawings and Specifications indicate the basic quality of material and quality of construction required for the entire Project.

C. CONTRACT METHOD:

1. Construct the Work under a single lump sum contract.

D. STARTING WORK:

The Texas A&M University System has no objection to the Contractor beginning work prior to receipt of a Notice to Proceed letter provided:

1. The Contractor has furnished to the Manager, Facilities Construction Division, the required Insurance Certificates (ref: TAMUS General Conditions, Article V, para. 5.7).
2. The Contractor understands that Work undertaken prior to the Notice to Proceed is at its own risk and that the Owners Representative must be notified prior to commencing Work.

E. WORK BY OTHERS:

1. Contractor shall cooperate and coordinate its Work with Work provided under other contracts. Separate Contracts will include, but not necessarily be limited to the following:
 - a. Asbestos and Lead Paint Removal.
 - b. Owner's Testing Laboratory Services (Quality Control).
 - c. Owners' independent HVAC balancing, testing and adjusting.
 - d. N.I.C. (Not In Contract) Work.

F. CONTRACTOR'S USE OF PREMISES:

1. Contractor shall have complete and exclusive use of premises within the construction limits indicated on the Drawings, for execution of Work.
 - a. Where it is necessary for the Contractor to use portions of existing buildings and/or grounds for operations, such use shall be strictly in accordance with requirements and approval of the Owner. Contractor shall provide proper and safe access to the Owner occupied areas at all times.
 - b. All interruption of mechanical and electrical underground services shall be only at such time and for lengths of time as approved by Owner. Where modifications to existing facilities are required, Contractor shall organize its work in order that inconvenience to the Owner be minimized. Give minimum 14 day notice to Owner's Representative prior to interruption of services.
 - c. Unless otherwise indicated or specified, or unless otherwise directed by Owner; water, gas, lighting, power and telephone conduits and wires, sewer lines, and other surface and subsurface structures and lines, shall be maintained by Contractor and shall not be disturbed, disconnected or

damaged by him during progress of Work; should Contractor in performance of Work disturb, disconnect or damage any of above, expenses arising from disturbance or in replacing or repair shall be borne by Contractor.

d. Contractor shall coordinate with owner for construction entrances to the project site.

2. Contractor shall:

- a. Not unreasonably encumber site with materials and equipment.
- b. Not load structure with weight that will endanger structure.
- c. Assume full responsibility for protection and safekeeping of stored products.
- d. Move stored products, which interfere with operations of Owner and other contractors.
- e. Obtain and pay for use of additional storage land work areas needed for operations.

3. Upon receipt, by the Contractor, of Notice to Proceed from the Owner, the Owner will make the Project site available to the Contractor to execute the Work under the Contract.

4. Coordinate use of the premises with the Owner's Representative. Contractor must comply with Owner's requirements concerning Contractor's operations and use of the premises, parking, loading and unloading.

G. OWNER OCCUPANCY:

1. Owner will occupy the area surrounding the Project site during the entire period of construction for the conduct of its normal operations. Cooperate with Owner's Representative in all construction operations to minimize conflict, and to facilitate Owner usage.

2. Contractor shall at all times conduct its operations as to ensure the least inconvenience to the general public.

H. PARTIAL OWNER OCCUPANCY:

1. Owner reserves right to use and occupy in whole or any part of the improvements which have been completed sufficiently to permit use and occupancy without delaying Contractor's work. Use and occupancy by Owner shall not, however, be construed as an acceptance of Work of any part, and any claim which Owner may have against Contractor shall not be deemed to have been waived by occupancy. Refer to General Conditions Article I. and IX. for Beneficial Occupancy requirements.

- a. For each partial use and occupancy prior to Beneficial Occupancy, Owner agrees to obtain written consent of Contractor, secure endorsement from insurance carriers, and consent of Surety.
- b. Prior to each use and occupancy, Owner and Contractor shall make mutually acceptable arrangements for security, protection and insurance for people and property; warranties; and operation, maintenance and payment for utilities and services for each such partial use and occupancy.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

- A. It is not the intent of the User to occupy any portion of the building during construction.
- B. It will be the responsibility of the Contractor to provide appropriate temporary partitions, barricades, etc., for the protection and security of the Contractor's operations as the work progresses.

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 ALLOWANCES

- A. General: A "Schedule of Allowances," showing amounts included in Contract Sum, is included at end of this section. Coordinate allowance work with related work, to ensure that each selection is completely integrated and interfaced with related work. Requirements for the work of allowances are shown and specified, to extent established by date of Contract Documents; additional requirements are established by change order. Within 30 days after Notice to Proceed advise Architect/Engineer of date each final allowance selection must be completed. Submit proposals for allowance work as directed, and in the manner specified for change orders. Indicate quantities, unit costs, total purchase amounts, taxes, delivery charges and trade discounts. Where requested, furnish detailed breakdown of quantity survey. Contractor mark-up on overrun of allowance purchases will be permitted where purchase amount exceeds established allowance by more than 15%; otherwise, and except as otherwise indicated, amount of change order on each allowance will be difference between purchase amount and allowance. Deliver excess materials of allowance work to Owner's storage space, or dispose of by other means.

SCHEDULE OF ALLOWANCES - SECTION 01020

Allowance No. 1: Theater Lighting Truss/Hoist Support Structure - \$4,000.00.

SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED:

- A. Requirements and limitations for cutting and patching of Work.

1.2 RELATED REQUIREMENTS:

- A. Related Work of Other Sections:

- 1. Section 01010 - Summary of Work.
- 2. Other Technical Sections:
 - a. Cutting and patching required to be performed incidental to Work of the Section.
 - b. Advance notification to trades responsible for Work of other Sections.
 - c. Coordination of trades responsible for Work of other Sections.

1.03 SUBMITTALS:

- A. Submit written request in advance of cutting, drilling, or alteration which affects:

- 1. Work of Owner or any separate Contractor.
- 2. Structural value or integrity of any element of Project.
- 3. Integrity or effectiveness of weather-exposed or moisture-resistant element or systems.
- 4. Efficiency, operational life, maintenance, or safety of Project equipment elements.
- 5. Visual qualities of sight-exposed elements.
- 6. Damage to existing Work or utilities.

- B. Include in request:

- 1. Identification of Project.
- 2. Location and description of affected Work.
- 3. Necessity for cutting, drilling, alteration or excavation.
- 4. Effect on Work of Owner or any separate Contractor, or on structural or weatherproof integrity of Project.
- 5. Description of proposed Work:
 - a. Scope of cutting, patching, alteration or excavation.
 - b. Trades who will perform the Work.

- c. Products proposed to be used.
 - d. Extent of refinishing to be done.
-
- 6. Alternative to cutting, drilling, patching, and excavation.
 - 7. Written permission of separate Contractors whose Work is affected.
 - 8. Date and time Work will be performed.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Provide materials and procedures required for original installation.

PART 3 - EXECUTION

3.1 GENERAL:

- A. Field Conditions: Check and verify Contract Documents and field conditions before proceeding with Work. If there are any questions regarding these or other coordination questions, the Contractor is responsible for obtaining clarification from the A/E before proceeding with Work or related Work in question.
- B. Execute cutting, drilling, and patching, including excavation and fill as required to complete the Work and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
 - 6. Uncover Work to allow for A/E's and Owner Representative's observation of Work which has been covered up prior to observation by A/E and Owner.

3.2 INSPECTION:

- A. Inspection: Carefully examine the premises to determine the extent of Work and the condition under which it must be done, including elements subject to movement or damage during cutting and patching, and excavating and backfilling. No extra payments will be allowed for claims for additional Work that could have been determined or anticipated by such inspection. After uncovering Work, inspect conditions affecting installation of new products.
- B. Beginning of cutting, drilling, or patching means acceptance of existing conditions.

3.3 PREPARATION:

- A. Preparation Prior to Cutting: Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching Work, and maintain excavations free from water.
- B. Protection: Provide barricades, coverings, fences, supports and similar temporary precautions necessary to protect persons and property from injury or damage as a result of Work of this section. Confine operations to required limits and take reasonable precautions to protect remainder of property from damage.
- C. Dust Control: Control dust resulting from cutting and patching to prevent the spread of dust to adjacent occupied areas and to avoid creation of a nuisance in the adjacent surrounding area. Use of water will be permitted as indicated. Provide drop cloths or other suitable barriers to prevent dust from traveling to adjacent areas. Seal off return air registers or other mechanical systems to prevent dust from entering such systems.

3.4 PERFORMANCE:

- A. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- B. Employ original installer to perform cutting and patching for weather-exposed, moisture-resistant elements, sight-exposed surfaces, and to preserve Owner's warranties and bonds for Work of this Contract and related Work of other contracts.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior written approval.
- D. Restore Work which has been cut or removed using new products in accordance with requirements of Contract Documents.
- E. Fit and seal interior Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Fit and seal penetrations through exterior Work and slabs for pipes, conduits and other penetrations watertight.
- F. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal voids with fire stopping and sealant material, full thickness of the construction element to provide a smoke seal and penetration rating equivalent to adjacent rated construction. Refer to Section 07200 for requirements.
- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit as follows:

1. Walls: From floor to ceiling and between the nearest corner. New gypsum board construction meeting existing construction in same plane shall be flush with no visible joint showing.
 2. Ceiling: The complete surface.
 3. Floor: The complete surface unless otherwise shown or unless a matching patch in applied finishes can be made acceptable to A/E and Owner's Representative.
 4. Openings: The entire unit including frame.
 5. Painted Cabinets: The entire painted surface.
 6. Transparent Finish Cabinets: Finish new surfaces to match existing.
 7. Base: Between the nearest corner.
- H. Damage: Restore accidental or careless damage to Work to remain in place to a condition as good as or better than existing before Work was commenced and at no additional cost to the Owner.

END OF SECTION

SECTION 01090

REFERENCES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED:

- A. Includes requirements for referenced standards, specifications and codes.
- B. Acronyms and source of referenced standards.

1.2 REFERENCE REQUIREMENTS:

- A. Materials, equipment and operations specified by reference to published standards and specifications of a technical, society, trade association, or other agency standard, shall comply with the requirements of the current edition of the listed document that is in effect on the issue date of the Specifications or Addendum page making reference thereto, unless otherwise specified. Make available at site, copies of referenced documents as Owner's Representative or A/E may request.
- B. No provision of a reference standard, specification, manual, or code shall be effective to change the duties and responsibilities of the Owner, the Contractor, the A/E and their consultants, their agents and employees from those duties and responsibilities set forth in the Contract Documents.
- C. Acronyms for names of technical societies, associations, and agencies referenced in the Contract Documents shall be interpreted as follows:

AA	Aluminum Association 900 19TH St., NW, Suite 300 Washington, DC 20006; 202/862-5100
AABC	Associated Air Balance Council 1518 K St., NW, Suite 503 Washington, DC 20005; 202/737-0202
AAMA	Architectural Aluminum Manufacturer's Association 2700 River Rd., Suite 118 Des Plaines, IL 60018; 312/699-7310
AAN	American Association of Nurserymen 1250 Eye St., NW, Suite 500 Washington, DC 20005; 202/789-2900

ACI	American Concrete Institute PO Box 19150 Detroit, MI 48219; 313/532-2600
ACIL	American Council of Independent Laboratories 1725 K Street, NW Washington, DC 20006; 202/887-5872
ADC	Air Diffusion Council 230 N. Michigan Ave., Suite 1200 Chicago, IL 60601; 312/372-9800
AGC	Associated General Contractors of America 1957 E. Street, NW; Washington, DC 20006
AIA	American Institute of Architects 1735 New York Avenue, NW Washington, DC 20006; 202/626-7300
AISC	American Institute of Steel Construction One East Wacker Drive, Suite 3100 Chicago, IL 60601; 312/670-2400
AISI	American Iron and Steel Institute 1133 Fifteenth St., NW Washington, DC 20005; 202/452-7100
AMCA	Air Movement and Control Association 30 W. University Drive Arlington Heights, IL 60004; 312/394-0150
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018; 212/354-3300
APA	American Plywood Association PO Box 11700 Tacoma, WA 98411; 206/565-6600
ARI	Air Conditioning and Refrigeration Institute 1501 Wilson Blvd., 6th Floor Arlington, VA 22209; 703/524-8800

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329; 404/636-8400
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017; 212/705-7722
ASTM	American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103; 215/299-5400
AWI	Architectural Woodwork Institute 2310 S. Walter Reed Drive Arlington, VA 22206; 703/671-9100
AWPA	American Wood Preservers' Association P.O. Box 849 Stevensville, MD 21666; 301/643-4163
AWPB	American Wood Preservers Bureau P.O. Box 5283 Springfield, VA 22150; 703/339-6660
AWS	American Welding Society 550 LeJune Road, NW P.O. Box 351040 Miami, FL 33135; 305/443-9353
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, CO 80235; 303/794-7711
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Avenue, 17th Avenue New York, NY 10017; 212/661-4261
BIA	Brick Institute of America 11490 Commerce Park Drive, Suite 200 Reston, VA 22091; 703/620-0010
CE	Corps of Engineers (U.S. Department of the Army) Washington, DC 20314; 202/272-0660

CPSC Consumer Product Safety Commission
National Injury Information Clearinghouse
5401 Westbard Avenue; Bethesda, MD 20816
800/638-2772

CRSI Concrete Reinforcing Steel Institute
933 Plum Grove Road
Schaumburg, IL 60173; 312/517-1200

DHI Door and Hardware Institute
7711 Old Springhouse Road
McLean, VA 22102; 703/556-3990

FGMA Flat Glass Marketing Association
3310 Harrison
Topeka, KS 66611; 913/266-7013

FM Factory Mutual Engineering & Research Organization
1151 Boston-Providence Turnpike
Norwood, MA 02062; 617/762-4300

FS Federal Specification (General Services Administration)
Specifications Unite (WFSIS)
7th and D Street, SW
Washington, DC 20406; 202/472-2205 or 2140

GA Gypsum Association
810 First Street, NE, Suite 510
Washington, DC 20002; 202/289-5440

IEEE Institute of Electrical & Electronics Engineers
345 East 47th St.
New York, NY 10017; 212/705-7900

IESNA Illuminating Engineering Society of North America
345 E. 47th Street
New York, NY 10017; 212/705-7926

IGCC Insulating Glass Certification Council
c/o ETL Testing Labs
P.O. Box 539 Industrial Park
Cortland, NY 13045; 607/753-6711

ILI Indiana Limestone Institute of America

LPI	Stone City Bank Bldg., Suite 400 Bedford, IN 47421; 812/275-4426 Lightning Protection Institute P. O. Box 1029 Woodstock, IL 60098; 815/337-0277
MIL	Military Standardization Documents (U.S. Department of Defense) Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
ML/SFA	Metal Lath/Steel Framing Association (Division of NAAMM) 600 South Federal St., Suite 400 Chicago, IL 60605; 312/922-6222
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park St., NE Vienna, VA 22180; 703/281-6613
NAAMM	The National Association of Architectural Metal Manufacturers 600 South Federal St., Suite 400 Chicago, IL 60605; 312/922-6222
NCMA	National Concrete Masonry Association PO Box 781 Herndon, VA 22070; 703/435-4900
NECA	National Electrical Contractors Association 7315 Wisconsin Avenue Washington, DC 20014; 202/657-3110
NEII	National Elevator Industry, Inc. 185 Bridge Plaza North Fort Lee, NJ 07024; 201/944-3211
NEMA	National Electrical Manufacturers Association 2101 L Street, NW Washington, DC 20037; 202/457-8400
NEC NFPA	National Electrical Code (by NFPA) National Fire Protection Association One Batterymarch Park Quincy, MA 02269; 617/770-3000

NIST National Institute of Standards and Technology
(formerly National Bureau of Standards; U.S. Dept. of Commerce)
Gaithersburg, MD 20234; 301/921-3405

NPA National Particleboard Association
18928 Premier Court
Gaithersburg, MD 20879; 301/670-0604

NPCA National Paint and Coatings Association
1500 Rhode Island Ave., NW
Washington, DC 20005; 202/462-6272

NRCA National Roofing Contractors Association
6250 River Rd.
Rosemont, ILL 60018; 312/318-6722

NSF National Sanitation Foundation
3475 Plymouth Road
Ann Arbor, MI 48106; 313/769-8010

NTMA The National Terrazzo and Mosaic Association
3166 Des Plains Avenue, Suite 132
Des Plains, IL 60018; 312/635-7744

NWWDA National Wood Window and Door Association (formerly NWMA)
1400 E. Touhy Ave., #G54
Park Ridge, IL 60018; 312/299-5200

OSHA Occupational Safety Health Administration (U.S. Department of
Labor) Government Printing Office
Washington, DC 20402; 202/783-3238

PCA Portland Cement Association
5420 Old Orchard Road
Skokie, IL 60077; 312/966-6200

PCI Prestressed Concrete Institute
175 West Jackson Blvd.
Chicago, IL 60604; 312/786-0300

PDI Plumbing and Drainage Institute
1106 West 77th Street, South Drive
Indianapolis, IN 46260; 317/251-6970

PS Product Standard of NBS (U.S. Department of Commerce)

Government Printing Office
Washington, DC 20402; 202/783-3238

- RFCI Resilient Floor Covering Institute
966 Hangerford Drive, Suite 12-B
Rockville, MD 20805; 301/340-8580
- RIS Redwood Inspection Service (Grading Rules)
405 Enfrente Drive, Suite 200
Novato, CA 94949; 415/382-0662
- SDI Steel Deck Institute
PO Box 9506
Canton, OH 44711; 216/493-7886
- S.D.I. Steel Door Institute
30200 Detroit Rd.
Cleveland, OH 44145; 216/889-0010
- SIGMA Sealed Insulating Glass Manufacturer's
Association
111 E. Wacker Drive
Chicago, IL 60601; 312/644-6610
- SMACNA Sheet Metal & Air Conditioning Contractors' National Assoc.
PO Box 70
Merrifield, VA 22116; 703/790-9890
- SPIB Southern Pine Inspection Bureau (Grading Rules)
4709 Scenic Hwy.
Pensacola, FL 32504; 904/434-2611
- SSPC Steel Structures Painting Council
4400 5th Avenue
Pittsburgh, PA 15213; 412/268-3327
- TCA Tile Council of America
PO Box 326
Princeton, NJ 08540; 609/921-7050
- TIMA Thermal Insulation Manufacturers Association
29 Bank Street
Stamford, CT 06901; 203/324-7533

- UL Underwriters Laboratories
333 Pflingsten Road
Northbrook, IL 60062; 312/272-8800

- WCLIB West Coast Lumber Inspection Bureau (Grading Rules)
PO Box 2345
Portland, OR 97223; 503/639-0651

- WWPA Western Wood Products Association (Grading Rules)
1500 Yeon Bldg., 522 SW 5th Ave.
Portland, OR 97204; 503/224-3930

1.3 GOVERNING REGULATIONS/AUTHORITIES:

- A. The A/E has contacted authorities having jurisdiction for the listed Regulations and Codes where necessary to obtain information for preparation of the Contract Documents. Contact authorities having jurisdiction directly for information on decisions having bearing on Work.
 - 1. Life Safety code, NFPA 101.
 - 2. Standard Building Code, Southern Building Code Congress International, (for all items not covered by Life Safety Code)
 - 3. National Fire Codes, NFPA (applicable to work).
 - 4. Energy Conservation Design Standard for New State Buildings.
 - 5. Standard Plumbing Code, Souther Building Code Congress International.
 - 6. Building Service Piping, ASME/ANSI B 31.9.
 - 7. Texas Accessibility Standards (TAS) Texas Department of Licensing and Regulations, Architectural Barriers Act, Article 9102, Texas Civil Statutes.
 - 8. American Disabilities Act, Part III, 28 CFR 36, July 26, 1991.
 - 9. Safety Code for Elevators and Escalators, ASME A 17.1 and A 17.3.

1.4 DEFINITIONS:

- A. Require and Words of Similar Import: As required to complete the Work as required by A/E, unless stated otherwise.

- B. Perform: Contractor, at its expense, shall perform operations necessary to complete Work, including furnishing of necessary labor, tools and equipment, and further including furnishing and installing of materials indicated, specified or required to complete such performance.

- C. Provide: Contractor, at its expense, shall furnish and install Work complete in place and ready for use, including furnishing of necessary labor, materials, tools,

- equipment and transportation. Definitions apply same to future, present and past tenses, except word "provide" may mean "contingent upon" where such is context.
- D. Other Acceptable Manufacture, Equal, Acceptable Equal, Equivalent and Words of Similar Import: It shall be understood such words are followed by expression "in opinion of A/E" unless stated otherwise.
- E. Acceptable, Acceptance or Words of Similar Import: Acceptance or similar import of A/E is intended unless stated otherwise.
- F. At No Extra Cost to Owner, With No Extra Compensation to Contractor, at Contractor's Expense or Terms of Similar Import: Such terms shall be understood to mean that Contractor shall perform or provide specified operation of Work at no increase to Contract Sum stated in executed Contract.
- G. NIC: Work of this Project, which is not being performed or provided as part of Contract; term shall mean "Not In This Contract" or "Not a Part of the Work to be Performed or Provided by Contractor." "NIC" Work is indicated as aid to Contractor in scheduling amount of time and materials necessary for completion of Contract.
- H. Indicated: The term "indicated" is a cross-reference to graphics, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader located cross-reference and no limitation of location is intended except as specifically noted.
- I. Directed, Requested or Similar Wording: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Owner, A/E," "requested by Owner, A/E," and similar directions by Owner, A/E. However, no such implied meaning will be interpreted to extend Owner, A/E's responsibility into Contractor's area of construction supervision.
- J. Approve: Where used in conjunction with Owner, A/E's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Owner, A/E's responsibilities and duties specified in General Conditions. In no case will "approval" by Owner, A/E be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.
- K. Project Site: The space available to Contractor for performance of the Work, either exclusively or in conjunction with others performing other Work as part of the Project.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01095

DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.

1.2 DEFINITIONS:

- A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other Contract Documents, including drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this article. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in another provision of Contract Documents.
- B. General Requirements: The provisions or requirements of Division 1 sections. General Requirements apply to entire work of Contract and, where so indicated, to other elements which are included in project.
- C. Indicated: The term "Indicated" is a cross- reference to details, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- D. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Architect/Engineer," "requested by Architect/Engineer," etc. However, no such implied meaning will be interpreted to extend Architect's/Engineer's responsibility into Contractor's area of construction supervision.
- E. Approved: Where used in conjunction with Architect's/Engineer's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Architect's/Engineer's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by Architect/Engineer be interpreted as a release of

Contractor from responsibilities to fulfill requirements of Contract Documents.

- F. Project Site: The space available to Contractor for performance of the work, either exclusively or in conjunction with others performing other work as part of the project. The extent of project site is shown on drawings, and may or may not be identical with description of land upon which project is to be built.
- G. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- H. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, storage, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- I. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
- J. Installer: The entity (person or firm) engaged by Contractor or its subcontractor or sub-subcontractor for performance of a particular unit of work at project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.
- K. Testing Laboratory: An independent entity engaged to perform specific inspections or tests of the work, both at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.
- L. Owner Furnished - Contractor Installed (OFICI): Equipment or components of a system that are purchased by the Owner and furnished to the Contractor for installation in the project. The Contractor shall receive, store, protect, install, connect and test each item unless otherwise indicated.
- M. Contractor Furnished - Contractor Installed (CFCI): Equipment or components of a system that are purchased, furnished and installed by the Contractor.
- N. Owner Furnished - Owner Installed (OFOI): Equipment or components of a system that are purchased, furnished and installed by the Owner or his vendors.

1.3 FORMAT AND SPECIFICATION EXPLANATIONS:

- A. Specification Production: None of these explanations will be interpreted to modify

substance of requirements. Portions of these specifications have been produced by Architect's/Engineer's standard methods of editing master specifications, and may contain minor deviations from traditional writing formats. Such deviations are a normal result of this production technique, and no other meaning will be implied or permitted.

- B. Format Explanation: The format of principal portions of these specifications can be described as follows; although other portions may not fully comply and no particular significance will be attached to such compliance or noncompliance.
1. Sections and Divisions: For convenience, basic unit of specification text is a "section," each unit of which is named and numbered. These are organized into related families of sections, and various families of sections are organized into "divisions," which are recognized as the present industry consensus on uniform organization and sequencing of specifications. The section title is not intended to limit meaning or content of section, nor to be fully descriptive of requirements specified therein or to be an integral part of text.
 2. Each section of specifications has been subdivided into 3 (or less) "parts" for uniformity and convenience (Part 1 -General, Part 2 Products, and Part 3 Execution). These do not limit the meaning of and are not an integral part of text which specifies requirements.
 - a. Underscoring: Used strictly to assist reader of specification text in scanning text for key words in content (for quick recall). No emphasis on or relative importance of text is intended where underscoring is used.
 - b. Imperative Language: Used generally in specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.
 - c. Section Numbering: Used to facilitate cross-references in Contract Documents. Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of Project Manual must be consulted to determine numbers and names of specification section in Contract Documents.
 3. Specification Content: Because of methods by which this project specification has been produced, certain general characteristics of content, and conventions in use of language are explained as follows:
 - a. Specifying Methods: The techniques or methods of specifying to record requirements vary throughout text, and may include "prescriptive," "open generic descriptive," "compliance with standards," "performance," or a

combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit of work.

- b. **Overlapping and Conflicting Requirements:** Where compliance with 2 or more industry standards or sets of requirements are specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, most stringent requirement (which is generally recognized to be also most costly) is intended and will be enforced, unless specifically detailed language written into contract documents (not by way of reference to an industry standard) clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to Architect/Engineer for a decision before proceeding.
 1. **Contractor's Options:** Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, option is intended to be Contractor's regardless of whether specifically indicated as such.
- c. **Minimum Quality/Quantity:** In every instance, quality level or quantity shown or specified is intended as minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimums or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to Architect/Engineer for decision before proceeding.
- d. **Specialists; Assignments:** In certain instances, specification text requires (or at least implies) that specific work be assigned to specialists or expert entities, who must be engaged for performance of those units of work. These must be recognized as special requirements over which Contractor has no choice or option. These assignments must not be confused with (and are not intended to interfere with) normal application of regulations, union jurisdictions and similar conventions. One purpose of such assignments is to establish which party or entity involved in a specific unit of work is recognized as "expert" for indicated construction processes or operations. Nevertheless, final responsibility for fulfillment of entire set of requirements remains with Contractor.
 1. **Trades:** Except as otherwise indicated, the use of titles such as "carpentry" in specification text, implies neither that the work must be performed by an accredited or unionized

tradesperson of corresponding generic name (such as "carpenter"), nor that specified requirements apply exclusively to work by tradespersons of that corresponding generic name.

- e. Abbreviations: The language of specifications and other Contract Documents is of the abbreviated type in certain instances and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in texts. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements which notations on drawings and in schedules. These are frequently defined in section at first instance of use. Trade association names and titles of general standards are frequently abbreviated.

Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the contract documents so indicates.

1.4 DRAWING SYMBOLS:

- A. General: Except as otherwise indicated, graphic symbols used on drawings are those symbols recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards," published by John Wiley & Sons, Inc., Seventh edition.
 - 1. A/E Drawings: Graphic symbols used on mechanical/electrical drawings are generally aligned with symbols recommended by ASHRAE, supplemented by more specific symbols where appropriate as recommended by other recognized technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to Architect/Engineer for clarification before proceeding.

1.5 INDUSTRY STANDARDS:

- A. General Applicability of Standards: Applicable standards of construction industry have same force and effect (and are made a part of Contract Documents by reference) as if copies directly into Contract Documents, or as if published copies were bound herewith.
 - 1. Referenced Standards: (referenced directly in Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to work.

2. Non-referenced standards are hereby defined to have no particular applicability to the work, except as a general measurement of whether work complies with standards recognized in construction industry.
- B. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- C. Copies of Standards: Provide where needed for proper performance of the work; obtain directly from publication sources.
- D. Abbreviations and Names: The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

AA Aluminum Association
 900 19TH St., NW, Suite 300
 Washington, DC 20006; 202/862-5100

AABC Associated Air Balance Council
 1518 K St., NW, Suite 503
 Washington, DC 20005; 202/737-0202

AAMA Architectural Aluminum Manufacturer's
 Association
 2700 River Rd., Suite 118
 Des Plaines, IL 60018; 312/699-7310

AAN American Association of Nurserymen
 1250 Eye St., NW, Suite 500
 Washington, DC 20005; 202/789-2900

AASHTO American Association of State Highway
 and Transportation Officials
 444 North Capital St., Suite 225
 Washington, DC 20001; 202/624-5800

ACI American Concrete Institute
 PO Box 19150
 Detroit, MI 48219; 313/532-2600

ACIL American Council of Independent
Laboratories
1725 K Street, NW
Washington, DC 20006; 202/887-5872

ACPA American Concrete Pipe Assoc.
8300 Boone Blvd., Suite 400
Vienna, VA 22180; 703/821-1990

ADC Air Diffusion Council
230 N. Michigan Ave., Suite 1200
Chicago, IL 60601; 312/372-9800

AGA American Gas Association
1515 Wilson Blvd.
Arlington, VA 22209; 703/841-8400

AHA American Hardboard Assoc.
520 N. Hicks Rd.
Palatine, IL 60067; 312/934-8800

AI Asphalt Institute
Research Park Drive
P.O. Box 14052
Lexington, KY 40512-4052; 606/288-4960

AIA American Institute of Architects
1735 New York Avenue, NW
Washington, DC 20006; 202/626-7300

A.I.A. American Insurance Association
1130 Connecticut Ave., NW
Washington, DC 20036; 202/828-7100

AISC American Institute of Steel Construction
One East Wacker Drive, Suite 3100
Chicago, IL 60601; 312/670-2400

AISI American Iron and Steel Institute
1133 Fifteenth St., NW
Washington, DC 20005; 202/452-7100

AITC American Institute of Timber Construction
11818 E. Mill Plain Blvd.
Vancouver, WA 98684; 206/254-9132

AMCA Air Movement and Control Association
30 W. University Drive
Arlington Heights, IL 60004; 312/394-0150

ANSI American National Standards Institute
1430 Broadway
New York, NY 10018; 212/354-3300

APA American Plywood Association
PO Box 11700
Tacoma, WA 98411; 206/565-6600

ARI Air Conditioning and Refrigeration Institute
1501 Wilson Blvd., 6th Floor
Arlington, VA 22209; 703/524-8800

ARMA Asphalt Roofing Manufacturers Assoc.
6288 Montrose Rd.
Rockville, MD 20852; 301/231-9050

ASC Adhesive and Sealant Council
1627 K Street, NW, Suite 1000
Washington, DC 20006; 202/452-1500

ASHRAE American Society of Heating, Refrigerating
and Air-Conditioning Engineers
1791 Tullie Circle, NE
Atlanta, GA 30329; 404/636-8400

ASME American Society of Mechanical Engineers
345 East 47th Street
New York, NY 10017; 212/705-7722

ASPE American Society of Plumbing Engineers
3617 Thousand Oaks Blvd., Suite 210
Westlake, CA 91362; 805/495-7120

ASSE American Society of Sanitary Engineering
PO Box 40362
Bay Village, OH 44140; 216/835-3040

ASTM	American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103; 215/299-5400
AWI	Architectural Woodwork Institute 2310 S. Walter Reed Drive Arlington, VA 22206; 703/671-9100
AWPA	American Wood Preservers' Association P.O. Box 849 Stevensville, MD 21666; 301/643-4163
AWPB	American Wood Preservers Bureau P.O. Box 5283 Springfield, VA 22150; 703/339-6660
AWS	American Welding Society 550 LeJune Road, NW P.O. Box 351040 Miami, FL 33135; 305/443-9353
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, CO 80235; 303/794-7711
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Avenue, 17th Avenue New York, NY 10017; 212/661-4261
BIA	Brick Institute of America 11490 Commerce Park Drive, Suite 200 Reston, VA 22091; 703/620-0010
CE	Corps of Engineers (U.S. Department of the Army) Washington, DC 20314; 202/272-0660
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Road, Suite 419 Chattanooga, TN 37421; 615/892-0137
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60173; 312/517-1200

CS Commercial Standard of NBS (U.S. Department of Commerce)
Government Printing Office
Washington DC 20402; 202-377-2000

DHI Door and Hardware Institute
7711 Old Springhouse Road
McLean, VA 22102; 703/556-3990

EIA Electronic Industries Association
1722 Eye St., NW; Suite 300
Washington, DC 20006; 202/457-4900

EIMA Exterior Insulation Manufacturers Assoc.
30 Holley Street
Wakefield, RI 02879; 401-782-3687

FAA Federal Aviation Administration (U.S.
Department of Transportation)
800 Independence Avenue, SW
Washington, DC 20590; 202/366-4000

FCC Federal Communications Commission
1919 M. St., NW
Washington, DC 20554; 202/632-7000

FCI Fluid Controls Institute
PO Box 9036
Morristown, NJ 07960; 201/829-0990

FGMA Flat Glass Marketing Association
3310 Harrison
Topeka, KS 66611; 913/266-7013

FHA Federal Housing Administration (U.S.
Department of HUD)
451 7th St., SW
Washington, DC 20201; 202/755-5210

FM Factory Mutual Engineering Corp.
1151 Boston-Providence Turnpike
Norwood, MA 02062; 617/762-4300

FS Federal Specification
Specifications Unite (WFSIS)
7th and D Street, SW
Washington, DC 20406; 202/472-2205

FTI Facing Tile Institute
Box 8880
Canton, OH 44711; 216/488-1211

GA Gypsum Association
810 First Street, NE, Suite 510
Washington, DC 20002; 202/289-5440

HMA Hardwood Manufacturers Assoc.
2831 Airways Blvd. Suite 205, Building B
Memphis, TN 38132; 901/346-2222

HPMA Hardwood Plywood Manufacturers Association
PO Box 2789
Reston, VA 22090; 703/435-2900

IEEE Institute of Electrical & Electronics Engineers
345 East 47th St.
New York, NY 10017; 212/705-7900

IES Illuminating Engineering Society of North America
345 E. 47th Street
New York, NY 10017; 212/644-7926

ILI Indiana Limestone Institute of America
Stone City Bank Bldg., Suite 400
Bedford, IN 47421; 812/275-4426

IRI Industrial Risk Insurers
85 Woodland St.
Hartford, CT 06102; 203/520-7300

LPI Lightning Protection Institute
P. O. Box 1029
Woodstock, IL 60098; 815/337-0277

MCAA Mechanical Contractors Association of America
1385 Piccard Drive
Rockville, MD 20832; 301-869-5800

MIA	Marble Institute of America 33505 State St. Farmington, MI 48024; 313/476-5558
MIL	Military Standardization Documents (U.S. Department of Defense) Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
MLSFA	Metal Lath/Steel Framing Association 600 South Federal St., Suite 400 Chicago, IL 60605; 312/922-6222
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Pike St., NE Vienna, VA 22180; 703/281-6613
NAAMM	The National Association of Architectural Metal Manufacturers 600 South Federal St., Suite 400 Chicago, IL 60605; 312/922-6222
NAPA	National Asphalt Pavement Association Calvert Building, Suite 620 6811 Kenilworth Ave. Riverdale, MD 20737; 301/779-4880
NBGQA	National Building Granite Quarries Association P. O. Box 482 Barre, VT 05641; 802/476-3115
NBS	National Bureau of Standards (U.S. Department of Commerce) Gaithersburg, MD 20234
NCMA	National Concrete Masonry Association PO Box 781 Herndon, VA 22070; 703/435-4900
NEC	National Electrical Code (by NFPA)

NECA National Electrical Contractors Association
7315 Wisconsin Avenue
Washington, DC 20014; 202/657-3110

NEII National Elevator Industry, Inc.
185 Bridge Plaza North
Fort Lee, NJ 07024; 201/944-3211

NEMA National Electrical Manufacturers Association
2101 L Street, NW
Washington, DC 20037; 202/457-8400

NFPA National Fire Protection Association
One Batterymarch Park
Quincy, MA 02269; 617/770-3000

N.F.P.A. National Forest Products Association
1250 Connecticut Ave., NW Suite 200
Washington, DC 20036; 202/463-2700

NHLA National Hardwood Lumber Association
PO Box 34518
Memphis, TN 38184; 901/377-1818

NPA National Particleboard Association
18928 Premier Court
Gaithersburg, MD 20879; 301/670-0604

NSF National Sanitation Foundation
3475 Plymouth Road
Ann Arbor, MI 48106; 313/769-8010

NTMA The National Terrazzo and Mosaic Association
3166 Des Plains Avenue, Suite 132
Des Plains, IL 60018; 312/635-7744

NWWDA National Wood Window and Door Association
1400 E. Touhy Ave., #G54
Des Plaines, IL 60018; 312/299-5200

OSHA Occupational Safety Health Administration
(U.S. Department of Labor)
Government Printing Office
Washington, DC 20402

PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077; 312/966-6200
PCI	Prestressed Concrete Institute 175 West Jackson Blvd. Chicago, IL 60604; 312/786-0300
PDI	Plumbing and Drainage Institute 1106 West 77th Street, South Drive Indianapolis, IN 46260; 317/251-6970
PEI	Porcelain Enamel Institute 1101 Connecticut Ave., NW, Suite 70 Washington, DC 20036; 2102/867-1134
PS	Product Standard of NBS (U.S. Department of Commerce) Government Printing Office Washington, DC 20402; 202/783-3238
RFCI	Resilient Floor Covering Institute 966 Hangerford Drive, Suite 12-B Rockville, MD 20805; 301/340-8580
RIS	Redwood Inspection Service (Grading Rules) 405 Enfrente Drive, Suite 200 Novato, CA 94949; 415/382-0662
SDI	Steel Deck Institute PO Box 9506 Canton, OH 44711; 216/493-7886
S.D.I.	Steel Door Institute 30200 Detroit Rd. Cleveland, OH 44145; 216/889-0010
SIGMA	Sealed Insulating Glass Manufacturer's Association 111 E. Wacker Drive Chicago, IL 60601; 312/644-6610
SJI	Steel Joist Institute 1205 48th Avenue North, Suite A Myrtle Beach, SC 29577; 803/449-0487

SMACNA Sheet Metal & Air Conditioning Contractors' National Assoc.
 PO Box 70
 Merrifield, VA 22116; 703/790-9890

SPIB Southern Pine Inspection Bureau (Grading Rules)
 4709 Scenic Hwy.
 Pensacola, FL 32504; 904/434-2611

SSPC Steel Structures Painting Council
 4400 5th Avenue
 Pittsburgh, PA 15213; 412/578-3327

TCA Tile Council of America
 PO Box 326
 Princeton, NJ 08540; 609/921-7050

TIMA Thermal Insulation Manufacturers Association
 29 Bank Street
 Stamford, CT 06901; 203/324-7533

UL Underwriters Laboratories
 333 Pfingsten Road
 Northbrook, IL 60062; 312/272-8800

WCLIB West Coast Lumber Inspection Bureau (Grading Rules)
 PO Box 2345
 Portland, OR 97223; 503/639-0651

WCMA Wallcovering Manufacturers Association
 355 Lexington Ave.
 New York, NY 10017; 212/661-4261

WRI Wire Reinforcement Institute
 1760 Reston Parkway, Suite 403
 Reston, VA 22090; 703/790-9790

WSFI Wood and Synthetic Flooring Institute
 4415 West Harrison St., Suite 242C
 Hillside, IL 60162; 708/449-2933

WWPA Western Wood Products Association (Grading Rules)
 1500 Yeon Bldg.
 Portland, OR 97204; 503/224-3930

W.W.P.A. Woven Wire Products Association
2515 North Nordica Ave.
Chicago, IL 60635; 312/637-1359

1.6 GOVERNING REGULATIONS/AUTHORITIES:

- A. General: The procedure followed by Architect/Engineer has been to contact governing authorities where necessary to obtain information needed for the purpose of preparing Contract Documents; recognizing that such information may or may not be of significance in relation to Contractor's responsibilities for performing the work. Contact governing authorities directly for necessary information and decisions having a bearing on performance of the work.

1.7 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

END OF SECTION

SECTION 01152

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.

1.2 COORDINATION:

- A. Coordinate both the procedural timing and the listing (naming and sequencing) of reports/activities required by provisions of this section and other sections, to afford consistency and logical coordination between submitted reports or lists. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to entities involved in the work including Architect/Engineer and Project Manager. In particular, provide close coordination of progress schedule, equipment, delivery schedule, schedule of values, listing of subcontracts, schedule of submittals, progress reports, and payment requests.

1.3 PAYMENT REQUESTS:

- A. General: Except as otherwise indicated, sequence of progress payments is to be regular, and each must be consistent with previous applications and payments. It is recognized that certain applications involve extra requirements, including initial application, application at times of Substantial Completion, and final payment application.
 1. Waiver Delays: Each progress payment must be submitted with Contractor's lien waiver for period of construction covered by application; but may, at Contractor's option, be submitted with waivers from subcontractors, subcontractors and suppliers for previous period of construction covered by previous application; except final payment application must be submitted with (or preceded by) final or full waivers from every entity involved with performance of the work.
 2. Waiver Forms: Submit waivers on forms, and executed in a manner, acceptable to the Owner.
 3. Payment Application Times: The "date" for each progress payment is the first day of each month. The period of construction work covered by each payment request is period indicated in Owner/Contractor Agreement or, if none is

indicated therein, it is period ending 5 days prior to date for each progress payment, and starting day following end of the preceding period.

4. Payment Application Forms: AIA Document G702 and Continuation Sheets.
5. Application Preparation: Except as otherwise indicated, complete every entry provided for on the form, including notarization and execution by authorized persons. Incomplete applications will be returned by Architect without action. Entries must match current data of schedule of values and progress schedule and report. Listing must include amounts of change orders issued prior to first day of the "period of construction" covered by application. Line items shall be adjusted by the amount of approved change orders. Separate listing of change orders will not be acceptable.
6. Initial Payment Application: The principal administrative actions and submittals which must precede or coincide with submittal of first payment Application can be summarized as follows, but not necessarily by way of limitation:

Listing of subcontractors, principal suppliers and fabricators.

Schedule of values.

Progress schedule (preliminary if not final).

Schedule of principal products.

Schedule of unit prices (if required).

Schedule of submittals (preliminary if not final).

Listing of Contractor's staff assignments and principal consultants.

Copies of acquired building permits and similar authorizations and licenses from governing authorities for current performance of the work.

7. Application at time of Substantial Completion: Following issuance of Architect's final "certificate of Substantial Completion", and also in part as applicable to prior certificates on portions of completed Work as designated, a "special" payment application may be prepared and submitted by Contractor. The principal administrative actions and submittals, which must proceed or coincide with such special applications can be summarized as follows, but not necessarily by way of limitation:

- a. Occupancy permits and similar approvals or certifications by governing authorities and franchised services, assuring Owner's full access and use of completed Work.
 - b. Warranties, guarantees, maintenance agreements and similar provisions of Contract Documents.
 - c. Test/adjust/balance records, maintenance instructions, and similar changeover information germane to Owner's occupancy, use, operation and maintenance of completed work.
 - d. Final cleaning of the work.
 - e. Application for reduction (if any) of retainage, and consent of surety (if required).
 - f. Advice to Owner on coordination of shifting insurance coverage, including proof of extended coverage as required.
 - g. Listing of Contractor's incomplete work, recognized as exceptions to Architect's certificate of Substantial Completion.
8. Final Payment Application: The administrative actions and submittals which must precede or coincide with submittal of final payment application can be summarized as follows, but not necessarily by way of limitation:
- a. Completion of project closeout requirements.
 - b. Completion of items specified for completion beyond time of Substantial Completion (regardless of whether special payment application was previously made).
 - c. Assurance, satisfactory to Project Manager and Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay.
 - d. Transmittal of required project construction records to Project Manager including record drawings.
 - e. Proof, satisfactory to Project Manager and Owner, that taxes, fees and similar obligations of contractor have been paid.
 - f. Removal of temporary facilities, services, surplus materials, rubbish and similar elements.
 - g. Change over of door locks and other Contractor's access provisions to area of work.

- h. Application Transmittal: Submit 4 executed copies of each payment application. Two copies are to be transmitted to the Architect/Engineer. One copy with waivers of lien, actual cost of work substantiation, and similar attachments is to be transmitted direct to Project Manager. Transmit each copy with a transmittal form listing those attachments, and recording appropriate information related to application in a manner acceptable to Architect. Transmit to Architect by means ensuring receipt within 24 hours.

PART 2 PRODUCTS

(Not applicable)

PART 3 EXECUTION

(Not applicable)

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- 1.1.1 Bidding and Contract Requirements and Division 1 - General Requirements of the Specifications apply to this work.

1.2 SECTION INCLUDES:

- 1.2.1 Requirements for the arrangement, distribution of notices, and maintenance of records for progress meetings, and pre-installation meetings.

1.3 GENERAL:

- 1.3.1 Contractors, subcontractors and suppliers representatives attending the meetings /conferences of this section shall be qualified and authorized to act on behalf of the entity each represents.
- 1.3.2 Comply with the following meeting requirements after execution of the Contract.
 - 1.3.2.1 Arrangements: Arrange for a convenient, comfortable room in which to conduct the progress meetings, furnished as necessary to accommodate the people involved and to accomplish the purpose of the meeting.
 - 1.3.2.2 Notices: Distribute written notices to all concerned at least 1 week in advance of the meeting date.
 - 1.3.2.3 Records: Keep notes during each meeting and distribute them in the form of minutes of the meeting to all concerned within 4 days after the adjournment of the meeting.
 - 1.3.2.4 Schedule Updating: Immediately following each progress meeting, where revisions to the progress schedule have been made or recognized, revise the progress schedule. Reissue revised schedule concurrently with report of each meeting.

1.4 PROGRESS MEETINGS:

- 1.4.1 Chairman: Contractor's Project Manager or Project Superintendent shall preside over the meeting.
- 1.4.2 Attendance: The following persons will be expected to attend:

- 1.4.2.1 Owner's Representatives.
 - 1.4.2.2 Architect/Engineer's Construction Administrator.
 - 1.4.2.3 Architect/Engineer's Consultants for Mechanical and Electrical Engineering until excused from attendance.
 - 1.4.2.4 Contractor's General Superintendent, Project Superintendent and Project Manager.
 - 1.4.2.5 Subcontractors who have work in progress.
 - 1.4.2.6 Subcontractor who will start work within the next month.
 - 1.4.2.7 Others as requested by Owner, Architect/ Engineer, or Contractor.
- 1.4.3 Agenda: The Contractor will provide a written agenda including but not necessarily limited to the following items:
- 1.4.3.1 Present a brief written narrative of construction progress since the last monthly meeting containing:
 - a. General description of work performed.
 - b. Expectation of meeting scheduled dates.
 - c. Description of current or anticipated delaying factors or problems, if any.
 - 1.4.3.2 Review the updated Progress Schedule and present a written schedule analysis.
 - 1.4.3.3 Review the Submittal Schedule/Log.
 - 1.4.3.4 Review the Revision Log.
 - 1.4.3.5 Review of Requests for Information.
 - 1.4.3.6 Review of Architectural Supplemental Instructions.
 - 1.4.3.7 Review of Record Drawings.
 - 1.4.3.8 Review/approval of the Pay Request.
 - 1.4.3.9 General discussion: Other outstanding/current business.
- 1.4.4 Number of Meetings: A minimum of one progress meeting shall be held each month. Other weekly or biweekly progress meetings shall be held as determined by the Architect and shall cover those subjects as required by the Architect.
- 1.5 PRE-INSTALLATION MEETINGS:
- 1.5.1 Convene a pre-installation meeting at the Project field office prior to commencing any work.
 - 1.5.2 Require attendance of entities directly affecting, or affected by, work of Section.
 - 1.5.3 Notify Architect seven (7) days in advance of meeting date.
 - 1.5.4 Contractor shall prepare agenda, preside at meeting, record minutes, and distribute copies within four (4) working days after meeting to participants, with three (3) copies furnished to the Architect and one (1) copy furnished to the Owner.

- 1.5.5 Review conditions of installation, preparation and installation procedures, and coordination with related work. Review submittals for all work to be installed.
- 1.5.6 The Contractor shall maintain an adequate inspection system and perform such inspection to insure that the work called for by this contract conforms to the contract specifications and requirements.
- 1.5.7 The Contractor shall maintain complete inspection records and make them available to the Owner's Representative.

~~1.6 LOCKSET HARDWARE/KEY CONFERENCE:~~

- ~~1.6.1 A key conference shall be conducted after approval of hardware submittal prior to the ordering of lock hardware. The General Contractor shall, in conjunction with the A/E and Owner's Representative, establish a date for the keying conference to be held. A key conference is required to review the function of the locks and to insure that all security requirements of the Using Agency will be met.~~

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01205

PROCEDURES AND CONTROLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. The types of minimum requirements for procedural and performance or control work of a general nature include but are not necessarily limited to the following categories:

- Coordination and meetings.
- Administrative/supervisory personnel.
- Records or reports.
- Limitations for use of area.
- Special reports.
- Tradesmen and workmanship standards.
- Inspections, tests and reports.
- General installation provisions.
- Cutting and patching.
- Cleaning and protection.
- Conservation and salvage.

1.3 COORDINATION AND MEETINGS:

- A. General: Prepare and distribute to each entity performing work at project, a written memorandum of instructions on required coordination activities, including required notices, reports and attendance at meetings. Prepare similar memorandum for separate contractors where interfacing of work is required.

1.4 TRADESPERSONS AND WORKMANSHIP STANDARDS:

- A. General: Instigate and maintain procedures to ensure that persons performing work at site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.
- B. Availability of Tradespersons: At each progress or coordination meeting, review

availability of tradespersons and projected needs to accomplish work as scheduled. Require each prime entity employing personnel to report on current and pending trade union actions and jurisdictional matters which might affect progress of work. Where possible, consider alternatives and take actions to avoid disputes and delays.

1.5 INSPECTIONS, TESTS AND REPORTS:

- A. General: Required inspection and testing services are intended to assist in determination of probable compliances of work with requirements, but do not relieve Contractor of responsibility for those compliances, or for general fulfillment of requirements of Contract Documents. Specified inspections and tests are not intended to limit Contractor's quality control program. Afford reasonable access to agencies performing tests and inspections.
 - 1. Owner's Tests: Where on-site tests or inspections are indicated, the Owner will engage independent testing agency to perform required services.
- B. Reports: The Owner's agency will submit test/inspection reports, including agency's analysis of results and recommendations where applicable, to the Contractor and Architect/Engineer except as otherwise indicated.

PART 2 PRODUCTS:

(Not Applicable)

PART 3 EXECUTION:

3.1 GENERAL INSTALLATION PROVISIONS:

- A. Pre-Installation Conferences: Well in advance of installation of every major unit of work which requires coordination and interfacing with other work, meet at project site with installers and representatives of manufacturers and fabricators who are involved in or affected by unit of work, and in its coordination or integration with other work which has preceded or will follow. Advise Architect/Engineer and Owner of scheduled meeting dates. At each meeting review progress of other work and preparations for particular work under consideration, including requirements of contract documents, options, related change orders, purchase, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements required performance results, recording requirements, and protection. Record significant discussions of each conference, and record agreements and disagreements, along with final plan of action. Distribute record of meeting within two (2) days promptly to everyone concerned, including Architect/Engineer.

1. Do not proceed with the work if associated pre-installation conference cannot be concluded successfully. Instigate actions to resolve impediments to performance of the work, and reconvene conference at earliest date feasible.
2. Installer's Inspection of Conditions: Require Installer of each major unit of work to inspect substrate to receive the work, and conditions under which work will be performed, and to report (in writing to Contractor) unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
3. Manufacturer's Instructions: Where installations include manufactured products, comply with manufacturer's applicable instructions and recommendations for installation, to extent these are more explicit or more stringent than requirements indicated in Contract Documents.
4. Inspect each item of materials or equipment immediately prior to installation, and reject damaged and defective items.
5. Provide attachment and connection devices and methods for securing work properly as it is installed; true to line and level, and within recognized industry tolerances if not otherwise indicated. Allow for expansions and building movements. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual-effect choices to Architect for final decision.
6. Recheck measurements and dimensions of the work, as an integral step of starting each installation.
7. Install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion which will ensure best possible results for each unit of work, in coordination with entire work. Isolate each unit of work from non-compatible work, as required to prevent deterioration.
8. Coordinate enclosure (closing-in) on work with required inspections and tests, so as to avoid necessity of uncovering work for that purpose.
9. Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry-recognized standard mounting heights for applications indicated. Refer questionable mounting height choices to Architect/Engineer for final decision.

3.2 CUTTING AND PATCHING:

- B. General: Do not cut-and-patch structural work in a manner resulting in reduction of load-carrying capacity or load/deflection ratio; submit proposed cutting and patching to Architect/Engineer for structural approval before proceeding. Do not cut-and-patch operational elements and safety-related components in a manner resulting in reduction of capacities to perform in manner intended or resulting in decreased operational life, increased maintenance, or decreased safety. Do not cut-and-patch work which is exposed on exterior or in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by Architect. Remove and replace work judged by Architect to be cut-and-patched in a visually unsatisfactory or otherwise objectionable manner.
- C. Materials: Except as otherwise indicated or approved by Architect/Engineer, provide materials for cutting-and-patching which will result in equal-or-better work than work being cut-and-patched; in terms of performance characteristics and including visual effect where applicable. Use materials identical with original materials where feasible and where recognized that satisfactory results can be produced thereby.
- D. Temporary Support and Protection: Provide adequate temporary support for work to be cut, to prevent failure. Do not endanger other work. Provide adequate protection of other work during cutting-and-patching, to prevent damage; and provide protection of the work from adverse weather exposure.
- D. Cut work by methods least likely to damage work to be retained and work adjoining.
 - 1. Where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
 - a. Comply with the requirements of applicable sections of Division 2 where cutting-and-patching requires excavating and backfilling.
- E. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
- F. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.
 - 1. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coats.

3.3 CLEANING AND PROTECTION:

- A. General: During handling and installation of work at project site clean and protect work in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

- B. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work whether completed or in progress, will be subjected to harmful, dangerous, damaging, to otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, ice, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, combustion, electrical current, high speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft and vandalism.

3.4 CONSERVATION AND SALVAGE:

- A. It is a general procedural requirement for supervision and administration of the work that construction operations be carried out with maximum practical consideration for conservation of energy, water and materials; and with maximum practical consideration for salvaging materials and equipment involved in performance of the work but not incorporated therein. Refer to other sections for required disposition of salvage materials and equipment which are Owner's property.

END OF SECTION

SECTION 01310

SCHEDULES, REPORTS AND PAYMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Bidding and Contract Requirements and Division 1 - General Requirements of the Specifications apply to this work.

1.2 SECTION INCLUDES:

- A. Administrative submittal requirements, including but not limited to:
 - 1. Bar chart progress schedule.
 - 2. Payment requests.

1.3 RELATED WORK:

- A. Coordinate the work of this section with work of other Sections as required to properly execute the Work, and as necessary to maintain satisfactory progress of the work of other Sections, including:
 - 1. Section 01010 - Summary of Work.
 - 2. Section 01700 - Contract Closeout.

1.4 PROGRESS SCHEDULE:

Coordination: Comply with General Conditions, Article VIII, paragraph 8.2. Coordinate both the listing and timing of reports and other activities required by provisions of this Section and other Sections, so as to provide consistency and logical coordination between the reports.

1.5 PAYMENT REQUESTS:

A. GENERAL:

Except as otherwise indicated, the progress payment cycle is to be regular. Each application must be consistent with previous applications and payments.

D. MONTHLY PAYMENT ESTIMATES:

Once each calendar month the A/E, General Contractor's superintendent, and Owner's Representative will have an on-the-job meeting in which to review the Contractor's estimate and to agree upon a percentage complete for the various items of work. The

Owner's Representative will review the estimate prior to presentation to the A/E for approval. The agreed upon percentage and the amount will be typed on the Contract breakdown schedule and signed by the General Contractor's representative and Owner's Representative.

1. Limitations - Estimate will not be approved if the job site As-Built drawings are not up to date and posted.
2. Historically Underutilized Business Progress Reports will be prepared and submitted with the pay request each month in accordance with Article V, paragraph 5.3.4 of the General Conditions. (TAMUS Form HUB1, see Section 01150.) Pay requests will not be approved without this completed form.
3. Contract Change Statement: All approved revisions should be entered on the Contract Change Statement, Form C-11 (See Section 01150). This statement will then be attached to the Contractor's monthly payment estimate. Percentages complete should be shown opposite each item listed and extended into the "Total Complete to Date" column. The total of the "Total Complete to Date" should be brought forward to the line item on the breakdown schedule titled, "Changes Complete to Date."
4. Payment for Stored Materials: Invoices for stored materials will be submitted when required by the Owner's Representative.

Stored materials invoices will be accepted only after an approved shop drawing or sample has been received by the Owner's Representative.

5. Payment of Estimates: It is the desire of the University, to process the Contractor's estimates as promptly as possible. In order to do this, it is requested that these instructions be followed and that the Contractor make every effort to see that the estimate is mathematically correct and that only approved items are included as material stored on the site.

Invoices for stored materials will only be considered when they exceed five hundred dollars (\$500) for each individual item. There will be no invoices accepted that contain tools, or expendable materials.

Invoices will only be considered that are referenced to the materials in the estimate cost breakdown. Invoices that are not legible will not be considered for payment.

All stored material will be checked by the Project Superintendent and verified by the Owner's Representative before being incorporated into the payment estimate.

- E. Base applications for Payment on value of work completed/removed.

- F. Final Payment Application: Administrative actions and submittals must precede or coincide with submittal of Contractor's final payment application.
1. Complete project closeout requirements specification in Section 01700.
 2. Additions and deductions resulting from (1) previous Change Orders, (2) deductions for re-inspection payments, and (3) other adjustments.
 - a. Original Contract Sum.
 - b. Additions and deductions resulting from (1) previous Change Orders, (2) deductions for re-inspection payments, and (3) other adjustments.
 - c. Retainage withheld from previous payments.
 - d. Total Contract Sum, as adjusted.
 - e. Previous Payments.
 - f. Sum remaining due.
 3. Architect will prepare final Change Order, reflecting approval adjustments to Contract Sum not previously made by Change Orders.
 4. Final payment constituting entire unpaid balance of Contract Sum will be made within 30 days after final Certificate of Payment has been approved.
- G. Application Transmittal: Submit three (3) executed copies of each payment application, one copy of which is completed with waivers of lien and similar attachments. Transmit each copy with a transmittal form listing those attachments, and recording appropriate information related to application in a manner acceptable to Owner. Transmit to Owner by means ensuring receipt within 24 hours.

1.6 ARCHITECT/ENGINEER REPORTS

- A. The A/E will make a monthly report to the Owner containing:
1. A brief synopsis of the work completed for this period; anticipated problems; and a review of the outstanding submittals and revisions.

A copy of this report shall be furnished to the General Contractor.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

Section 01310

Page 3 of 3

SECTION 01340

SUBMITTALS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

- B. The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division 1 sections and other Contract Documents for requirements of administrative submittals.
 1. Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects.
 2. Product data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed therein.
 - a. Samples include both fabricated and un-fabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
 3. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

1.3 GENERAL SUBMITTAL REQUIREMENTS:

- A. Scheduling: Where appropriate in required administrative submittals (listing of products, manufacturers, suppliers and subcontractors, and in job progress schedule),

show principal work-related submittals and time schedules for coordination of submittal activity with related work in each instance. Indicate submittal dates and review periods for major items of work on the project schedule.

- B. Coordination and Sequencing: Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence different categories of submittals for same work, and for interfacing units of work, so that one will not be delayed for coordination of A/E's review with another.
- C. Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name, specification section number, and similar information to distinguish it from other submittals. Show contractor's executed review and approval marking and provide space for Architect's/Engineer's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through Contractor's office will be returned by A/E "without action."
- D. Transmittal Form: AIA Form G810 or Contractor's standard form if approved by the Architect.

1.4 SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS:

- A. General: Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.
- B. Owner's Records: Immediately following final approval of shop drawings and product data, the contractor shall transmit one copy of each item to the Owner for his records. The contractor shall also maintain a second copy of each item in his file for delivery to the Owner's user at the completion of the project. The second package shall include a copy of all shop drawings and product data submittals and shall include an index in the transmittal.
- C. Shop Drawings: Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect/Engineer to be used in connection with the Work.
 - 1. Submittals: One correctable translucent reproducible print and one blue-line or black-line print; reproducible will be returned. Contractor shall obtain prints of the reproducible, marked "approved" for maintenance manuals, record documents, Owner's records, and other parties requiring copies.

- D. **Product Data:** Collect required data into one submittal for each unit of work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements. Maintain one set of product data (for each submittal) at project site, available for reference by Architect/Engineer and others.
1. **Submittals:** Do not submit products data, or allow its use on the project, until compliance with requirements of Contract Documents has been confirmed by Contractor. Submit seven (7) copies. The Architect shall retain one and return six copies. The Owner shall retain two copies and return the remaining four copies to the Contractor.
 - a. Provide a preliminary single-copy submittal where required (or desired by Contractor) for selection of options by Architect/Engineer.
 - b. **Installer's Copy:** Do not proceed with installation of materials, products or systems until final copy of applicable product data is in possession of Installer.
- E. **Samples:** Provide units identical with final condition of proposed materials or products for the Work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and described or identify variations between units of each set. Provide full set of optional samples where Owner's selection is required. Prepare samples to match Owner's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect/Engineer and Owner. Samples must be submitted within five (5) days of Notice to Proceed.
1. **Submittal:** At Contractor's option, provide preliminary submittal of a single set of samples for Architect's/Engineer's review and "Action." Otherwise, initial submittal is final submittal unless returned with "Action" which requires re-submittal. Submit 2 sets of samples in final submittal; one set will be returned.
 2. **Quality Control Set:** Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Architect/Engineer, and by others.
- F. **Inspection and Test Reports:** Classify each as either "shop drawing" or "product data," depending upon whether report is uniquely prepared for project or a standard publication; process accordingly.
- G. **Warranties:** Refer to "Products" section for specific general requirements on warranties, product/workmanship bonds, and maintenance agreements. In addition

to copies desired for Contractor's use, furnish 2 executed copies. (Furnish four copies where required to be included in maintenance manual).

- H. Records of Actual Work: Furnish 4 copies, one of which will be returned for inclusion in "Record Documents" as specified in "Closeout" section.
- I. Closeout Submittals: Refer to individual work sections and to "closeout" section for specific requirements on submittal of closeout information, materials, tools and similar items.
 - 1. Record Document Copies: Furnish one set.
 - 2. Maintenance/Operating Manuals: Furnish 3 bound copies. One bound copy is to be furnished to the Owner within 7 days after completion of installation of the particular equipment. The remaining 2 bound copies are to be submitted at closeout of project.
 - 3. Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.
 - 4. General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and other as necessary for proper performance of the work. Include such additional copies in transmittal to Architect/Engineer where required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

1.5 ACTION OF SUBMITTALS:

- A. Architect's/Engineer's Action: Where action and return is required or requested, Architect/engineer will review each submittal, mark with "Action," and where possible return within 2 weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised by A/E without delay.
 - 1. Final Unrestricted Release: Work may proceed, provided it complies with Contract Documents, when submittal is returned with the following:

Marking: "Approved" or "Accepted."
 - 2. Final-But-Restricted Release: Work may proceed, provided it complies with notations and corrections on submittal and with Contract Documents, when submittal is returned with the following:

Marking: "Approved as Noted" or "Accepted as Noted."

3. Returned for Re-submittal: Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking. Do not allow submittals with the following marking or unmarked submittals where a marking is required) to be used in connection with performance of the Work:

Marking: "Disapproved, Resubmit" or "Not Accepted, Resubmit."

4. Other Action: Where submittal is returned for other reasons, with Architect/Engineer's explanation included, it will be marked as follows:

Marking: "No Action."

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definitions: Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in General Conditions and other Contract Documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by Architect or Engineer that such temporary activity is not required for successful completion of the work and compliance with requirements of Contract Documents. Provisions of this section are applicable to, but not by way of limitation,, utility services, construction facilities, security/protection provisions, and support facilities.

1.3 QUALITY ASSURANCE:

- A. General: In addition to compliance with governing regulations and rules/recommendations of franchised utility companies, comply with specific requirements indicated and with applicable local industry standards for construction work (published recommendations by local consensus "building councils").
- B. ANSI Standards: Comply with applicable provisions of ANSI A10-Series standards on construction safety, including A10.3, A10.4, A10.5, A10.6, A10.7, A10.8, A10.9, A10.10, A10.11, A10.12, A10.13, A10.14, A10.15, A10.17, A10.18, A10.20 and A10.22.
- C. NFPA Code: Comply with NFPA Code 241 "Building Construction and Demolition Operations."
- D. Environmental Impact Statement: Comply with provisions of Owner's committed EIS, for development and operation of temporary facilities and construction activities.
- E. Conservation: In compliance with Owner's policy on energy/materials conservation,

install and operate temporary facilities and perform construction activities in manner which reasonably will be conservative and avoid waste of energy and materials including water.

1.4 JOB CONDITIONS:

- A. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
- B. Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.

PARTS 2 AND 3 - PRODUCTS AND EXECUTION

2.1 TEMPORARY UTILITY SERVICES:

- A. The types of services renovated include, but not by way of limitation, water, sewerage, electrical power and telephones. Comply with service companies' recommendations on materials and methods, or engage service companies to install services. Locate and relocate services (as necessary) to minimize interference with construction operations.

2.2 TEMPORARY CONSTRUCTION FACILITIES:

- A. The types of temporary construction facilities required, include, but not by way of limitation, enclosure of work, heat, ventilation, electrical power distribution, lighting, dust or noise partition. Provide facilities reasonably required to perform construction operations properly and adequately.
- B. Electrical Power: Contractor shall provide and pay for temporary power to site during construction.
- C. Lighting: Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting. Provide general lighting with local switching which will enable energy conservation during periods of varying activity (work-in-progress, traffic only, security check, lock-up, etc.)
- D. Access Provisions: Provide ramps, stairs, ladders and similar temporary access elements as reasonably required to perform the work and facilitate its inspection during installation. Comply with reasonable requests of governing authorities performing inspections. When permanent stairs are available for access during

construction, cover finished surfaces with sufficient protection to ensure freedom from damage and deterioration at time of substantial completion.

1. In areas of renovation within existing facilities, provide temporary ramps, doors, corridors, etc., as required to maintain fire exits as required by the authority having jurisdiction.

2.3 SECURITY/PROTECTION PROVISIONS:

- A. The types of temporary security and protection provisions required include, but not by way of limitation, barricades, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project area.
- B. Storage of combustible and flammable materials shall be maintained outside of (and well detached from) the buildings. Storage of combustibles shall not be located inside the buildings.
- C. The supply of flammable paints, solvents, oils, gas cylinders, etc., inside the building shall be limited to that required for one day's use.
- D. Cutting and welding operations present a severe hazard, and such work should be done outside of the building whenever possible.
- E. No smoking is allowed within the construction area.
- F. All combustible waste and scrap materials shall be removed from the building on a daily basis. No "on-site" incineration shall be permitted.
- G. Ready access for the Public Fire Department shall be maintained to all areas.
- H. Temporary Interruption of Fire Protection System: The Contractor shall be responsible for implementing emergency measures that will maintain the integrity of fire protection during periods of impairment to such system.
 1. Notify the Project Manager and the local fire department, and that protection will be impaired. The information should include what systems will be out of service, for how long, and what areas will be affected.
 2. Temporary emergency measures that shall be implemented include continuous roaming fire watches, discontinue any work involving cutting or welding, laying out and charging fire hoses that can be put into operation immediately.
 3. Protection that is impaired should be restored as soon as possible, but should not be allowed to continue overnight or over a weekend or holiday period.

Once the work is started to correct the impairment, it should be continued until the work is complete and the system restored to service.

4. Advise all previously notified parties of the restoration of service at the first opportunity.

2.4 TEMPORARY SUPPORT FACILITIES:

- A. The types of temporary support facilities required include, but not by way of limitation, field offices, storage sheds, sanitary facilities, drinking water, first aid facilities, bulletin board, private telephones, clocks, project identification signs, clean-up facilities, waste disposal service, and similar miscellaneous general services, all as may be reasonably required for proficient performance of the work and accommodation of personnel at the site including Owner's and Architect's/Engineer's personnel. Discontinue and remove temporary support facilities, and make incidental similar use of permanent work of the project, only when and in manner authorized by Architect/Engineer; and, if not otherwise indicated, immediately before time of substantial completion. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.
- B. Contractor's Field Office: Provide adequate office space for field office personnel plus one spare work station for incidental use by subcontractor's personnel, suitably finished, furnished, equipped and conditioned.
 1. Provide a remote cordless telephone set or answering machine in the field office for the superintendent's use in making and receiving telephone calls when the office is not continuously staffed.

END OF SECTION

SECTION 01605

PRODUCTS AND SUBSTITUTIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definitions: "Products" is defined to include purchased items for incorporation into the work, regardless of whether specifically purchased for project or taken from Contractor's stock of previously purchased products. "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.). Definitions in this paragraph are not intended to negate the meaning of other terms used in contract documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," "special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.
- B. Substitutions: The requirements for substitutions do not apply to specified Contractor options on products and construction methods. Revisions to Contract documents, where requested by Architect or Engineer, are "changes" not "substitutions." Requested substitutions during bidding period, which have been accepted prior to Contract Date, are included in Contract Documents and are not subject to requirements for substitutions as specified herein. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions;" and do not constitute a basis for change orders, except as provided for in Contract Documents. Otherwise, Contractor's requests for changes in products, materials and methods of construction required by Contract Documents are considered requests for "substitutions," and are subject to requirements hereof. This includes Contractor's proposal for approval of "or equal" products.
- C. Standards: Refer to Division 1 section "Definitions and Standards" for applicability of industry standards to products of project, and for acronyms used in text of specification sections.

1.3 QUALITY ASSURANCE:

- A. Source Limitations: To the greatest extent possible for each unit of work, provide products, materials and equipment of singular generic kind from a single source.
- B. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product or material, select an option which is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Total compatibility among options is not assured by limitations within contract documents, but must be provided by Contractor. Compatibility is a basic general requirement of product/material selections.
- C. Environmental Requirements: No product installed as part of or used for the construction of this project shall contain asbestos fiber. Material Safety Data Sheets (MSDS) shall be submitted for all products proposed to be installed as part of the work. Products containing polychlorinatedbiphenyls (PCB) shall not be installed in the project.

1.4 SUBMITTALS:

- A. Requests for Substitutions: Submit 3 copies, fully identified for product or method being replaced by substitution, including related specification section and drawing number(s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected work, cost information or proposal, and Contractor's statement to the effect that proposed substitutions will result in overall work equal-to-or-better-than work originally indicated.

1.5 PRODUCT DELIVERY-STORAGE-HANDLING:

- A. General: Deliver, handle and store products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Control delivery schedules to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.

1.6 WARRANTIES (GUARANTEES):

- A. Categories of Specific Warranties: Warranties on the work are in several categories,

including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in sections of Division 2 through 16 of these specifications:

1. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor.
 2. Specified Product Warranty: A warranty which is required by Contract Documents, to be provided for a manufactured product incorporated into the work; regardless of whether manufacturer has published a similar warranty without regard for specific incorporation of product into the work, or has written and executed a special project warranty as a direct result of Contract Document requirements.
 3. Coincidental Product Warranty: A warranty which is not specifically required by Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of warranty.
- B. Refer to individual sections of Divisions 2 through 16 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).
- C. General Limitations: It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in the work which result from: 1) Unusual and abnormal phenomena of the elements, 2) The Owner's misuse, maltreatment or improper maintenance of the work, 3) Vandalism after time of substantial completion, or 4) Insurrection or acts of aggression including war.
- D. Related Damages and Losses: In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.
1. Consequential Damages: Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of

Contract) which occurs as a result of failure of warranted work.

- E. Reinstatement of Warranty Period: Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the following time period, starting on date of acceptance of replaced or restored work.
 - 1. A period of time equal to original warranty period of time.
- F. Replacement Cost, Obligations: Except as otherwise indicated, costs of replacing or restoring failing warranted units or products is Contractor's obligation, without regard for whether Owner has already benefited from use through a portion of anticipated useful service lives.
- G. Rejection of Warranties: Owner and Architect reserves the right, at time of substantial completion or thereafter, to reject coincidental product warranties submitted by Contractor, which in opinion of Owner and Architect tend to detract from or confuse interpretation of requirements of Contract Documents.
- H. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for project where a special project warranty, specified project warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.
- I. Specific Warranty Forms: Where a special project warranty (guarantee) or specified product warranty is required, prepare a written document to contain terms and appropriate identification, ready for execution by required parties. Submit draft to Owner (through Architect/Engineer) for approval prior to final executions.

PART 2 PRODUCTS

2.1 GENERAL PRODUCT COMPLIANCE:

- A. General: The compliance requirements, for individual products as indicated in Contract Documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details and other similar forms and methods of indicating requirements, all of which must be complied with. Also "allowances" and similar provisions of Contract Documents will have a bearing on selection process.
- B. Procedures for Selecting Products: Contractor's options for selecting products are limited by Contract Document requirements, and governing regulations, and are not controlled by industry traditions or procedures experienced by Contractor on

previous construction projects. Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying:

1. Single Product/Manufacturer Name: Provide product indicated, except advise Architect/Engineer before proceeding, where known that named product is not a feasible or acceptable selection.
2. Two or More Product/Manufacturer Names: Provide one of the name products, at Contractor's option; but excluding products which do not comply with requirements. Do not provide or offer to provide in the Base Bid an unnamed product, except where none of named products comply with requirements or are a feasible selection; advise Architect/ Engineer before proceeding.
3. "Or Equal": Where named products in specifications text are accompanied by the term "or equal", or other language of similar effect, comply with those Contract Document provisions concerning "substitutions" for obtaining Architect's/Engineer's approval (or change order) to provide an unnamed product. If a proposed "or equal" product is to be included in Base Bid, it must be approved in accordance with the Bidding documents prior to submitting Bids.
4. "Named" except as otherwise indicated, is defined to mean manufacturer's name for product, as recorded in published product literature, of latest issue as of date of Contract Documents. Refer requests to use products of a later (or earlier) model to Architect/Engineer for acceptance before proceeding.
5. Standards, Codes and Regulations: Where compliance with an imposed standard, code or regulations is required, selection from among products which comply with requirements including those standards, codes and regulations, is Contractor's option.
6. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.
7. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.
8. Visual Matching: Where matching of an established sample is required, final

judgment of whether a product proposed by Contractor matches sample satisfactorily is Owner's judgment. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with Contract Document provisions concerning, "substitutions" and "change orders" for selection of a matching product outside established cost category or, of a product not complying with requirements.

9. Visual Selection: Except as otherwise indicated, where specified product requirements include "...as selected from manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with requirements) is Contractor's option, and subsequent selection of color, pattern and texture is Owner's selection.

2.2 SUBSTITUTIONS:

- A. Conditions: Contractor's request for substitution will be received and considered when
extensive revisions to contract documents are not required and changes are in keeping with general intent of Contract Documents; when timely, fully documented and properly submitted; and when one or more of following conditions is satisfied, all as judged by Architect/Engineer. Otherwise, requests will be returned without action except to record non-compliance with these requirements.
 1. Where request is directly related to an "or equal" clause or other language of same effect in Contract Documents.
 2. Where required product, material or method cannot be provided within Contract Time, but not as a result of Contractor's failure to pursue the Work promptly or to coordinate various activities properly.
 3. Where required product, material or method cannot be provided in a manner which is compatible with other materials of the Work, or cannot be properly coordinated therewith, or cannot be warranted as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work, or will encounter other substantial non-compliances which are not possible to otherwise overcome except by making requested substitution, which Contractor thereby certified to overcome such non-compatibility, non-coordination, non-warranty, non-insurability or other non-compliance as claimed.
 4. Where required product, material or method cannot receive required approval by a governing authority, and requested substitution can be so approved.

5. Where substantial advantage is offered Owner, in terms of cost, time, energy conservation or other valuable considerations, after deducting offsetting responsibilities Owner may be required to bear increased cost of other work by Owner or separate contractors, and similar considerations.
- B. Work-Related Submittals: Contractor's submittal of (and Architect's/Engineer's acceptance of) shop drawings, product data or samples which relate to work not complying with requirements of Contract Documents, does not constitute an acceptable or valid request for a substitution, nor approval thereof.

2.3 GENERAL PRODUCT REQUIREMENTS:

- A. General: Provide products which comply with requirements, and which are undamaged and unused by time of installation, and which are complete with accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for intended use and effect. Products of the same type shall be identical from the same manufacturer to provide uniform appearance, operation and maintenance.
1. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
 2. Continued Availability: Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.
- B. Nameplates: Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the work.
1. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
 2. Equipment Nameplates: Provide permanent nameplate on each item of service-connected or power operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings and similar essential operating data. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Bidding and Contract Requirements and Division 1 - General Requirements of the Specifications apply to this Work.

1.2 SECTION INCLUDES:

- A. General requirements for closeout procedures, beneficial occupancy, final completion, final cleanup, closeout submittals, and application for final payment.

1.3 RELATED SECTIONS:

- A. Related Work of Other Sections:
 - 1. Section 01010 - Summary of Work.
 - 2. Section 01710 - Cleaning.
 - 3. Section 01720 - Project Record Documents.

1.4 CONTRACT CLOSEOUT PROCEDURES:

- A. Instruction of Using Personnel

The Contractor will provide demonstrations, conduct training and familiarization sessions for Physical Plant/User personnel on the mechanical and electrical systems in the facility prior to Final or Beneficial Occupancy Inspections. Arrangements for these instruction periods shall be made by the Owner's Representative. Operation and Maintenance Manuals must be available and used during this training period.

- B. Beneficial Occupancy: Refer to General Conditions, Article IX, "Beneficial Occupancy" for additional requirements.
 - 1. When Contractor considers the Work is sufficiently complete as defined in "Beneficial Occupancy," it shall submit to Architect a written notice that the Work, or designated portion thereof, is sufficiently complete for "Beneficial Occupancy" along with a list of items to be completed or corrected.
 - 2. Within a reasonable time after receipt of such notice, Owner, Architect and Engineer, as appropriate, will make an inspection to determine the status of completion.

3. Should A/E determine that Work is not sufficiently complete for "Beneficial Occupancy," A/E will promptly notify the Contractor and Owner's Representative in writing, giving reasons therefore.
 4. Contractor shall remedy the deficiencies in the Work, and send a second written notice to the Architect.
 5. Architect and Engineer, as appropriate, will re-inspect the Work.
 6. When Owner, Architect and Engineer concur that the Work is sufficiently complete as defined in "Beneficial Occupancy," the A/E will:
 - a. Prepare a Certificate of Beneficial Occupancy, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect, Engineer and Owner.
 - b. Submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.
 7. Failure to include any item in the "punch list" does not alter the responsibility of the Contractor to complete the Work in accordance with the Contract Documents.
 8. The A/E and Owner may review and amend the list of items to be completed or corrected and append the "punch list" of the Certificate of Beneficial Occupancy at any time before Contractor's final Notice of Completion.
- C. Pre-Final Completion: Refer to General Conditions, Article X, "Contract Final Acceptance." Those in attendance at final inspection may include the A/E, representatives of the Owner, Owner's User Coordinator, member from the Owner's Physical Plant and Contractor. Failure to satisfactorily complete items will necessitate further re-inspections by the A/E and other persons above. Perform and submit following prior to Pre-Final Inspection.
1. Before requesting pre-final inspection, Contractor shall review the Contract Documents and inspect the Work for compliance with the Contract Documents. Contractor shall make a thorough survey of work of all trades and ascertain that all final adjustments have been made and that the Work has been completed.
 - a. Test equipment and systems in the presence of the Owner's Representative and determined that equipment and systems are operational. Give necessary verbal instructions and demonstrations to maintenance forces for component parts of the building.
 - b. Furnish an updated list of Subcontractors and material suppliers along with names of key personnel, addresses and telephone numbers.
 - c. Deliver all Maintenance and Operating Manuals.
 - d. Deliver clean-up as specified in Section 01710.
 - e. Submitted required certified HVAC balancing and testing reports, when balancing and testing is specified as part of this Contract..

- f. Delivered packaged and labeled maintenance materials as required by the various specification Sections to a location within three miles of the Project Site as designated by Owner's Representative.
 - g. Deliver labeled keys and special tools to designated representative of Owner and secure a receipt. Master keys, safe combinations and similar sensitive items shall be mailed or delivered directly to Manager of Construction from hardware supplier.
 - h. Submit "Record Documents" to A/E as specified in Section 01720.
2. Upon receipt of notice of completion of Work and submittal of all required items from Contractor, Architect/Engineer and Owner's Representatives will make a pre-final inspection to determine status of completion, and prepare a punch list of items requiring completion or correction for use of the Contractor. If Architect/ Engineer or Owner's Representative do not concur in Contractor's claim of completion, Contractor will be notified, and Contractor shall send a second notice at an appropriate time of completion including a list of corrections made.

1.5 REINSPECTION FEES:

- A. Should status of completion of Work require re-inspection by Architect due to failure of Work to comply with Contractor's claims of completion, Owner will deduct the amount of Architect's compensation for re-inspection services from final payment to Contractor.

1.6 CLOSEOUT SUBMITTALS:

- A. Beneficial Occupancy: Submit list of items remaining to be completed or corrected and written notice of request for Beneficial Occupancy.
- B. Final Completion: Submit written request for Final Completion inspection and the following:
 - 1. Certification that work is complete and Owner has full access and use of completed work, Contract Documents have been reviewed, and systems and equipment have been tested and are operational.
 - 2. Copy of list of items to be completed or corrected from Beneficial Occupancy and Pre-Final Inspection, with each item initialed and showing date completed.
 - 3. Evidence of compliance with requirements of governing authorities:
 - a. Certificates of occupancy.
 - b. Certificates of final inspection for plumbing, mechanical, fire protection, electrical, and other systems required by governing authorities.

4. List of all subcontractors and material suppliers and product description. Provide name, address and phone number:
 - a. Product manufacturer.
 - b. Installer (subcontractor).
 - c. Local representative.
 - d. Local source of supply for parts and replacement.
5. Submit test/adjust/balance records; start-up performance reports, change over information germane to Owner's occupancy.
6. Clean-up: Refer to Section 01710 for requirements.
7. Deliver to Owner all special tools and keys in relation to project equipment and devices.
8. Instruction Logs for Instruction of Owner's Operating Personnel.
9. Warranties.
10. Keys, Keying Schedule, and Change Over of Locks: Refer to Section 08710 for requirements.
11. Space Parts and Maintenance Material.
12. Fully executed copies of following, in triplicate:
 - a. Contractor's Affidavit of Payment for Debts and Claims: On Owner provided document.
13. List of Contractor's incomplete work recognized as exceptions to Owner's Certificate of Final Acceptance.
14. Certificate of Insurance for Products and Completed Operations.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION

SECTION 01710

CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- 1.1.1 Bidding and Contract Requirements and Division 1 - General Requirements of the Specifications apply to this work.

1.2 RELATED WORK:

1.2.1 Related Work of Other Sections:

- 1.2.1.1 Section 01010 - Summary of Work.
- 1.2.1.2 Section 01340 - Submittals.
- 1.2.1.3 Section 01500 - Construction Facilities and Temporary Controls.
- 1.2.1.4 Section 01700 - Contract Closeout.

1.3 GENERAL REQUIREMENTS:

- 1.3.1 General: In addition to General Conditions, Article V, paragraph 5.16, provide progress and final cleaning as specified in this section.
- 1.3.2 Progress Cleaning: Keep premises and public properties free from accumulations of waste, debris and rubbish, caused by operations. Maintain Project in accord with State and local safety, health, and insurance standards.
- 1.3.3 Final Cleaning: At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces of building and Project Site; leave Project clean and ready for occupancy.
- 1.3.4 Pre-Final Inspection: Prior to pre-final inspection, clean all surfaces and remove all debris from project.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS:

- 2.1.1 Use materials which will not create hazards to health or property, and which will not damage surfaces.
- 2.1.2 Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 - EXECUTION

3.1 CLEANING:

- 3.1.1 In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces affected by Work of this Contract.
- 3.1.2 Hazards Control: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions. provide adequate ventilation during use of volatile or noxious substances.
- 3.1.3 Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
- 3.1.4 Remove waste, debris, and surplus materials from site. Clean paving areas, walks, drive and streets in the vicinity of the building; remove mud, rubbish, waste, stains, spills, and foreign substances from paved areas and sweep clean. Immediately clean any mud tracked out of the construction area by vehicles and equipment.
- 3.1.5 Keep the entire construction area clean and at least weekly conduct a general clean-up operation.
- 3.1.6 Keep grass/weeds cut at all times within the limits of construction; maximum time interval in growing season is two weeks.
- 3.1.7 Do not burn or bury rubbish and waste materials on the Project Site.
- 3.1.8 Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
- 3.1.9 Do not dispose of excess concrete on the Project Site or adjacent property.
- 3.1.10 Wet down rubbish and waste to lay dust and prevent it from blowing.
- 3.1.11 Provide on Site containers for collection of waste, debris and rubbish. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- 3.1.12 Remove temporary protection and labels not required to remain.
- 3.1.13 Just prior to painting and similar finishing operations, clean interior areas ready to receive finish, and continue cleaning on an as needed basis until building is ready for substantial occupancy.
- 3.1.14 Disposal: Remove waste materials, debris and rubbish from the Project Site and provide legal disposal at a Texas Department of Health (TDH) permitted solid waste

facility. In hauling material from the Project Site, Contractor shall prevent debris from dropping from vehicles and littering the site or area streets and roads. Contractor shall promptly remove any debris which falls from vehicles.

3.2 FINAL CLEANING

- 3.2.1 Employ experienced workmen or professional cleaners and perform cleaning in accordance with manufacturer's written recommendations, using products approved by the manufacturer for material being cleaned.
- 3.2.2 Prior to final inspection and the Owner's acceptance of the Work, perform final cleaning of all areas of the building and Project Site, performing all operations called for in the various Sections of Project Specifications. Final cleaning operations include, but are not limited to:
 - 3.2.2.1 Remove waste, debris, and surplus materials of any nature from site. Clean paving areas in the vicinity of the building; remove stains, spills, and foreign substances from paved areas and sweep paved areas clean and rake clean other surfaces of grounds.
 - 3.2.2.2 Broom cleaning of all exposed concrete floors.
 - 3.2.2.3 Cleaning all interior painted surfaces.
 - 3.2.2.4 Cleaning all exposed unpainted metals.
 - 3.2.2.5 Cleaning all architectural woodwork.
 - 3.2.2.6 Cleaning all doors and polish hardware; remove excess paint and stains.
 - 3.2.2.7 Cleaning all glass areas, exterior and interior. (In area of work.)
 - 3.2.2.8 Cleaning all storefront framing and doors, and glazed wall system members, exterior and interior. (In area of work.)
 - 3.2.2.9 Cleaning all walls and floors.
 - 3.2.2.10 Cleaning all resilient flooring and wax.
 - 3.2.2.11 Vacuuming all carpeted floors.
 - 3.2.2.12 Cleaning all toilet partitions, fixtures, and accessories.
 - 3.2.2.13 Cleaning all exposed surfaces of light fixtures, including removal of construction dust, paint over spray, finger prints, and similar soiling from light fixture bodies, reflectors, and both sides of light fixture lenses.
 - 3.2.2.14 Removing and disposing of all temporary protections.
 - 3.2.2.15 Repair, patch and touch-up marred surfaces to match adjacent surfaces.
 - 3.2.2.16 Prior to final completion, inspect exposed interior and exterior surfaces and work areas to verify that entire work is clean.
- 3.2.3 Clean finishes free of dust, stains, films, and other foreign substances.
- 3.2.4 Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Special Conditions and Division 1 specification sections, apply to work of this section.

1.2 RECORD DOCUMENT SUBMITTALS:

- A. General: Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in "Submittal" section. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for Architect's/Engineer's reference during normal working hours.
- B. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related change order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.
- C. Record Specifications: Maintain one copy of specifications, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, submit to Architect/Engineer for Owner's records.

- D. Record Product Data: Maintain one copy of each product data submittal, and mark-up significant variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications. Upon completion of mark-up, submit complete set to Architect/Engineer for Owner's records.

- E. Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect/Engineer for Owner's records.

END OF SECTION

SECTION 01740

WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Bidding and Contract Requirements and Division 1 - General Requirements of the Specifications apply to this work.

1.02 SECTION INCLUDES:

- A. Provide preparation and submittal of warranties as specified in this Section.
- B. The Contractor is responsible for implementation of all warranties, guarantees, bonds, maintenance contracts and shall perform all work required, in case of failure of Subcontractors; material suppliers and manufacturers; applicators and installers; to fulfill an and all provision of the warranties, guarantees, service and maintenance contracts and bonds.
- C. General Contractor and installers shall sign warranties.

1.03 RELATED WORK:

- A. Related Work of Other Sections:
 - 1. General Conditions, Article XI - Contract Warranty and Guarantee.
 - 2. Section 01340 – Submittals/Shop Drawings, Product Data, Samples and Colors: Submittal schedule warranty requirements.
 - 3. Section 01700 - Contract Closeout.
 - 4. Individual Specification Sections: Special Project Warranties.

1.04 FORM OF WARRANTY SUBMITTALS:

- A. Warranty Format: Assemble warranties executed by respective manufacturers, suppliers, subcontractors and Contractor as follows:
 - 1. Size: 8-1/2" x 11". Punch sheets for 3-ring binder; fold larger sheets to fit into durable binders.
 - 2. Cover: Identify each packet with type or printed title "WARRANTIES." List title of Project and name of Contractor.
 - 3. Table of Contents: Neatly typed, using table of contents of Project Specification as format.
 - 4. Procedures to be followed in case of failure.

5. Quantity: Provide two (2) sets.
- B. Warranty Forms: Except as otherwise specified, Contractor shall execute in duplicate on Contractor's letterhead, the Project Warranty for General Construction and special Warranties required by various Specification Sections, on the warranty forms which follow at end of this Section.
- C. Warranty Effective Date:
 1. For portions of work accepted by Owner prior to Final Completion: Date of Beneficial Occupancy.
 2. For portions of work accepted by Owner at Final Completion; Date of Beneficial Occupancy or Final Completion whichever occurs sooner.

1.05 PREPARATION:

- A. Obtain warranties and guarantees, executed in duplicate by responsible subcontractors, suppliers and manufacturers within 10 days after completion of the applicable item or work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Beneficial Occupancy or Final Completion is determined in accordance with General Conditions, Paragraph 9.1.
- B. Verify that documents comply with requirements of Contract Documents, are in form approved by Owner, contain full information, and are notarized. As a minimum, each warranty shall contain:
 1. Name and location of Project.
 2. Name and address of Contractor.
 3. Product or work item.
 4. Scope of warranty.
 5. Date of beginning and duration of correction period for warranty.
- C. Retain warranties until time specified for submittal.

1.06 TIME OF SUBMITTALS:

- A. For equipment or component parts of equipment put into service with Owner's permission, submit documents within 10 days after acceptance.
- B. Make other submittals within 10 days after Date of Beneficial Occupancy, prior to Final Application for Payment.

1.07 SCHEDULE OF SUBMITTALS:

- A. Refer to Section 01340 for Schedule of Submittals.

1.08 WARRANTY ADMINISTRATION:

- A. A representative of the User (usually the Physical Plant Director) will be the Owner's point of contact for all warranty work. When disagreements develop between the Warranty Administrator and the Warrantor, the Director, Facilities Construction Division will act for the User.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION

PROJECT WARRANTY FOR GENERAL CONSTRUCTION

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed general construction work on the following project:

For _____ (Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20 ____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all work that may prove detective in workmanship or materials together with all other work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and will pay the costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this ____ day of _____, 20____.

for Contractor by _____.
(Signature)

_____ as its _____.
(Typed Name) (Position)

SPECIAL WARRANTY FOR _____

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed _____

work on the following project: _____

Address _____

For _____ (Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20 ____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all work that may prove detective in workmanship or materials together with all other work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and will pay the costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this ____ day of _____, 20____.

for Contractor by _____.
(Signature)

_____ as its _____.
(Typed Name) (Position)

And has been countersigned in accordance with terms and conditions, for Installer by:

_____ (Signature) _____ (Typed Name)

as its _____.
(Position)

Name of Firm _____

Address _____

SECTION 06100

ROUGH CARPENTRY

PART 1 SCOPE

1.1 Furnish and install all rough carpentry as shown and specified.

PART 2 MATERIALS

2.1 The Contractor shall provide all the materials required for the rough carpentry; framing lumber, blocking bucks, etc., shall be No. 2 Southern Pine or equal, same to be treated as herein specified. All framing shall be selected for proper quality as appropriate for the particular use.

PART 3 DETAIL REQUIREMENTS

3.1 Unworked materials shall be suitably stored or stockpiled and protected.

3.2 Materials that are worked or in place shall also be protected during construction.

3.3 Care shall be exercised in the creation of all framing, anchoring, bolting, screwing, nailing, caulking, etc., to be according to the best practice and details.

3.4 Hardware

A. The Contractor shall provide all rough hardware including nails, screws, bolts, anchors, etc., as shown, and required for proper completion of the work. Reference shall be made as necessary to other sections of the specifications.

B. Items of rough hardware shall be galvanized, such as nails, screws, bolts, anchors, etc., as shown, and shall be of proper size and spacing for substantial construction. Generally, at least three nails shall be provided where good practice dictates. In case specific sizes and spacing are not shown for bolts, etc., they shall be provided according to best standard practice, as approved by the Architect.

3.5 Rough Framing

A. Provide and install all rough framing members, blocking, grounds, etc., shown and required for the completion of the work.

B. Erect all framing plumb, straight, level and in proper alignment.

C. Provide and install all grounds, nailers and blocking for attachment for other work.

D. All wood framing shall be installed with sufficient nails, spikes, and bolts to assure

rigidity. Where fasteners are not specifically shown, provide adequate fastenings per Architect's approval.

- E. All wood framing adjacent to concrete areas of project and in wet areas shall be treated wolmanized material, even though an asphalt felt may separate the two materials. Refer to plans for use in other areas of the project.

3.6 Preservative Treated Lumber

- A. Wood members requiring pressure - preservative shall be treated in accordance with FS TT-W-00571 and AWPB LP-Z. Each piece shall bear the AWPB stamp.
- B. The Contractor shall provide an affidavit signed by the preservative treatment company stipulating the moisture-retention obtained and certifying that for preservative-treated materials requiring paint or in contact with wood to be painted, the treated material conforms to the paint ability, drying time, and surface deposit requirements of FS TT-W-572.
- C. Fire Retardant Treatment: Where fire-retardant treated lumber or plywood is specified or otherwise indicated provide materials which comply with AWPA standards for pressure impregnation with fire-retardant chemicals, and which have a flame spread rating of not more than 25 when tested in accordance with UL Test 723 or ASTM E84, and show no increase in flame spread and significant progressive combustion upon continuation of test for additional 20 minutes.
 - 1. Use fire-retardant treatment which will not bleed through or adversely affect type of finish indicated and which does not require brush treatment of field-made end cuts to maintain fire-hazard classification.

3.7 Blocking and Nailers

- A. Nailing strips and blocking shall be continuous, cut with square ends and in maximum practical lengths.
- B. The bottom half of nailers shall be cut to provide a net open area equivalent to 10% of the edge face.

3.8 Wood Grounds

- A. Wood grounds shall be dressed, key beveled, preservative treated, not less than 1-1/2" wide, the required thickness to provide for that required.

END OF SECTION

SECTION 09810 ACOUSTICAL SOUND REFLECTORS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Custom fabricated Sound Diffusers and Reflectors.

1.02 REFERENCES

- A. ASTM International:
 1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:

Surface Burning Characteristics (ASTM E84): Wall & Ceiling mounted Model Geometric Sound Diffusers shall be Class A rated, minimum.
Suspended Model Ovation Reflectors (gel coat finish) shall be Class C rated.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.
- D. Samples: Submit selection and verification samples of finishes, colors and textures.
- E. Test Reports: Certified test reports showing compliance with specified performance requirements.
 1. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions

recommended by the manufacturer.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install diffusers or reflectors until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F (16 - 27 degrees C) and 40% to 50%, respectively.

PART 2 PRODUCTS

2.01 ACOUSTICAL REFLECTORS

- A. Manufacturer: Kinetics Noise Control.
1. Contact: PO Box 655, 6300 Irelan Place, Dublin, OH 43017; Telephone: (614) 889-0480; Fax: (614) 889-0075; E-mail: intsales@kineticsnoise.com; Web site: www.kineticsnoise.com.

2.02 MANUFACTURED UNITS

- A. Ovation Reflector Panels:
1. Core: Laminate faced panels, 1/2-inch (13 mm), 5-ply plywood core with resin coat layer on back of panel.
 2. Face: 15 mil smooth matte finished gel coat with color selected by Architect.
 3. Suspension and Flexing system: 1/8 inch (3mm) steel angle painted black and 1/4-inch (6mm) diameter zinc-plated tensioning rods mounted on the top (unexposed) side of the Reflector Panel. Gel coat faced panels shall have through bolt attachment of suspension/flexing angles with bolt heads color matched. Panels shall be flexed to a 20 ft. radius before installation.
 4. Suspension System: 1/8-inch (6 mm) diameter, commercial grade aircraft cable with cable thimble and double crimp sleeves.
 5. Reflector properties:
 - a. Sound Reflectivity: Panels shall be highly acoustically reflective. The panels shall have less than 0.05 Sabines of absorption per sq. ft. of panel for all 1/3-octave band frequencies in the 200 Hz to 2000 Hz range tested per ASTM C423 with a Type J mounting.
 - b. Weight of reflector panel: No less than 2 psf and a maximum of 2.5 psf (9.75 – 12.20 kg/sq. m) Excludes steel framing weight.
 6. Sizes: 10 ft x 16 ft as shown on drawings.

2.03 FABRICATION

- A. Reflector Panel edges will be painted or stained to a finish similar to the exposed face.
- B. Reflector Panels will be fabricated to the sizes shown on the drawings as single units without visible joints or seams.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate or supporting structure, which has been previously installed under other sections, is acceptable for product installation in accordance with manufacturer's instructions.

3.03 CLEANING

- A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.
- B. Keep site free from accumulation of waste and debris.

END OF SECTION

SECTION 09840

ACOUSTICAL WALL PANELS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Custom fabricated acoustical wall panels.

1.02 REFERENCES

- A. ASTM International:
 1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:
 1. Surface Burning Characteristics (ASTM E84):
 - a. Flamespread: 25, maximum.
 - b. Smoke Developed: 450, maximum.
 - c. Fire ratings for all fabric covered panels is based on testing of the panel wrapped with the standard in stock fabric, Guilford of Maine, Model FR 701.
 - d. This rating applies to all acoustical wall treatment unless specifically excluded in the product specification section 2.02.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.
- D. Samples: Submit selection and verification samples of finishes, colors and textures.
- E. Test Reports: Certified test reports showing compliance with specified performance requirements.
 1. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with

identification labels intact.

- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install panels until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F (16 - 27 degrees C) and 40% to 50%, respectively.

PART 2 PRODUCTS

2.01 ACOUSTICAL WALL PANELS

- A. Manufacturer: Kinetics Noise Control.
 - 1. Contact: PO Box 655, 6300 Irelan Place, Dublin, OH 43017; Telephone: (614) 889-0480; Fax: (614) 889-0075; E-mail: intsales@kineticsnoise.com; Web site: www.kineticsnoise.com.

2.02 MANUFACTURED UNITS

- A. Hardside Panels:
 - 1. Thickness: 2 inches (51 mm).
 - 2. Size: As indicated on the drawings.
 - 3. Core: 2 inch (51 mm).
 - 4. Edge Detail: Beveled hardened with non-resin, Class A hardening solution.
 - 5. Facing: 100% polyester fabric, FR 701 Style 2100 by Guilford of Maine.
 - a. Color: #796 "Moleskin".
 - 6. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
 - a. 2 inch (51 mm) Panel: 1.00, minimum.
 - 7. Mounting Accessories: Z-clips.

2.03 FABRICATION

- A. General: Treat fabric wrapped panels using heat shrink process to develop fully taut facing.
- B. Hardside Panels: Wrap panel edges and return facing fabric 1 - 2 inches (25.4 - 51 mm) on back of panel. Secure fabric with adhesive applied to edges and back of panel only.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 - 1. Verify that stud spacing is 16 inches (406 mm) oc, maximum, for panels installed over open studs.

2. Do not install panels until unsatisfactory conditions are corrected.

3.03 CLEANING

- A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.
- B. Keep site free from accumulation of waste and debris.

END OF SECTION

SECTION 11062
THEATRICAL LIGHTING CONTROLS

PART 1 – GENERAL

1.1 SECTION SUMMARY

- A. This specification describes the provisions of the theatrical lighting equipment and controls for the Auditorium and Stage
- B. The drawings included with this specification convey general system concept. The plans do not show complete and accurate building details. The Installer is responsible for making field measurements to establish exact locations, relationships, load capabilities, and any electrical necessary for the installation of these systems.
- C. The work specified herein is performance based. This requires the Installer to provide all subsequent design and engineering, which is not included within the Contract Documents, to meet the requirements of this Performance Specification. The Installer is responsible for providing all components necessary for a complete and operational system. Any system changes or revisions necessary to make the system conform with the building, walls, steel, electrical services etc., shall be included at time of proposal and installed without claims for additional compensation.

1.2 RELATED DOCUMENTS

- A. Theatre Lighting Controls Drawings (“TL” Series) and general provisions of the contract including general and supplementary conditions and Division 1 Specification sections apply to this section.

1.3 SECTION INCLUDES

- A. Coordination, provision, installation, inspection, commissioning, testing, instruction and warranties of the Theatrical Lighting Controls. Plant, materials, equipment, transport and labor necessary to accomplish this and have a complete and proper System.
- B. Also includes:
 - 1. Required licenses and permits including payment of charges and fees.
 - 2. Verification of dimensions and conditions at the job site.
 - 3. Provision of submissions.
 - 4. Installation in accordance with the contract document, manufacturer's recommendation, and in conformity with applicable codes and authority having jurisdiction.
 - 5. Electrical work including:
 - a. Extension of electrical service, including ground, to equipment locations.
 - b. Extension and modification of existing electrical service, power feeds, load wiring including ground, conduit, and control wiring to equipment locations.
 - c. Provision of new conduit, wiring and device boxes as required by the design.

1.4 RELATED WORK

- A. Section 11065: Rigging Systems and Controls drawings and documentation.
- B. Division 15: Mechanical Systems drawings and documentation.
- C. Division 16: Electrical Work drawings and documentation.

1.5 REFERENCES

- A. Published specification standards, tests or recommended methods of trade, industry or governmental organizations apply to Work in this section where cited below:
 - 1. American National Safety Institute (ANSI),
 - 2. American Society of Testing and Materials (ASTM),
 - 3. Electronics Industries Association (EIA),
 - 4. Institute of Electrical and Electronic Engineers (IEEE),
 - 5. National Electrical Manufacturer's Association (NEMA),
 - 6. National Electrical Code (NEC),
 - 7. Underwriters Laboratories (UL),
 - 8. Occupational Safety and Health Administration (OSHA),
 - 9. United States Institute of Theater Technology (USITT)
 - 10. Entertainment Services and Technology Association (ESTA)
 - 11. Professional Lighting and Sound Association (PLASA)

1.6 DESCRIPTIONS AND REQUIREMENTS

- A. The following is intended to further describe the Work and clarify design intent and is not an exhaustive description of the Theatrical Lighting Systems. Refer to the Theatre Systems (TL Series) drawings for further information relating to this Section.
- B. Conduit infrastructure system, including wire for AC Power and grounding for the Theatre Lighting Controls, are provided by the installing contractor.
- C. Auditorium - Theatrical Lighting Control System:
 - 1. Provide additional dimming capability, additional networked lighting control connections, and network cabling for the theatre. This shall consist of one (1) dimmer rack (48 circuits), wire, wiring devices, and network connections. Note that the school has two (2) existing dimmer racks and a control distribution rack that will be incorporated into the new dimming and network additions.
 - 2. Interface the existing work light and house light control stations with the new dimmer rack circuits.
- D. Power Distribution System:
 - 1. Provide connector strips, gridiron junction boxes (GIJB), and associated hardware for over the orchestra shell ceiling, Front-of-House truss lighting, and Ante-Proscenium truss lighting. Coordinate with the stage rigging contractor the installation of the connector strips used. Provide all multi-conductor flat type cables allowing the devices to fly to a low trim of 60" inches. The cable is to be provided with necessary cable strain relief grips as part of the cable management system. Provide network control cables to parallel the multi-conductor cable runs. Verify all electrical circuits and label all circuit numbers as specified.

2. All plugging boxes and plugstrips (PB/PB1) in the front of house truss location and Ante-pro truss locations shall be installed and have all circuits verified and circuit numbers labeled.
 3. All wiring devices shall be equipped with grounded pin connectors.
- E. Miscellaneous Equipment:
1. Extension cables of varying lengths and configurations are provided for circuiting lighting instruments and control modules.

1.7 RESPONSIBILITY AND RELATED WORK

- A. Demolition:
1. Contractor will remove equipment not utilized in the systems.
 2. All operable equipment will be turned over to the owner after removal.
 3. Existing wiring to be removed; abandoned if physically necessary.
- B. The drawings included with this specification convey general system concepts. The plans do not show complete and accurate building details. The Installer is responsible for making field measurements necessary to establish exact locations, relationships, load capacities necessary for the installation of these systems. Coordinate the work with the General, Electrical and other related contractors as stated in Part 1.4, and the scheduled work of other trades.
- C. Conduit infrastructure system, including wire for AC Power and grounding for the Theatre Lighting Controls, are provided by the installing contractor. Coordination between different disciplines is required to achieve a proper conduit system installation and power provisions for Theatre Lighting Controls. All electrical installation shall be in accordance with Division 16 and the National Electric Code.
- D. Supply accessories and minor equipment items needed for a complete and fully operational system, even if not specifically mentioned in these Specifications or on the associated drawings, without claim for additional payment.
- E. Notwithstanding any detailed information in the Contract Documents, it is the responsibility of the Theatrical Lighting Systems Installer to supply systems in full working order. Notify the Architect of any discrepancies in part numbers or quantities before bid. Failing to provide such notification requires Theatrical Lighting Systems Installer to supply items and quantities according to the intent of the Specifications and associated Drawings without claim for additional payment.
- F. Obtain all permits necessary for the execution of any work pertaining to the installation, or any operation by the Owner including any associated charges or fees.
- G. Execute all work in accordance with the National Electrical Code, the National Electrical Safety Code, and all applicable State and Local codes, ordinances, and regulations. If a conflict develops between the contract document and the appropriate codes and is reported to the Architect prior to bid opening, the Architect will prepare the necessary clarification. Where a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform work.

1.8 QUALITY ASSURANCE

- A. Contractor's Qualifications: Firm experienced in the provision of systems similar in complexity to those required for this project; and meet the following:
 - 1. No less than five years experience with equipment and systems of the specified types.
 - 2. Experience with at least five comparable scale projects within the last two years.
 - 3. Be a franchised dealer and service facility for the manufacturer's products furnished.
 - 4. Maintain a fully staffed and equipped service facility.
 - 5. At the request of the Architect, demonstrate that:
 - a. Adequate plant and equipment is available to complete the work.
 - b. Adequate staff with commensurate technical experience is available.
- B. Manufacturer's Qualifications:
 - 1. No less than 5 years continuous experience in the production of specified type of product.
 - 2. Production shall meet applicable NEMA standards.
- C. Contractor shall attend pre-installation and coordination meetings as needed to coordinate with other trades as required.

1.9 SUBMITTALS:

- A. The submittal information required by the specification is to be presented complete and as submissions noted below. Submittals are a crucial and integral part of the construction process; as such the Owner's consultant will not recommend payment to the installer above twenty-five percent (25%) of the scheduled value of this work until all submittal information has been approved. Cost for the Owner's consultant to review secondary and re-submittals due to the Installer's failure to include all required submittal information, or rejection of incomplete or improperly prepared submittal information will be the responsibility of the Installer. The cost shall be based on the hourly rates of the architect and his consultants as published in their current professional fees schedules and shall also include reimbursable costs for delivery, mailing, and photocopies at direct cost plus ten percent (10%).
- B. Project Submittal Part 1:
 - 1. Provide for approval not later than fifteen (15) days after issuance of Notice to Proceed and prior to commencement of Work:
 - a. Section 1: A complete schedule of submittals.
 - b. Section 2: A chronological schedule of Work in bar chart form. Revise and resubmit schedule as required to reflect construction progress.
- C. Project Submittal Part 2:
 - 1. Provide for approval no later than thirty (30) days after issuance of notice to proceed and in accordance with previously submitted submittal schedule.
 - a. Section 1: Complete list of products to be incorporated within the Work (Bill of Materials). With the list of products provide a written description of how the products function as a system.
 - b. Section 2: Manufacturer's data sheets for each product. Provide original manufacturer's data sheets in order as they appear in the specification. Provide data sheets on each type of dimmer, contactor, and relay module

- specified for use on this project. These data sheets are submitted for each product in sufficient detail to facilitate proper evaluation to the products suitability for incorporation within the Work.
- c. Section 3: Provide a copy of the UL Listing Card for each dimmer, contactor, and relay module specified for use on this project. Provide UL Listing Card for each rack or assembly. Provide UL Listing Card for each wiring device specified for use on this project. Provide UL Listing Card for each type or module of lighting fixture to be provided on this project.
 - d. Section 4: Provide architect and/or architect's consultant with samples of wall plate materials and colors as specified in this section.
 - e. Section 5: Submit Material Safety Data Sheets (MSDS) for each potentially hazardous material prior to use. Include information pertaining to the hazardous material with the MSDS.
2. Drawings:
- a. Provide computer software generated drawings using standard industry graphic standards. Hand or poorly drawn documents will not be accepted. All drawings shall be created on a computer aided drafting (CAD) system compatible with AutoCAD release 2000 or higher. Electronic files of theatrical lighting contract documents shall not be distributed for use in generating submittal documents with the exception of architectural backgrounds.
 - b. Schematic Drawings. Provide drawings detailing inter- and intra-components or fabricated products, wiring, conduit and cabling diagram depicting cable types, designator and color codes. Give each component a unique designator and use this designator consistently throughout the project. All schematic/riser drawings shall be provided by the lighting control system manufacturer.
 - c. Floorplan and Section Drawings. Provide drawings showing the exact location of all installed equipment on floorplans and sections, including all walls, doors and rooms, showing exact locations of devices and equipment, including, but not limited to, dimmer racks and associated control equipment as coordinated with other electrical equipment.
 - d. Rack Elevations: provide a front elevation and dimmer schedule of each dimmer rack giving the circuit number and location of connected load.
 - e. Installation Drawings. Provide drawings showing special details depicting methods and means specific to each product, assembly and each product manufacturer's recommended installation methods and means.
 - f. Conduit and Electrical Drawings. Provide floor plan drawings, including all walls, doors and rooms, showing exact power requirements and conduit sizing/routing for each system with the location of all junction boxes.
 - g. Equipment Drawings. Provide drawings showing location of equipment in racks, consoles, or on tables, with dimensions; wire routing and cabling within housings; AC power outlet and terminal strip locations.
 - h. Custom Enclosures and Millwork Drawings. Provide full fabrication detail drawings indicating size, material, finish and openings for equipment.
 - i. Fabricated Plates and Panels Drawings. Provide complete drawings on custom fabricated plates or panels. Drawings to include dimensioned locations of components, component types, engraving information, plate material and color, and bill of material.

- j. Schedule Drawings. Provide wiring schedule drawings showing source and destination of wiring and indicating which wiring is in conduit. Junction box schedule showing type of box, size, mounting and location.
- k. Labeling Drawing. Provide representative equipment and cabling labeling scheme. Include font sizes and styles, explanation of scheme, and descriptor and designator schedule.
- l. General Detail Drawings. Provide detail drawings depicting any unique installation methods specific to each product.
- m. Template Drawings. Provide detail drawings for master house lighting touch screens stations. Note that some screens may be revised during Owner training to meet the needs of the End User.
- n. Any other pertinent data generated which is necessary to provide the Work.

D. Submittal Format:

- 1. Each submittal shall be bound in a three-ring D style binder sized for 150% of the material with a maximum size being a three inch spine. Use multiple volumes if necessary.
- 2. Provide each submittal with a unique number and be numbered in consecutive order.
- 3. Provide each submittal binder with a cover and a spine reflecting the project title and submittal number. Submittals shall not be issued with other disciplines.
- 4. Provide each submittal with a complete table of contents with the following information:
 - a. Project title and number.
 - b. Submittal number. In the case of a resubmittal, use the original submittal number immediately followed by the suffix "R" immediately followed by a unique number and be numbered in consecutive order.
 - c. Date of submission.
 - d. Referenced addendum or change-order number as applicable.
 - e. Referenced specification Section, Part, Article, Paragraph and page number or drawing reference as applicable.
 - f. Index Product Data sheets by manufacturer and model or part number.
- 5. Separate major grouping with labeled binder tabs.
- 6. Arrange product data list in alpha-numeric order when applicable followed by unspecified product arrange by manufacturer and model or part number. Follow list by manufacturer's data sheets, arranged in the same order. If a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol.
- 7. Drawings executed at an appropriate scale, not smaller than 1/8"=1'.

E. Submittal Copies:

- 1. These requirements represent minimum project requirements; a project's general conditions may require additional copies for project distribution.
- 2. Submit one (1) unbound reproducible drawing set and three (3) bound prints of all drawings.
- 3. Submit four binders of bound materials (e.g. product submittals).
- 4. Submit two copies of product or sample finishes as required within this specification.

F. Resubmission Requirements:

- 1. Make any requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.

2. Indicate any changes that have been made other than those requested.
- G. Approval of Submittals: The submittal information will be reviewed by the general contractor, owner, architects, engineers, and consultant. Each submittal package will be returned, stamped as follows:
1. “No Exceptions Taken” proceed with construction, all job site coordination will be at the direction of the general contractor.
 2. “Make Corrections Noted: No Resubmission Required” submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made before construction can begin.
 3. “Make Corrections Noted: Submit Corrected Copy” submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made in writing and returned to the consultant before construction can begin.
 4. “REJECTED, Submit Specified Item” a specified item in the submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 5. “REJECTED, Revise and Re-submit” submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 6. “No Review Action Required” all information provided was for information or coordination purposes only. Review is not required.

1.10 PROJECT RECORD MANUAL

- A. Submit three bound original sets (this is a minimum of two for the Owner and one for the Architect’s consultant; additional copies may be required by the project’s general conditions) after substantial completion and prior to final inspection.
- B. The Project Record Manual shall be segregated into three separate bindings as follows:
 1. Operations Manual:
 - a. Product Data: Product actually incorporated within the Work:
 - (1) Manufacturer's data for each type of product conforming to the scheme above. The list shall include manufacturer’s serial numbers.
 - (2) Each products Owner/Instruction Manual.
 - (3) For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item.
 - (4) Manufacturer's wiring diagram for each type of product actually incorporated.
 - (5) Separately bound list by manufacturer and model or part number of all products incorporated within the Work arranged in alphanumeric order.
 - b. Record drawings: Final rendition of that specified depicting what is actually incorporated within the Work. Provide a one (1) full size set of reproducible

drawings and one (1) CD-ROM containing all CAD generated drawings prepared in conjunction with this project. Drawing files shall be in AutoCAD Release 2000 DWG format.

- c. Test Reports: Recorded findings of testing specification of this specification.
 - d. System Operation and Instructions: Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity.
 - (1) This procedure should describe the operation of all system capabilities.
 - (2) Assume the intended reader of the manual to be technically experienced but unfamiliar with the components and the facility.
2. Service & Maintenance Manual:
- a. Provide an original copy of the service manual on every piece of equipment for which the manufacturer offers a service manual. Arrange manuals in the same order as the operations manual.
 - b. Manufacturer's maintenance and care instructions.
 - c. Provided certification of fluorescent lamp "burn-in" with dates and times clearly detailed. Provide information on faulty lamps and/or fixtures noted during "burn-in."
 - d. Maintenance Instructions: including maintenance phone number(s) and hours; maintenance schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.
3. Warranty Manual:
- a. Manufacturer's warranty statements on each product.
 - b. Date of substantial completion and ending dates for warranties for each group of products.
 - c. Software registration and licenses.
- C. Include any other pertinent data generated during the Project or required for future service.
- D. Appropriately duplicate data within the separate bindings when it will reasonably clarify procedures, e.g., operational data in maintenance binding.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Ship product in its original container, to prevent damaging or entrance of foreign matter.
- B. Handling and shipping in accordance with manufacturer's recommendation.
- C. Provide protective covering during construction, to prevent damaging or entrance of foreign matter.
- D. Replace at no expense to Owner, product damaged during storage, handling or the course of construction.

1.12 PROJECT CONDITIONS

- A. Verify conditions on the job site applicable to this work. Notify Architect in writing of discrepancies, conflicts, or omissions promptly upon discovery.
- B. The Drawings diagrammatically show cabling and arrangements of equipment fitting the space available without interference. If conditions exist which make it impossible to

install work as shown, recommend solutions and/or submit drawings to the Architect for approval, showing how the work may be installed.

1.13 ACCEPTANCE TESTING

- A. Upon completion of installation and initial tests and adjustments specified in Part 3, acceptance testing shall be performed by the Owner's Representative.
- B. Provide two representatives familiar with all aspects of the system to assist the Owner's Representative during acceptance testing.
- C. The process of acceptance testing the System may necessitate moving and adjusting certain component parts; perform such adjustments without claim for additional payment.

1.14 WARRANTY

- A. Warrant labor and product for two (2) years following the date of substantial completion to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace defects occurring in labor or product within the Warranty period without charge. Any cost required to complete this warranty repair is the responsibility of the contractor.
- B. All lighting control network components (i.e. routers, switches, nodes, etc...) will be covered under warranty by the lighting control systems' manufacturer for a minimum of two (2) years following the date of substantial completion. These warranties are in addition to any specific warranties issued by manufacturers for greater periods of time.
- C. During the warranty period, the manufacturer shall provide a toll-free 24-hour-per-day number for telephone technical support and service request. If callback is required, calls shall be answered within thirty (30) minutes.
- D. Within the warranty period, contractor and/or manufacturer shall correct the deficiency within twenty four (24) hours.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Model numbers and manufacturers included in this specification are listed to establish a standard of product quality.
- B. Substitution of specified products with other qualified manufacturers and products will be considered providing:
 - 1. Proper substitution procedures outline under Division 1 is adhered to.
 - 2. A request for substitution of each specific product must be made in writing by a bidding Contractor not less than five (5) business days prior to bid for written approval of the Architect.
 - 3. Sufficient data for each product is presented for prior approval including technical data, UL approval, manufacturer's specifications, samples, and, if requested, results of independent testing laboratory tests.

4. Written permission is obtained for the substitution from the Owner or Owner's Representative.
- C. If proposed System includes equipment other than specified model numbers, submit a list of major items and their quantities, with a generated one-line schematic diagram for review. Include a list of previously installed projects using proposed substitute equipment that are similar in nature to the specified System.
- D. Providing product not specifically specified without prior written approval by the Owner, Architect and/or Architect's Consultant shall not be accepted.

2.2 GENERAL

- A. Products shall be new, free from defects and listed by UL when an applicable UL Standard exists. Provide product of a given type from one manufacturer.
- B. Regardless of the length or completeness of the descriptive paragraph herein, provide product complying with the specified manufacturers' published specifications.
- C. All cable shall be compliant with NEC as applicable, and UL listed or CSA certified. UL listing must be available at the time of bid.

2.3 CABLING AND CABLING ACCESSORIES

- A. DMX512 (E-DMX) distribution cable:
 1. Provide 23AWG four twisted pair data cable.
 2. Pair Color Code Chart:
 - a. 1-White/Blue Stripe & Blue
 - b. 2-White/Orange Stripe & Orange
 - c. 3-White/Green Stripe & Green
 - d. 4-White/Brown Stripe & Brown
 3. Insulation: Polyolefin
 4. Inner/Outer Jacket Material: PVC - Polyvinyl Chloride
 5. Nominal Impedance: 100 ohms.
 6. Nominal Velocity of Prop.: 72%.
 7. Capacitance between conductors: 15.0 pF/ft.
 8. Acceptable product:
 - a. Belden 11872A (Category 6).
- B. DMX512 Backup Control Signal Distribution Cable:
 1. Provide 24AWG two twisted pair cable.
 2. Insulation: Foam polyethylene.
 3. Shield: aluminum foil/polyester tape
 4. Capacitance between conductors: 12.5 pF/ft.
 5. Acceptable product:
 - a. Belden 9729
- C. Houselight Control Signal Distribution Cable:
 1. Provide 16AWG single twisted pair cable.
 2. Insulation: PVC-polyvinyl chloride
 3. Shield: unshielded

4. Capacitance between conductors: 33 pF/ft.
 5. Acceptable product:
 - a. Belden 8471
- D. Multi-Conductor SO Type Flat Cable:
1. Provide multiconductor cable with black neoprene jacket.
 2. Conductivity: not less than 98%.
 3. Conductor: soft drawn annealed stranded copper.
 4. Minimum Conductor Temperature: 90°.
 5. Size: No. 12 AWG minimum.
 6. No. of Conductors: As required by circuits shown.
 7. Acceptable product:
 - a. Cole Wire & Cable
 - b. Carrol
 - c. Rome.

2.4 DIMMING EQUIPMENT

A. Dimmer Racks:

1. Racks shall have wired spaces for all circuits.
2. Racks shall house all dimmer modules, control electronics, and branch circuit breakers.
3. Rack shall be UL listed and labeled and have a standard AIC fault current protection rated at 100,000 AIC minimum.
4. Rack shall employ dead front construction of code gauge steel.
5. Racks shall have hinged locking door.
6. Ventilation of racks shall be provided by a low-noise fan located at the top of the racks.
7. Over-temperature of a rack shall cause individual dimmers to shut down independently as required.
8. Each rack shall have a keypad and LCD display for rack configuration, backup and fault indication.
9. Racks shall employ USITT DMX-512 control format.
10. Racks must accept one (1) network connection via RJ45, two (2) independent DMX signals and one (1) analog 10VDC signal.
11. Web-based Interface:
 - a. The control module shall incorporate web server technologies for interaction with standard web browsers. The Web interface shall provide an easy-to-navigate, graphical user interface for monitoring and control of the dimming systems. This interface shall duplicate all the functions of the control module.
 - b. The web-based interface shall be self-contained, requiring no software installation on a user's computer. A user may use any laptop with a web browser to configure and exert basic control. A user shall be able to configure, monitor and control the dimming system using a web browser such as Internet Explorer 6.0 or higher. Use of standard web technologies shall also allow handheld computers, or PDA's, to access and control the system. Dimming systems that do not offer this facility shall not be acceptable.
12. Racks shall maintain active scene for a user programmable period after loss of DMX signal from console.
13. Racks must have the capability of storing a minimum of 128 user programmable preset looks.

14. Each rack shall have dimmers provided for all base circuits, spares as specified and blank air flow modules will be provided for all expansion circuits.
15. Acceptable product:
 - a. Electronic Theater Controls SR24 Racks with CEM+

B. Dimmer Modules:

1. Dimmer modules shall be plug-in type.
2. Modules to contain no more than two dimmers per module.
3. Modules shall be constructed of aluminum.
4. Modules shall contain fully magnetic circuit breaker(s), solid state switching module(s), choke(s) and connectors.
5. Each module shall have the capability to operate in a dimmed or a non-dimmed mode. This function shall be selectable from the control console or the rack-mounted keypad.
6. Each dimmer circuit shall use solid state switching devices consisting of two silicon controlled rectifiers in an inverse parallel configuration, snubber network and all required gating circuitry on the high voltage side of an integral opto-coupled control voltage isolator.
7. Modules shall contain torodial filters to reduce lamp filament "sing" and limit the radio frequency interference (RFI) on line and load conductors. The current rise time will not be less than 500 microseconds measured at 90 degree conduction angle from 10-90% of the output wave form with the dimmer operating at rated load.
8. Power efficiency shall be at least 97% at full load.
9. Dimmer shall be capable of accepting a hot-patch of an incandescent load up to the full capacity of the dimmer.
10. Dimmer output shall be regulated for incoming line voltage variations except that the output voltage cannot be increased above a level equal to line voltage less dimmer insertion drop. Line regulation will be +/- 1V over a 90-140 volt range for changes up to 10%. Load regulation shall be +/- 2V for 1-100% of rated current. Dimmers will employ a scheme for compensation for harmonic distortion of the power line for any variation in load.
11. Each dimmer shall be equipped with a rated, fully magnetic circuit breaker that shall be mounted in the face plate of the dimmer module.
12. Dimmer response to control shall be less than 16 milliseconds.
13. Provide quantity as required by design plus 2% spares with a minimum of two (2) modules of each type utilized within the system.
14. Acceptable product:
 - a. Electronic Theatre Controls Dual 20A Modules (2400 watt)
 - b. Electronic Theatre Controls Single 20A Fluorescent Modules
 - c. Electronic Theater Controls 20A Relay Modules
 - d. Electronic Theater Controls 20A Constant Modules

2.5 CONTROL EQUIPMENT

A. Network Receptacle Station (Net):

1. Provide a remote plug-in station for connection of control console and portable DMX Nodes at control booth and other locations as noted in the drawings.
2. Station shall be provided with a Neutrik RJ 45 jack. Each jack shall be rated for use in harsh commercial conditions.
3. Station will contain the following components:

- a. RJ 45 jack with punch down block, provide Neutrik EtherCon type receptacle as indicated on drawings.
 - b. Station faceplates shall be .80" aluminum, finished in fine texture, scratch-resistant black powder coat.
 - c. Station back box will be a minimum of 2.5 inches.
 - d. Station shall have silk screened graphics white in color.
 - e. Provide a Lamacoid label that de-notes, using a alpha-numeric labeling convention, the switch location and network port number.
4. These network connections shall also be configured with a back box and mounting hardware for mounting on the FOH lighting galleries or backstage.
 5. Each Network jack will route directly to the Ethernet Switch located in the assigned Dimmer Rooms without the need for patching.
 6. No daisy chaining between jacks, or splicing of Category 5e and above cable is allowed.
 7. Quantity: As depicted in drawings.
 8. Acceptable product:
 - a. Network station (as provided by the lighting control system manufacturer)
- B. DMX512 Distribution Box/Network Node (NODE):
1. Provide a wall plug-in box designed for flush or surface mounting.
 2. Node shall provide the quantity of universes, as specified, of DMX512 control for intelligent lighting or other DMX512 addressable devices.
 3. Power for the node shall be provided over the Cat6 cable via the network switch. All nodes shall be IEEE 802.3af compliant and UL listed. Power consumption shall not be greater than 3 watts.
 4. Ports:
 - a. DMX Ports shall comply with the requirements of the USITT DMX512.
 - b. The two DMX ports shall be software-configurable for either input or output.
 - c. DMX inputs shall be fully opto-isolated from the node electronics and from each other.
 - d. DMX outputs shall be earth-ground referenced.
 - e. DMX Ports shall be capable of withstanding fault voltages of up to 250VAC without damage.
 5. Node modules will mount within a standard electrical box or enclosure.
 6. Each input shall route directly to the Ethernet Switch located in the assigned Dimmer Rooms without the need for patching.
 7. Acceptable product:
 - a. ETC DMX Node
- C. DMX-512 Distribution
1. Provide DMX512 distribution for connection to wiring devices in the Theatre.
 2. Modules shall provide one optically isolated DMX512 signal output capable of driving thirty two (32) receiving devices on a single DMX line.
 3. DMX device drivers shall have maintained outputs; however, the ability to program individual outputs as momentary on/off signals through a soft patch shall be built-in.
 4. Isolation: input to output signal isolation is provided by an opto-isolator designed for data use.
 5. Provide quantity as required by design.
 6. Provide product as manufactured by:

- a. Gray by Pathway Connectivity
- b. Doug Fleenor Designs Enhanced2 DMX512 Isolated Splitter

2.6 DISTRIBUTION EQUIPMENT

- A. General: All wiring devices are to be provided for the new lighting control system. All new multi-conductor cable is to be installed with Kellem strain relief grips at each end of the cables. All circuits are to be tested and be functioning. All circuits on the connector strips and plug boxes are to be relabeled with 2" yellow on black Brady numbers. All floor pockets and wall mounted boxes are to be provided with new 1" yellow on black Brady numbers. Overall assembly to be UL listed.

- B. Gridiron Junction Box (GIJB):
 - 1. Provide a junction box designed to mount to the structure.
 - 2. Construction: 16-gauge, cold rolled steel with removable covers.
 - 3. Size: minimum 18"W X 6"H X 12"DP with four mounting holes. Box will be provided to properly to accommodate number of circuits specified on drawings.
 - 4. Finish: fine-texture, scratch resistant, black-powder coating.
 - 5. Termination: barriered, screw clamp type terminal strip(s). Terminals to be sized for the circuit, according to the circuit amperage as required.
 - 6. Grounding: junction box will have grounding lugs.
 - 7. Up to two (2) GIJBs may be required per orchestra shell ceiling; reference circuit count per drawings.
 - 8. Overall assembly UL listed.
 - 9. Provide Kellems grips for each multi-conductor cable entering the junction box.
 - 10. Provide GIJB1 with a cable management assembly for use with the orchestra shell ceilings.
 - 11. Acceptable product:
 - a. ETC 8700 Series
 - b. SSRC
 - c. Performance Electric
 - d. Rigging Innovators

- C. Pipe Mounted Box (PB/PB1):
 - 1. Provide a pipe mount plug box as required.
 - 2. Construction: code gauge steel.
 - 3. Connectors: female 20A grounded pin connectors on the end of each of the pigtails.
 - 4. Pigtails: SO type cable, provide lengths as shown on drawings.
 - 5. Circuits: number of circuits as specified on drawings.
 - 6. Rating: pigtails and connectors to be 20 ampere.
 - 7. Labeling: circuits are labeled with yellow letters on black background.
 - 8. Overall assembly UL listed.
 - 9. Acceptable product:
 - a. ETC 8300B series
 - b. SSRC
 - c. Performance Electric
 - d. Rigging Innovators

D. Connector Strip:

1. Provide a connector strip style connector devices designed for mounting to pipe battens, the FOH truss, and Ante-pro truss. Unit is to have a barrier strip for use in conjunction with control network distribution.
2. Construction: 16-gauge, cold-rolled steel with removable covers.
3. Size: approximately 4"X4" in section, provided in lengths specified on drawings.
4. Finish: fine texture, scratch resistant, black powder coat.
5. Bracket: provide (1) steel hanging bracket for every five feet of strip.
6. Connectors: female 20 ampere stage-pin connectors.
7. Pigtails: SO type cable, 18" in length with Heyco strain relief.
8. Circuits: number of circuits as specified on drawings with labels on one side of connector strip.
9. Termination: circuits terminated at a barrier terminal strip in a terminal box located, as specified and on drawings.
10. Rating: pigtails and connectors to be rated at 20 amperes.
11. Overall assembly UL listed.
12. Acceptable product:
 - a. ETC 8900 Series
 - b. SSRC
 - c. Performance Electric
 - d. Rigging Innovators

2.7 LIGHTING INSTRUMENTS

- A. General: The new lighting fixtures shall connect and be controlled by the new stage lighting control system. All lighting instruments shall be provided with color frame, mating grounded stage pin connector, safety cable, c-clamp, and specified lamp. Provide 10% spare lamps with a minimum of two of each type of lamp required, unless otherwise specified. All fixtures will be UL listed.
- B. Ellipsoidal Reflector Spotlights (hard edged focusable illumination)
1. Provide fixture constructed of rugged die cast aluminum with high impact knobs and handles. Body shall be finished with black, high temperature epoxy paint.
 2. Unit will have a rugged steel yoke with a positive locking clutch which will allow for a 300° body rotation.
 3. Unit shall be constructed in a manner to allow tool free maintenance of lamp alignment and cleaning of reflector or lens.
 4. Unit shall have shutters constructed of 20 gauge stainless steel which are warp and burnout resistant. Shutters shall mount in three different planes.
 5. The optical train shall combine a compact filament lamp with a precision molded borosilicate, ellipsoidal reflector and aspheric lens to produce an optimum cosine field. Unit shall have projector-like quality pattern imaging, sharp shutter cuts without halation, and allow for both hard and soft beam edges.
 6. Unit shall have positive locking of lamp focus, independent lamp alignment controls, and interchangeable lens tubes for different field angles with Teflon guides for smooth tube movement.
 7. Unit shall have two accessory slots, a top-mounted quick release gel frame retainer, and a slot with sliding cover for motorized pattern devices or optional iris.
 8. Unit shall allow 95% of visible light to be reflected while 90% of infrared light as heat will be transmitted through the reflector.

9. Unit shall utilize a 750W lamp, which is a compact tungsten filament contained in a krypton-filled quartz envelope. The lamp shall mount axially within the reflector. The lamp base shall have an integral die cast aluminum heat sink that reduces seal temperature and ensures proper lamp alignment. The lamp socket shall be ATP 220 nickel gold plated.
10. Unit will be wired with a grounded stage pin connector
11. Provide six (6) A size and six (6) B size pattern holders; provide six (6) glass pattern holders.
12. Acceptable product: Electronic Theatre Controls Source Four
 - a. 14° Ellipsoidal (quantity 12)
 - b. 19° Ellipsoidal (quantity 12)

2.8 MISCELLANEOUS EQUIPMENT

A. SO Cable Cradles:

1. Provide properly sized cable cradles for SO cable service from gridiron junction box to plugstrip connector device.
2. Acceptable product:
 - a. ETC 8800 Series
 - b. Altman 512 Series.

B. SO Cable Kellums Grips:

1. Provide properly sized kellums grips for SO cable service from gridiron junction box to plugstrip connector device.
2. Acceptable product:
 - a. Hubbell or equivalent.

C. Flexible Category 5e Cable/NET Cable:

1. Provide extra rugged, flexible control cable (Ethernet) for connection of NET stations to portable Network Nodes.
2. Cable to be 4-pair, double shielded, low-capacitance.
3. Conductors: 26 AWG tinned, annealed copper stranded 7 x 0.16.
4. Connector: Provide with EtherCon connector by Neutrik
5. Assembly: pairs cabled with Kevlar strength member.
6. Shield: (inner) aluminum/mylar, 100% coverage (outer) tinned copper braid, 80% coverage.
7. Conductivity: 15ohms per 100 meters @ 20C.
8. Impedance: 100 ±15 ohms 1-100 MHz.
9. Provide the following cable lengths:
 - a. 25' Ethernet Cable (quantity: 5)
 - b. 10' Ethernet Cable (quantity: 5)
 - c. 3' Ethernet Cable (quantity: 5)
10. Acceptable product:
 - a. TMB & Associates ProPlex or equivalent

D. DMX-512 cable

1. Provide DMX-512 cables for connecting lighting consoles, moving lights, or other DMX controlled accessories to the Network Nodes.
2. Connectors shall be Neutrik 5-pin.
3. Provide 24AWG two twisted pair data cable.
4. Insulation: polyethylene.
5. Nominal Impedance: 100 ohms.

6. Nominal Velocity of Prop.: 78%.
7. Capacitance between conductors: 12.5 pF/ft.
8. Provide:
 - a. 25' DMX Cable (quantity: 5)
 - b. 10' DMX Cable (quantity: 5)
 - c. 5' DMX Cable (quantity: 5)

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate incorporation of the Work specified herein with other project work so as to facilitate a cohesive final product.
- B. Mount equipment and enclosures plumb and level.
- C. Permanently installed equipment to be firmly and safely held in place.

3.2 INSTALLATION OF CABLE AND WIRING

- A. Coordinate all electrical work with the Electrical Contractor. Provide all necessary equipment including hardware and apparatus for complete connection of power system wiring.
- B. Coordinate installation of power and ground wiring to equipment. Power and ground wiring will terminate inside of equipment and/or junction boxes, and hardwired to ground buss and circuit breaker to ensure uninterrupted operation.
- C. All control wiring will be executed in adherence to USITT standard control systems practices including the following:
 1. Isolate cables carrying signals at different levels and separate to restrict interaction.
 2. Keep wiring separated into three groups of conduit provided for control circuits, power circuits (up to 50 amps), and feeder circuits (above 50 amps).
 3. Isolate all wiring, except for safety ground wiring, from conduit ground.
 4. Take such precautions as are necessary to prevent and guard against electromagnetic and electrostatic interference in other technical systems (such as sound and communications systems) in the facility. Where possible all devices and wiring will be enclosed in a shielded environment. Take care not to use shields (conduits) and grounds as current carrying return paths for lamp and relay coil commons. All ground references are to be made to the building electrical system ground.
 5. Label unused wiring provided for spares or future systems and terminate at screw terminal strips.
- D. All joints and connections will be made with resin-core solder or with ratchet jaw crimp type mechanical connectors. Connect all circuits electrically in phase using same wire color code for similar circuits throughout the project.

3.3 INSTALLATION OF CONNECTORS, PLATES & PANELS

- A. Install panel mounted connectors rigidly attached to panels, plumb and level.

- B. Custom connector plates are typically stainless steel, unless otherwise noted or specified. However, it is the Installer's responsibility to verify plate finish with the Architect.

3.4 INSTALLATION OF EQUIPMENT HOUSING

- A. Prewire and test equipment cabinets before delivery to job site.
- B. Provide adequate ventilation in cabinet mounted equipment to keep temperature in the cabinet below 110° F. Install additional ventilation fans if necessary to attain a temperature below 110° F.
- C. Power to be distributed within dimming and distribution system by Theatrical Lighting System Installer.

3.5 INSTALLATION OF EQUIPMENT

- A. Take appropriate precautions against electrostatic discharge (ESD) when installing electronic equipment. Establish a personal ground before handling electronic equipment through the use of a grounded wrist wrap and/or an anti-static floor pad.
- B. Take appropriate precautions to protect the equipment from damage during installation. Equipment to be installed free of damages, scratches, dents, etc.
- C. Mount equipment plumb and level, firmly, and safely held in place.
- D. All equipment will be installed in compliance with applicable Local and National codes and regulations. Equipment will also be installed in accordance with Manufacturer's recommendations and specifications. Prior to initial energizing, the system will be inspected by a representative of the Manufacturer as outlined under Contractor Commissioning.

3.6 LABELING OF EQUIPMENT

- A. Create a lettering template for marking lighting and other instruments that depicts the initials or name of the Owner or facility. Coordinate exact lettering with Owner. Letters to be a minimum of 1" sans-serif text. A properly rated spray paint compliant with applicable codes will be used with template to label equipment. Coordinate color of paint with Owner.
- B. Use proper measures to ensure that the lettering is clear and that the surface area of the equipment is free of overspray.
- C. Provide Owner with lettering template upon completion of the project for future use by Owner.

3.7 CONTRACTOR COMMISSIONING

- A. Prior to energizing or testing the System ensure the following:
 - 1. Products are installed in proper and safe manner according to manufacturer's instructions.
 - 2. Dust, debris, solder splatter, etc. is removed.
 - 3. Cable is dressed, routed, and labeled; connections are consistent with regard to polarity.

4. Labeling has been provided in compliance with specification and/or Owner.
5. Temporary facilities and utilities have been properly disconnected, removed and disposed of off-site.
6. Products are neat, clean and unmarred and parts securely attached.
7. Broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. have been replaced or properly repaired, and debris cleaned up and discarded. The jobsite shall be broom clean.
8. Retain the services of a qualified engineer regularly employed by the Theatrical Systems Integrator or the System Manufacturer to check the installation and ensure its proper operation. No part of the Theatrical Lighting System may be energized before this engineer has checked and approved the System installation. Failure to observe this provision will automatically relieve the manufacturer of any responsibility concerning the proper operation of the system or any part thereof and the replacement of parts which may have been damaged by the premature energizing. The engineer will be promptly available at the job site within (14) days of written notice by the Theatrical Lighting Installer to the Manufacturer.
9. All dimmers and associated dimmers are to be tested. Each dimmer shall be tested with a load equal to at least 50% of the capacity of the dimmer.
10. The entire dimmer bank shall be tested with a minimum of 50% capacity of the dimmer bank for not less than thirty minutes operating at full output. A representative of the owner or architect shall be present to observe the dimmer load tests.
11. Contractor shall provide circuit tester with the appropriate type of connector so that circuits can be tested at random.
12. Contractor shall have available three UHF or VHF walk-talkies for use by the consultant during the inspection and testing of the lighting control system.

3.8 ACCEPTANCE

- A. Upon completion of installation, initial adjustments, tests and measurements specified in Part 3, and submission and review of the results, a final inspection and test will be observed by the Architect's consultant no earlier than two weeks after receipt of the written results.
- B. Acceptance testing will include operation of each major system and any other components deemed necessary. Installer will assist in this testing and provide any test equipment required specified herein. Installer shall provide at least two (2) technicians available for the entire testing period (day and night), to assist in tests, adjustments, and final modifications. Tools and material required to make any necessary repairs, corrections, or adjustments shall be furnished by the Installer. Testing process is estimated to take a minimum of 1 day.
- C. Provide the following test gear:
 1. Stage Pin Circuit Tester
 2. DMX Tester
 3. LinkCheck Ethernet Tester
 4. Ethernet Length Meter
- D. The process of testing the System may necessitate moving and adjusting certain components such as signal processors.

- E. Perform tests and provide required test equipment, tools and material required to make any necessary repairs, corrections, or adjustments.
- F. The following procedures will be performed on each System:
 - 1. Inspection of the methods and means employed to incorporate the System within the facility.
 - 2. Verification of proper operation, from controlling devices to controlled devices.
 - 3. Verification of proper adjustment, balance, and alignment of equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for each level control, and appropriately record these settings within the Record Documents.
 - 4. Other tests on equipment or systems deemed appropriate.
- G. In the event the need for further adjustment or work becomes evident during testing, the Contractor is to continue his work until the System is acceptable at no addition to the contract price. If approval is delayed because of defective equipment, or failure of equipment or installation to meet the requirements of these specifications and any extension of the inspection and testing period is required, the contract price will be reduced for the additional time and expenses of the Owner, at the standard rate in effect at that time.

3.9 INSTRUCTION OF OWNER PERSONNEL

- A. Training shall include operations and service training on the following major equipment components and subject matter:
 - 1. Dimmer racks and lighting control (8 hours; scheduled in at least two separate sessions separated by some weeks)
 - 2. Basic testing and control
 - 3. Normal operations
 - 4. Programming memory
 - 5. Software configurations and upgrades
- B. Training will not be required where the item of equipment is owner furnished, part of an option that is not selected, or an item of equipment that is not actually purchased.
- C. Training Schedules
 - 1. Training should be assumed to take place on the project site, unless agreed to by the Owner.
 - 2. Training should be scheduled to be non-overlapping.
 - 3. Actual training schedule shall be by agreement with Owner. Do not assume that training will occur over 8 hour days. It is more likely that training will be scheduled in 4 to 6 hour increments; perhaps over a period of weeks (or even months).
 - 4. In the event that a portion of the training time is occupied in troubleshooting the equipment installation, then the training time shall be extended an equal amount of time.
- D. The following is a general idea of the training "curriculum":
 - 1. A general familiarization of the device(s).
 - 2. An explanation of how the device(s) interfaces to the rest of the lighting control system.
 - 3. General training on operating the device(s).

4. Specific training on device(s) operation.
 5. Saving information; backing information up.
 6. Basic troubleshooting
 7. Specific troubleshooting (this information may be conveyed to personnel other than the device's "operators").
 8. How to upgrade software; precautions taken while doing (e.g. backing-up existing software).
- E. Submit an outline of the course with sample instructional aids for approval thirty (30) days prior to scheduled instruction sessions to architect and architect's consultant.
- F. Lighting system installer shall attend events of the facility.
1. Event Attendance includes the following requirements:
 - a. Be present at the first two (2) events for each space defined in Part 1.1.
 - b. During these events, attendance shall begin at the first crew call and conclude when the crew is released. During these events perform such tasks (e.g. assistance with patching, programming, troubleshooting cabling problems, etc.) as requested by user. Tasks shall be strictly assistance, not operation.
 - c. In the event that the system is used prior to final acceptance, attendance in support of system usage shall not be construed as acceptance, or as event attendance.
 2. Coordinate these schedules with the owner.
- G. Following discussions with Owner, formally submit a Training and Event Attendance submittal 2-4 weeks prior to first training. Submittal shall:
1. Include a separate page/entry for every training session.
 2. Indicate date, time, and approximate length of training session.
 3. Indicate person(s) conducting training.
 4. Indicate whether training will be videotaped.
 5. Intended curriculum and most appropriate attendees (e.g. engineer, operations, IT, etc.)
 6. Include signature and title lines for
 - a. Owner acknowledging and accepting training schedule. Include both an accepted and rejected box. An alternate schedule time should be suggested by the Owner in the event the schedule is rejected.
 - b. Countersigning by trainer indicating that training actually occurred.
 - c. All persons attending training. Where attendees do not stay for the entire session, this should be noted on the form and initialed by Owner's representative attending training.
 - d. Owner's representative attending training at the end of the session shall initial that:
 - (1) Training Occurred.
 - (2) Training Materials were provided and left with owner
 - (3) Training was not interrupted or shortened by equipment or system troubleshooting. If it is, then there should be a line where Owner and Contractor can indicate when make-up training will be provided and how long it should be.
 - (4) Training was generally sufficient for the proposed curriculum.
 7. Include Notes section for Owner and Contractor to note any issues during training (areas requiring further development, etc.)

- H. Following training occurrence, submit completed training records no later than 5 days following end of training. When training is conducted over a period of weeks, completed training submittals shall be consolidated into a single submittal and submitted every 2 weeks.

- END OF SECTION -

SECTION 11064
THEATRICAL RIGGING AND ORCHESTRA SHELL SYSTEMS

PART 1 - GENERAL

1.1 SECTION SUMMARY

- A. This specification describes the provision of the theatrical rigging equipment, an orchestra shell ceiling at the Auditorium and Stage and extension of electrical service to the new equipment.
- B. The drawings included with this specification convey general system concepts. The plans do not show complete and accurate building details. The Installer is responsible for making field measurements necessary to establish exact locations, relationships, load capacities including structural, mechanical and electrical necessary for the installation of these systems.
- C. The work specified herein is performance based. This requires the Installer to provide all subsequent design and engineering, which is not included within the Contract Documents, to meet the requirements of this Performance Specification. The Installer is responsible for providing all components necessary for complete and operational system. Any system changes or revisions necessary to make the system conform to the building, walls, steel, electrical services etc., shall be included at time of proposal and installed without claims for additional compensation.

1.2 RELATED DOCUMENTS

- A. General provisions of the contract including general and supplementary conditions and Division 1 Specification sections apply to this section.

1.3 SECTION INCLUDES

- A. Coordination, provision, installation, inspection, commissioning, testing, documentation, instruction and warranties of a Theatrical Rigging and Orchestra Shell System.
- B. Plant, materials, equipment, transport and labor necessary to accomplish this and have a complete and proper System.
- C. Electrical work including:
 - 1. Extension and modification of existing electrical service, power feeds, load wiring including ground, conduit, and control wiring to equipment locations.
 - 2. Provision of new conduit, wiring and device boxes as required by the design.
- D. Also includes:
 - 1. Required licenses and permits including payment of charges and fees.

2. All fees for testing, documenting, and notary public services.
3. Verification of dimensions and conditions at the job site.
4. Provision of required pre-installation submittals and project record manuals.
5. Installation in accordance with the contract document, manufacturer's recommendation, and in conformity with applicable codes and authority having jurisdiction.
6. Extension of electrical service, including ground, to equipment locations.

1.4 RELATED WORK

- A. Section 11062: Theatrical Lighting Controls drawings and documentation.
- B. Division 5: Metals (and structural components) and Structural drawings and documentation.
- C. Division 16: Electrical Work drawings and documentation.

1.5 REFERENCES

- A. Published specification standards, tests or recommended methods of trade, industry or governmental organizations apply to Work in this section where cited below:
 1. American Iron and Steel Institute (AISI),
 2. American National Safety Institute (ANSI),
 3. American Society of Mechanical Engineers (ASME),
 4. American Society of Testing and Materials (ASTM),
 5. National Electrical Manufacturer's Association (NEMA),
 6. Occupational Safety and Health Administration (OHSA),
 7. Underwriters Laboratories (UL),
 8. Entertainment Services Technology Association (ESTA)
 9. National Fire Protection Agency (NFPA)

1.6 DESCRIPTIONS AND REQUIREMENTS

- A. The following is intended to further describe the Work and clarify design intent and is not an exhaustive description of the Theatrical Rigging Systems. Refer to the Theatre Rigging Systems (TR Series) drawings for further information relating to this Section.
- B. Demolition
 1. Re-locate or remove selected stage rigging components as required to accommodate the new work described in the drawings and documents.
- C. Conduit infrastructure system, including wire for AC Power and grounding for the Theatre Rigging Systems, shall be provided by the Installing Contractor.
- D. Rigging System: Auditorium

1. Provide a front-of-house (FOH) lighting truss and an ante-proscenium lighting truss suspended from overhead structure in the auditorium.
2. Each truss shall be supplied as a self climbing hoist.
3. Hoists shall be capable of lifting a load (including self-weight and all permanently attached hardware and electrical components) of a nominal 1800 lbs.
4. Lighting equipment connector strips shall be integrated with the truss, and a pantograph-style cable management system shall provide a permanent means of electrical connection to the theatrical lighting system.
5. Control for the hoists shall be via a pendant pushbutton operator station, integrated with the existing facility's motor control system.
6. The hoist control system must include motor control components, associated electrical cabling, conduit, raceways, and junction boxes as required to operate and connect the rigging hoists to the electrical service and control.

E. Rigging System: Stage

1. Two (2) existing over-stage linesets shall be converted to motorized counter-weight assist devices to support the orchestra shell ceiling panels as described in the sketches that accompany this specification and in paragraph E below.
2. Linesets shall be equipped with a motorized counterweight-assist hoist mounted at the locking rail.
3. Hoists shall be fixed-speed and operate at a nominal 20 ft/min.
4. A cradle-style cable management system will provide electrical distribution to the lighting fixtures ensuring a permanent means of electrical connection to the lighting system.
5. Provide each shell-cloud lineset shall with any and all new hardware components as needed to complete the conversion. These may include counterweight arbors, lift-lines, blocks and termination hardware.
6. All rigging and hoisting components shall be sized to the anticipated loads.
7. Control for the hoists shall be via a pendant pushbutton operator station, integrated with the existing facility's rigging motor control system.
8. The hoist control system must include motor control components, associated electrical cabling, conduit, raceways, and junction boxes as required to operate and connect the rigging hoists to the electrical service and control.

F. Orchestra Shell Ceiling Panels

1. Provide new reflective concert ceiling cloud panels as described in the drawings.
2. Ceiling clouds shall mount on the rigging equipment described in paragraph D above, and shall fold for storage above the stage within the fly-tower.
3. Deployment and storage of clouds shall be accomplished with no more than two (2) persons and without the use of specialty tools.
4. Lighting fixtures shall be installed within the ceiling cloud pieces and integrated with the stage rigging and lighting equipment. Lighting fixture layout must provide a minimum 100fc illumination at 4ft above the stage floor beneath the footprint of the ceilings.

G. General Requirements

1. Each rigging and ceiling component must include the quantity of wire rope lift lines, trim chains, blocks, compression sleeve fittings, pipe or truss sections, and all necessary hardware for a fully operable rigging system.

1.7 RESPONSIBILITY AND RELATED WORK

- A. The drawings included with this specification convey general system concepts. The sketches that accompany this specification do not show complete and accurate building details. The Installer is responsible for making the field measurements necessary to establish exact locations, relationships, load capacities necessary for the installation of these systems. Coordinate the work with the Electrical and other related contractors as stated in Part 1.4, and the scheduled work of other trades.
- B. The general conduit infrastructure system, including wire for AC Power and grounding for the Theatre Rigging Systems, shall be provided by the installing contractor. Coordination between different disciplines is required to achieve a proper conduit system installation and power provisions for Theatre Rigging Systems. The electrical installation shall be in accordance with division 16 and the National Electric Code.
- C. Provide extension of electrical service to installed motorized devices that are part of the stage rigging system.
- D. Install theatrical lighting control system wiring devices mounted to rigging equipment.
- E. Supply accessories and minor equipment items needed for a complete system, even if not specifically mentioned in these Specifications or on the associated Drawings, without claim for additional payment.
- F. Notwithstanding any detailed information in the Contract Documents, it is the responsibility of the Theatrical Rigging Systems Installer to supply systems in full working order. Notify the Architect of any discrepancies in part numbers or quantities before bid. Failing to provide such notification requires Theatrical Rigging Systems Installer to supply items and quantities according to the intent of the Specifications and associated Drawings without claim for additional payment.
- G. Obtain all permits necessary for the execution of any work pertaining to the installation, or any operation by the Owner including any associated charges or fees.
- H. Provide, as part of the submittal process described below, drawings reviewed and bearing the seal of a professional structural engineer licensed in the state Texas. The equipment details to be reviewed include any components (1) directly in the load path and (2) at the attachment to building structure for equipment suspended overhead.
- I. Execute all work in accordance with all Standard Authorities listed above, and all applicable State and Local codes, ordinances, and regulations. If a conflict develops between the contract document and the appropriate codes and is reported to the

Architect prior to bid opening, the Architect will prepare the necessary clarification. Where a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform work.

1.8 QUALITY ASSURANCE

- A. Theatrical Rigging Installer's Qualifications: Firm experienced in the provision of systems similar in complexity to those required for this project; and meet the following:
1. No less than five years experience with equipment and systems of the specified types under the same business name.
 2. Experience with at least five comparable scale projects within the last two years.
 3. Employ only fully trained stage riggers and mechanics for the erection of the stage equipment.
 4. The stage rigging installation must be supervised by at least one person holding the Entertainment Technology Certification Program (ETCP) "Certified Rigger - Theatre" credential.
 5. The stage riggers will be completely familiar with the type of equipment to be installed. A competent and knowledgeable Job Superintendent will be on the job at all times when work is in progress.
 6. Maintain a fully staffed and equipped service facility.
 7. Contractor shall attend pre-installation meetings to coordinate with other trades as required.

1.9 PRE-INSTALLATION SUBMITTALS

- A. The submittal information required by the specification is to be presented complete and as submissions noted below. Submittals are a crucial and integral part of the construction process; as such the Owner's consultant will not recommend payment to the installer above 25% of the scheduled value of this work until all submittal information has been approved. Cost for the Owner's consultant to review secondary and re-submittals due to the Installer's failure to include all required submittal information, or rejection of incomplete or improperly prepared submittal information will be the responsibility of the Installer. The cost shall be based on the hourly rates of the Architect and Architect's Consultants as published in their current professional fees schedules and shall also include reimbursable costs for delivery, mailing, and photocopies at direct cost plus ten percent (10%).
- B. Project Submittal Part 1:
1. Provide for approval not later than thirty (30) days after issuance of Notice to Proceed and prior to commencement of Work:
 - a. Section 1: A complete schedule of submittals.
 - b. Section 2: A chronological schedule of Work in bar chart form. Revise and resubmit schedule as required to reflect construction progress.

C. Project Submittal Part 2:

1. Provide for approval no later than sixty (60) days after issuance of notice to proceed and in accordance with previously submitted submittal schedule.
 - a. Section 1: Complete list of product to be incorporated within the Work.
 - b. Section 2: Manufacturer's data sheets for each product. Provide original manufacturer's data sheets in order as they appear in the specification. These data sheets are submitted for each product in sufficient detail to facilitate proper evaluation to the products suitability for incorporation within the Work.
 - c. Section 4: Submit Material Safety Data Sheets (MSDS) for each potentially hazardous material prior to use. Include information pertaining to the hazardous material with the MSDS.
2. Drawings:
 - a. Provide computer software generated drawings using standard industry graphic standards. Hand or poorly drawn documents will not be accepted. All drawings shall be created on a computer aided drawing (CAD) system compatible with AutoCAD release 2010. Electronic files of theatrical rigging contract documents shall not be distributed for use in generating submittal documents with the exception of architectural backgrounds.
 - b. Drawings depicting attachment of equipment to structure or mechanical assemblies that support overhead loads must show the work has been reviewed and sealed by a structural engineer licensed to practice in the State of Texas.
 - c. Installation Drawings. Provide drawings showing special details depicting methods and means specific to each product and each product manufacturer's recommended installation methods and means.
 - d. Provide assembly and attachment for each product. Drawings should be reviewed and stamped by a registered structural engineer in the state where the project is located.
 - e. Schematic Drawings. Provide drawings detailing inter-component and intra-component, on Theatrical Rigging Installer assembled components or fabricated products.
 - f. Conduit and Electrical Drawings. If the system incorporates an electrical or electronic system of any type, provide floor plan drawings, including all walls, doors and rooms, showing exact power requirements and conduit routing for each system with the location of all junction boxes, terminations, etc...
 - g. Equipment Drawings. Provide equipment mounting and location details including necessary physical dimensions, clearances, load limits, etc.
 - h. Software diagrams showing the hierarchical structure of operator screens and functions with sample screen shots.
 - i. Floor plan and Section Drawings. Provide drawings showing the exact location of all installed equipment on floor plans and/or sections such as guide wires or tracks, loft blocks, battens, etc.
 - j. Custom Enclosures and Millwork Drawings. If custom enclosures or millwork is required, provide full fabrication detail drawings indicating size, material, finish and openings for equipment.
 - k. Fabricated Plates, Panels, or Signage Drawings. If plates, panels, or signage is required, provide complete drawings depicting dimensioned locations of

components, component types, engraving or printing information, plate material and color, and bill of material.

- l. Labeling Drawing. Provide representative equipment labeling scheme of locking rail, loading rail, etc.
- m. General Detail Drawings. Provide detail drawings depicting any unique installation methods specific to each product.
- n. Any other pertinent data generated which is necessary to provide the Work.

D. Submittal Format:

1. Each submittal shall be bound in a three-ring D style binder sized for 150% of the material with a maximum size being a three inch spine. Use multiple volumes if necessary.
2. Provide each submittal with a unique number and be numbered in consecutive order.
3. Provide each submittal binder with a cover and a spine reflecting the project title and submittal number.
4. Provide each submittal with a complete table of contents with the following information:
 - a. Project title and number.
 - b. Submittal number. In the case of a re-submittal, use the original submittal number immediately followed by the suffix "R" immediately followed by a unique number and be numbered in consecutive order.
 - c. Date of submission.
 - d. Referenced addendum or change-order number as applicable.
 - e. Referenced specification Section, Part, Article, Paragraph and page number or drawing reference as applicable.
 - f. Index Product Data sheets by manufacturer and model or part number.
5. Separate major grouping with labeled binder tabs.
6. Arrange product data list in alpha-numeric order when applicable followed by unspecified product arrange by manufacturer and model or part number. Follow list by manufacturer's data sheets, arranged in the same order. If a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol.
7. Drawings executed at an appropriate scale, not smaller than 1/8"=1'-0" for conduit/floor plans, 1/4" = 1'-0" for equipment layouts, and 1/2" = 1'-0" for mounting details and plate/panel details.

E. Submittal Copies:

1. These requirements represent minimum project requirements; the project's general conditions may require additional copies for project distribution.
2. Submit three (3) bound prints of all drawings.
3. Submit three (3) binders of supporting materials (e.g. product submittals).
4. Submit two copies of product or sample finishes as required within this specification.

F. Resubmission Requirements:

1. Make any requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.
 2. Indicate any changes that have been made other than those requested.
- G. Approval of Submittals: The submittal information will be reviewed by the general contractor, owner, Architects, engineers, and consultant. Each submittal package will be returned, stamped as follows:
1. “No Exceptions Taken” proceed with construction, all job site coordination will be at the direction of the general contractor.
 2. “Make Corrections Noted: No Resubmission Required” submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made before construction can begin.
 3. “Make Corrections Noted: Submit Corrected Copy” submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made in writing and returned to the consultant before construction can begin.
 4. “REJECTED, Submit Specified Item” a specified item in the submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 5. “REJECTED, Revise and Re-submit” submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 6. “No Review Action Required” all information provided was for information or coordination purposes only. Review is not required.

1.10 PROJECT RECORD MANUAL

- A. Submit three bound original sets (this is a minimum of two for the Owner and one for the Architect’s consultant; additional copies may be required by the project’s general conditions) after substantial completion and prior to final inspection.
- B. The Project Record Manual shall be segregated into three separate bindings as follows:
 1. Operations Manual:
 - a. Product Data: Product actually incorporated within the Work:
 - 1) Manufacturer's data for each type of product conforming to the scheme above. The list shall include manufacturer’s serial numbers.
 - 2) Owner/Instruction Manual for each product.
 - 3) For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item.
 - 4) Manufacturer's wiring diagram for each type of product actually incorporated.
 - 5) Separately bound list by manufacturer and model or part number of all products incorporated within the Work arranged in alphanumeric order.
 - b. Record drawings: Final rendition of that specified depicting what is actually incorporated within the Work. Provide one (1) full size set and one (1) CD-ROM containing all CAD generated drawings prepared in conjunction with this project. Drawing files to be in AutoCAD Release 2004 DWG format.
 - c. Test Reports: Recorded findings of testing specification of this specification.

- d. System Operation and Instructions: Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity.
 - 1) This procedure should describe the operation of all system capabilities.
 - 2) Assume the intended reader of the manual to be technically experienced but unfamiliar with the components and the facility.
- 2. Service & Maintenance Manual:
 - a. Provide an original copy of the service manual on every piece of equipment for which the manufacturer offers a service manual. Arrange manuals in the same order as the operations manual.
 - b. Manufacturer's maintenance and care instructions.
 - c. Maintenance Instructions, including maintenance phone number(s) and hours; maintenance schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.
 - d. Replacement parts list of all minor equipment such as fuses, lamps, connectors, knobs, etc.
- 3. Warranty Manual:
 - a. Manufacturer's warranty statements on each product.
 - b. Date of substantial completion and ending dates for warranties for each group of products.
 - c. Software registration and licenses.
- C. Include any other pertinent data generated during the Project or required for future service.
- D. Appropriately duplicate data within the separate bindings when it will reasonably clarify procedures, e.g., operational data in maintenance binding.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Ship product in its original container, to prevent damaging or entrance of foreign matter.
- B. Handling and shipping in accordance with manufacturer's recommendation.
- C. Provide protective covering during construction, to prevent damaging or entrance of foreign matter.
- D. Replace at no expense to Owner, product damaged during storage, handling or the course of construction.

1.12 PROJECT CONDITIONS

- A. Verify conditions on the job site applicable to this work. Notify Architect in writing of discrepancies, conflicts, or omissions promptly upon discovery.
- B. The Drawings diagrammatically show arrangements of equipment fitting the space available without interference. If conditions exist which make it impossible to install

work as shown, recommend solutions and/or submit drawings to the Architect for approval, showing how the work may be installed.

1.13 FINAL INSPECTION AND TESTING

- A. Upon completion of installation, initial adjustments, tests and measurements specified in Part 3, and submission and review of the results, a final inspection and test will be observed by the Architect and/or Architect's Consultant no earlier than two weeks after receipt of the written results.
- B. Provide a minimum of one (1) person for inspection and two (2) persons for testing familiar with aspects of the System to assist the Owner.
- C. The process of testing the System may necessitate moving and adjusting certain components such as counterweights on arbors, adjustment of drapery tracks, etc.
- D. Testing includes operation of each major system and any other components deemed necessary. Perform tests and provide required test equipment, tools and material required to make any necessary repairs, corrections, or adjustments.
- E. The following procedures will be performed on each System:
 - 1. Inspection of the methods and means employed to incorporate the System within the facility.
 - 2. Verification of proper operation, from controlling devices to controlled devices.
 - 3. Verification of proper adjustment, balance, and alignment of equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for each setting, and appropriately record these settings within the Record Documents.
 - 4. Other tests on equipment or systems deemed appropriate.
- F. In the event the need for further adjustment or work becomes evident during testing, the Theatrical Rigging Installer is to continue his work until the System is acceptable at no addition to the contract price. If approval is delayed because of defective equipment, or failure of equipment or installation to meet the requirements of these specifications and any extension of the inspection and testing period is required, the contract price will be reduced for the additional time and expenses of the Owner, at the standard rate in effect at that time.
- G. Rigging system installer shall return to the jobsite six months after acceptance to inspect the rigging hardware and attachments, curtain tracks, curtains, and aluminum truss.

1.14 WARRANTY

- A. Warrant labor and product for two (2) years following the date of substantial completion to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace

defects occurring in labor or product within the Warranty period without charge. Any cost required to complete this warranty repair is the responsibility of the contractor.

- B. This warranty is in addition to any specific warranties issued by manufacturers for greater periods of time.
- C. Within the warranty period, answer service calls within eight hours, and correct the deficiency within twenty-four hours.

1.15 INSTRUCTION OF OWNER PERSONNEL

- A. After final completion, provide instruction to Owner and/or the Owner's designated personnel on the use, operation, maintenance and care of the System.
 - 1. Develop training course based on the use of the System and manufacturers' recommendation. Provide sixteen (16) hours of training. The training period shall be divided into two segments and shall be scheduled at least two weeks apart. All training shall be scheduled at the convenience of the owner and designated personnel.
 - 2. Submit an outline of the course with sample instructional aids for approval thirty days (30) prior to scheduled instruction sessions.
 - 3. If a representative of the manufacturer is used in the instructional course, the Theatrical Rigging Systems Installer must be present throughout the extent of the course and ensure that the representative abides by the requirements set forth in these specifications.
- B. Rigging system installer shall be present at the first two (2) uses of the facility.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Model name and number for manufacturers included in this specification are listed to establish a standard of product quality.
- B. Substitution of specified products with other qualified manufacturers and products will be considered providing:
 - 1. Proper substitution procedures outline under Division 1 is adhered to.
 - 2. A request for substitution of each specific product must be made in writing by a bidding Contractor not less than ten (10) business days prior to bid for written approval of the Architect.
 - 3. Sufficient data of the products is presented for prior approval including technical data, manufacturer's specifications, samples, and, if requested, results of independent testing laboratory tests.
 - 4. Written permission is obtained for the substitution from the Owner or Owner's Representative.

- C. If proposed system includes equipment other than specified model numbers, submit a list of major items and their quantities, with a one-line schematic diagram for review. Include a list of previously installed projects using proposed equipment that are similar in nature to specified System.
- D. Provide product not specifically specified commensurate with the quality and standards established by the specified product.

2.2 GENERAL

- A. Products shall be new, free from defects and listed by UL when an applicable UL Standard exists. Provide product of a given type from one manufacturer.
- B. Regardless of the length or completeness of the descriptive paragraph herein, provide product complying with the specified manufacturers' published specifications.

2.3 CONTACTS

- A. Listed below is contact information for Manufacturer's of rigging components approved to provide equipment on this project:
- B. J.R. Clancy
 - 1. 7041 Interstate Island Road, Syracuse, NY 13209
 - 2. Telephone: (315) 451-3440
 - 3. Approved to supply stage rigging components, motorized hoists, hoist control, and related hardware.
- C. H&H Specialties
 - 1. P.O. Box 9327, South El Monte, Calif. 91733
 - 2. Telephone: (213) 283-3562
 - 3. Approved to supply stage rigging components, and related hardware.
- D. Rigging Innovators
 - 1. 7819 Fortune Dr. San Antonio, Texas 78250
 - 2. Telephone: (210) 681-6992
 - 3. Approved to supply wiring devices, rigging hardware, hoists and controls.
- E. StageRight Corporation
 - 1. 495 Pioneer Parkway, Clare, Michigan 48617
 - 2. Telephone: (800) 438-4499.
 - 3. Approved to provide orchestra shell systems.
- F. Texas Scenic Company
 - 1. 5423 Jackwood Drive, San Antonio, Texas 78238
 - 2. Telephone: (210) 684-0091

3. Approved to supply rigging components, hoists and controls, and related hardware.

G. Wenger Corporation

1. 555 Park Drive, P.O. Box 448, Owatonna, MN 55060-0448
2. Telephone (800)-493-6437
3. Approved to provide orchestra shell systems.

2.4 RIGGING HARDWARE

A. Batten Assemblies

1. Pipe battens shall be constructed of new ASTM A53/A 1-1/2" nominal schedule 40 plain end steel pipe.
2. Battens exceeding one standard pipe length will be joined using an internal splicing sleeve. Splices must provide the same overall capacity, deflection, and strength to the pipe battens as an un-spliced span. Threaded couplers are not permitted.
 - a. Splice sleeves shall be a minimum of 24" in length with a minimum of 12" extending into each pipe batten.
 - b. Sleeves will be machined to a diameter that will create a snug fit within the pipe battens.
 - c. Splicing sleeves will be fastened to the pipe batten with pins or 3/8" diameter bolts. Locate at least two fasteners on each side of splice joint; alternate direction of fasteners at right angles to one another across the diameter of the pipe.
3. Any fasteners used on pipe battens must meet SAE grade 5, and be equipped with self-locking nuts.
4. Cover the end of each batten with a yellow or white closed end, soft vinyl safety cap at least 4 inches in length.

B. Batten Connections

1. Wire rope lift lines shall terminate directly to trim chains constructed of NACM Grade 80 or Specialty Theatrical chain 1/4" or larger, sufficiently long enough to wrap one and one-half times around the pipe batten and return to the eye of the wire rope lift line.
2. Chain shall be certified by its manufacturer for use in the intended application.
3. The chain shall connect using Crosby galvanized forged screw-pin anchor shackle sized to the load and hardware type.
4. Alternative designs for batten connection and trimming methods shall require approval as part of the submittal process.
5. Where a pipe clamp may be required on a batten, a wrap-around type clamp shall be provided. This clamp shall be secured to the pipe using SAE 5 grade bolts, washers, and self locking nuts.
6. Acceptable products:
 - a. Secoa STC Specialty Theatrical Chain
 - b. Crosby grade 80 chain

C. Wire Rope Lift Lines

1. Provide lift lines and fittings appropriate for supporting the load requirements.
2. Lift lines for counterweight linesets shall be a minimum of 1/4" diameter 7 X 19 construction, galvanized aircraft cable with a breaking strength of 7000 lbs.
3. Lift lines for self-climbing truss shall be a minimum of 3/16" diameter 7 X 19 construction, galvanized aircraft cable with a breaking strength of 4200 lbs.
4. All wire rope must be new; damaged or deformed cable may not be used.
5. Exposed ends of wire rope shall be cut cleanly, then seized as necessary.

D. Wire Rope Terminations

1. To connecting hardware: form eyes around an appropriately sized heavy-duty steel thimble using copper Nicopress®-type compression sleeves. Compression tool shall be matched to and certified for use with the selected sleeves by the sleeve manufacturer.
2. To cable drums: terminate the wire rope on the inside of the lifting drum using a Nicopress® compression stop sleeve.
3. Supply and install compression sleeves or clips in size and quantity per guidelines set forth in the Wire Rope Users Manual, by its manufacturer's specifications, and in accordance with industry guidelines.

E. Head Blocks:

1. Provide an upright head block sized to accommodate
 - a. the size and number of lift lines required by the design,
 - b. the specified loading on the system, and
 - c. the steel beam(s) on which the block will mount.
2. 12-inch diameter sheaves shall be fitted with 1" tapered roller bearings, properly sized for the required load and speed. The 1" diameter machined steel shaft shall have a dutchman to engage a keyhole in the side plate. Proper adjustment of the bearing shall be accomplished by means of a fine thread, self-locking nut on the opposite end of the shaft.
3. Sheave shall be Nylatron type.
4. Sheave shall be grooved for 1/4" wire rope lift cables to meet wire rope manufacturer's recommended practice for both clearance and 30° throat taper.
5. Sheave shall be grooved for 3/4" fiber operating rope.
6. Side plates: 10 gauge plates welded and bolted to base. Side plates shall be secured with tubing spacers and grade 5 bolts and lock nuts, forming a rigid housing to prevent the lift lines from leaving their grooves.
7. Steel base angles and clamping hardware shall be designed to accommodate the loads imposed by the rigging system and be designed to mount on the structure provided.
8. Provide quantity as required.

F. Loft Blocks:

1. Provide an upright loft block sized to accommodate the size of lift lines and loads required by the design.

2. Size: 8" diameter sheave shall be fitted with 5/8" ball bearings, properly sized for the required load and speed. The 5/8" diameter machined steel shaft shall have a dutchman to engage the keyhole in the side plate. Proper adjustment of the bearing shall be accomplished by means of a fine thread, self-locking nut on the opposite end of the shaft.
3. Construction: loft block will be Nylatron GS type.
4. Grooves: loft block will be grooved for 1/4" wire rope lift cable to meet wire rope manufacturer's recommended practice for both clearance and 30° throat taper.
5. Side plates: 10 gauge plates welded and bolted to base. Side plates shall be secured with tubing spacers and grade 5 bolts and lock nuts, forming a rigid housing to prevent the lift lines from leaving their grooves.
6. Steel base angles and clamping hardware shall be designed to accommodate the loads imposed by the rigging system and be designed to mount on the structure provided.
7. Provide quantity as required by the design.

G. Counterweight Arbors

1. Provide a steel assembly designed to carry counterweight and to terminate wire-rope lift lines and operating lines on the existing guide track.
2. Arbor lengths shall be adequate to accommodate the counterweight stack necessary to balance the lineset's specified load capacity.
3. Arbor tops shall be a 1/4" steel plate formed into a channel with 3" sides. Channel shall be punched to terminate lift lines and to accommodate a bolt and spacer providing a tie-off point for the hand line.
4. Arbor bottoms shall be of similar construction, with counterweight rests to keep the weights from resting on the inner arbor rod nuts.
5. Two 3/4" diameter steel arbor rods and a 3/8" x 3" steel back plate shall fasten between the channels. The arbor rods shall have three nuts at each end, the outermost being a lock nut.
6. Provide two guide assemblies secured to each arbor. Guides shall be UHMW-PE between steel backing plates.
7. Provide a minimum of two spreader plates adequate to stack between counterweights on 2-foot centers. Provide a retaining collar with 1/4" set screw on each rod. Label the arbor to indicate the proper locations for the spreader plates.
8. Provide quantity as required.

H. Counterweights

1. Fabricate counterweights from flame or laser cut steel plate as described on the drawings. Finish free from slag and sharp edges.
2. Size: nominal 4" wide X 14" long and slotted to accommodate the specified arbor rods. The thickness of counterweights shall not vary more than 3/16" from nominal dimension
3. Finish: weights used to balance the empty pipe batten shall be painted red. All remaining weights (those used to balance live loads) shall be painted black.
4. Quantity: as required by the design.

I. Rigging Accessories:

1. In certain instances special component parts, such as sheaves, idler blocks, extra lines, batten clamps, turnbuckles, chain, etc., will be necessary in order to provide a fully operable system. Where such requirements are necessary, furnish, install, and adjust these components comparable to the quality of the products listed in these specifications.
2. Acceptable manufacturers:
 - a. H&H Specialties
 - b. JR Clancy
 - c. Crosby

2.5 SELF-CLIMBING LIGHTING TRUSSES

- A. Provide a motorized hoisting system for the front-of-house lighting positions as located and described in the drawings.
- B. The hoist shall lift the batten at a fixed nominal rate of 20 ft/min.
- C. The drive motor shall be flange-mounted (NEMA C-face) to a speed reducing gearbox sized to drive the specified load. The use of chain sprockets, timing belts, or similar non-integral connections in the power train is not permitted.
 1. Gearbox assemblies must have double shaft seals or be provided with drip pans.
 2. The gearbox shall have a minimum service factor of 1.25.
- D. The motor shall be equipped with an integral spring-set, electrically released brake capable of providing a retarding torque of at least 200% of the rated full load motor torque. The brake must provide fail-safe operation in holding the load while the motor coils are de-energized. The motor control scheme must ensure that the brake not release unless the motor has developed adequate holding or lifting torque upon energization. The brake shall have a provision for manual release for use in commissioning and maintenance.
- E. Each lift line attached to the truss will spool onto an individual steel drum driven by a common shaft.
 1. Wire rope lift lines shall be new 3/16" diameter 7x19 construction galvanized aircraft cable with a minimum tensile strength of 4200 lbs.
 2. Drums shall be fabricated from steel pipe or tubing sized
 - a. of a thickness suitable to the load, and
 - b. long enough to store wire rope sufficient to allow the specified load travel plus three additional wraps in a single layer.
 3. The drum shall have a helical groove sized properly for the specified wire rope and with a minimum pitch diameter of 30 times the rope diameter.
 4. The drum will couple to the driving shaft using a welded flange and appropriately sized key and keyway. Lifting lines shall fasten to the drum through holes drilled from root of the cable groove through the tubing wall. Fastening holes shall be drilled at an angle of 45° from the radius and along the axis of the groove. Size the

- fastening hole to allow the wire rope to pass through but to be held in place Nicopress© stop sleeve.
5. The drive shaft must couple directly to the output stage of the gearbox. Shafts shall be supported along its length with self-aligning bearings as necessary for the installation.
- F. The hoist must have a mechanical over-speed brake attached directly to the drive shaft. The over-speed brake shall be sized and adjusted to lock rotation of the hoist shaft should it rotate faster than the nominal design speed of the hoist. This brake shall engage in the event that the motor-end brake, gearbox, other rotating or electronic component fail and cause the hoist shaft to rotate freely and in an uncontrolled manner under load.
- G. Each hoist shall be equipped with an industrial rotary cam limit switch assembly which will provide normal end-of-travel and emergency over-travel signaling to the MCP and RCP. Traveling-nut type switch assemblies are not acceptable for use.
1. The limit assembly shall provide four (4) normally closed (N.C.) contacts, two for each direction of travel as noted above. The position of each contact opening along the distance of travel must be individually adjustable in the field.
 2. Selection and gearing of the limit assembly must allow the driven load to stop at a repeatable position with ¼ inch of accuracy.
 3. Limit assemblies may be directly coupled to the drive train, or may driven using roller chain or toothed (timing) belts with the provision that these latter are fully guarded.
- H. Each hoist must have a local means to disconnect its motor from the power supply.
- I. Alloy Truss
1. The truss shall be a 12" x 18" rectangular aluminum truss designed for this purpose.
 2. The main cords of each truss section shall be made of 2"OD x 3/16" thick aluminum tubing. Each diagonal shall be made of 1" OD x 1/8" thick aluminum tubing.
 3. Tubing shall be 6082 extruded aluminum tubing.
 4. Truss sections shall be bolted with self locking nuts. Bolts shall be minimum 5/8" diameter grade 8.
 5. Truss sections shall be assembled so that wiring devices for the lighting control system can mount to each section, as shown on the drawing.
 6. Truss sections shall be assembled so that a pantograph style cable management system can mount within the truss profile.
- J. Lighting Equipment Integration
1. Cable Management
 - a. Provide a folding pantograph system for each truss as a means to provide a permanent electrical connection for the lighting system circuits and control equipment at the truss. Pantograph shall also provide control and hoist power.

- b. The suspension system shall fold and unfold as the hoist is raised and lowered allowing the truss to move without disconnecting electrical cables, and without fouling any component of the hoisting or electrical mechanism.
2. Power and Control Distribution
 - a. Coordinate installation of overhead junction boxes as located on the drawings.
3. Hang all connector strips, cable raceways, and control interconnect boxes as supplied by theatre lighting contractor and as located on the drawings.

K. Acceptable Product:

1. Rigging Innovators Self-Climbing Truss.

2.6 SHELL CEILING LINESETS

A. Counterweight-Assist Hoists

1. Provide a motorized hoisting system for each of the orchestra shell ceiling cloud lineset battens as located and described in the drawings.
2. The hoist shall lift the batten at a fixed nominal rate of 20 ft/min.
3. The drive motor shall be flange-mounted (NEMA C-face) to a speed reducing gearbox sized to drive the specified load. The use of chain sprockets, timing belts, or similar non-integral connections in the power train is not permitted.
 - a. Gearbox assemblies must have double shaft seals or be provided with drip pans.
 - b. The gearbox shall have a minimum service factor of 1.25.
4. The motor shall be equipped with an integral spring-set, electrically released brake capable of providing a retarding torque of at least 200% of the rated full load motor torque. The brake must provide fail-safe operation in holding the load while the motor coils are de-energized. The motor control scheme must ensure that the brake not release unless the motor has developed adequate holding or lifting torque upon energization. The brake shall have a provision for manual release for use in commissioning and maintenance.
5. Each hoist shall be equipped with an industrial rotary cam limit switch assembly which will provide normal end-of-travel and emergency over-travel signaling to the MCC. Traveling-nut type switch assemblies are not acceptable for use.
 - a. The limit assembly shall provide four (4) normally closed (N.C.) contacts, two for each direction of travel as noted above. The position of each contact opening along the distance of travel must be individually adjustable in the field.
 - b. Selection and gearing of the limit assembly must allow the driven load to stop at a repeatable position with ¼ inch of accuracy.
 - c. Limit assemblies may be directly coupled to the drive train, or may be driven using roller-chain or toothed (timing) belts with the provision that these latter are fully guarded.
6. Each hoist must have a local means to disconnect its motor from the power supply
7. Provide wireway, cabling, cabling, and connectors for separate low-voltage control circuits and 208V power to each hoist from the MCC. Cabling shall conform to the hoist manufacturer's specifications.
8. Acceptable Product:
 - a. JR Clancy - Power Assist

B. Lighting Equipment Integration

1. Cable Management

- a. Provide a cable cradle with lift line for each lineset as a means to provide a permanent electrical connection for the lighting system circuits in the ceiling clouds.
- b. The suspension system shall raise and lower the electrical cable as it travels with the batten.
- c. The system shall allow the batten to move without disconnecting electrical cables, and without fouling any component of the hoisting mechanism.

2. Power and Control Distribution

- a. Coordinate installation of gridiron junction boxes as located on the drawings.
- b. Hang all connector strips, cable raceways, and control interconnect boxes as supplied by theatre lighting contractor and as located on the drawings.

2.7 ORCHESTRA SHELL SYSTEM

A. Panel Construction

1. All sound reflecting panels shall be laminated sandwich panels.
 - a. Exposed face shall be .060 (1/16") thick Formica Brand high pressure laminate; Class B fire rated.
 - b. Substrate shall be 1/8" thick tempered hardboard each side of core.
 - c. Back skin shall be natural finish high pressure laminate.
 - d. Core shall be 3/8" cell, 80-80-15 phenolic impregnated cellulose honeycomb at 1.3" thick.
 - e. All exposed edges of individual panels shall be protected by an aluminum extruded frame/edging with injected molded corners.
 - f. Adhesive shall be high solid, pressure-cured, moisture-activated, urethane structural adhesive. Contact-type adhesives are not acceptable.

B. Panel Physical Specifications

1. Exterior surface shall be curved at a 6'-0" radius.
2. Weight of panels must not be less than 2.5 lbs. per square foot of surface area excluding any framing weight. Panels of less weight shall be deemed insufficient to reflect low frequency sound and shall not be accepted.
3. Finish
 - a. Panel face surface shall be free of exposed fasteners.
 - b. Finish surface shall be matte.
 - c. Color to be chosen from Formica Brand color ring by Architect.
 - d. Panel edges finished in flat black.

C. Ceiling Cloud Configuration

1. There shall be no tools necessary to rotate panels for storage.
2. Each row of overhead panels must be equipped with the necessary hardware to hang from recommended 1-1/2" schedule 40 pipe batten.

3. Hardware must permit angular adjustment from horizontal plane to 40 degrees. The hardware must also have the capability of locking the panels in a vertical position so that they may be stored on the battens in the stage loft. Maximum storage space required will be 5" either side of the pipe batten center line with light fixtures incorporated within the ceilings.
4. Instructions pertaining to safe handling of the overhead panels shall be provided.
5. Integrated Lighting Fixtures
 - a. Provide UL listed lighting fixtures integrated within the ceiling clouds to provide the illumination levels as required in Section 1 above.
 - b. Provide one U.L. listed connector strip for each row of ceiling panels with junction box. Connector strip and junction box shall be circuited and integrated with the theatrical lighting system.
 - c. Provide fixtures with long-life lamps sized to provide the required illumination levels and not to exceed 750W.
 - d. The light fixtures shown as squares on the drawings are to be the Future Light 1000 as manufactured by Future Light Inc., Cleveland, Ohio.
6. Acceptable Product:
 - a. Opus II by StageRight

2.8 COMPLETED SYSTEM

A. General

1. All installation of stage rigging equipment shall be completed utilizing new materials, free from flaws and rust, and in good working order. The jobsite shall be cleaned of all packing materials, lubricants, metal shaving, miscellaneous hardware, and components not used in the installation.
2. All dimensions are to be field verified. Location and attachment of hardware and size of components shall be confirmed by the stage rigging installer.
3. All electrical power, outlets, related systems, and structural elements required to make the system fully functional are the responsibility of the contractor.

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate incorporation of the Work specified herein with other project work so as to facilitate a cohesive final product.
- B. Mount equipment and enclosures plumb and level.
- C. Permanently installed equipment to be firmly and safely held in place in accordance with specified safety factors and Federal and State codes and regulations.
- D. Work shall be completed within industry guidelines, including, Entertainment Services and Technology Association (ESTA), OSHA, National Electric Code, American

National Standards Institute, American Society for Testing and Materials, American Institute of Steel Construction, National Fire Protection Association, National Electrical Manufacturers Association, plus any or all local, governmental, or other applicable codes.

- E. Where dimensions and loading capacities have been omitted from this specification, they are to be determined by the theatre rigging contractor, in accordance with the accepted industry standards and guidelines in this section. In no way will the theatre rigging contractor be relieved of primary responsibility to provide a safe, fully functional system.
- F. The mechanical fabrication and workmanship will incorporate the best practices for good fit and finish. There will not be any burrs or sharp edges to cause a hazard nor will there be any sharp corners accessible to personnel.
- G. All equipment will be installed based on the manufacturer's recommendations and for the use intended by the manufacturer.
- H. All shop and field welding will meet the qualifications of the AISC manual and will be without spatter or other evidence of poor practices.
- I. All finishes which are disturbed during shipping and installation will be touched up to match the original.
- J. Materials will conform to the following ASTM standard specifications:
 - 1. A-36 structural steel
 - 2. A-36 steel plates and bars
 - 3. A-47 malleable iron casting
 - 4. A-48 gray iron casting
 - 5. A-53 welded and seamless steel pipe
 - 6. A-120 black and hot dipped zinc-coated steel pipe
- K. In order to establish minimum standards of safety, the following factors will be used:
 - 1. cables and fittings provide a minimum 8:1 design factor
 - 2. cable bending ratio is 30 times the cable diameter
 - 3. nuts and bolts use minimum SAE grade 5 (ASTM rating A-449)
 - 4. thread pressure of
 - a. 500 lb. for cast iron
 - b. 1000 lb. for steel
 - c. 1500 lb. for Nylatron
 - 5. steel designed to 1/5 of yield
 - 6. bearings are rated for two times the required load operating at full speed for 2000 hours.

3.2 INSTALLATION OF RIGGING SYSTEM

- A. All wire rope components will be installed so as to prevent abrasion or rubbing of the wire rope against any part of the building construction or other equipment.
- B. Pulleys and sheaves will be aligned as to provide a maximum fleet angle of 1.5 degrees. Mule blocks, cable rollers, guides, and sag bars will be installed as required to provide proper alignment.
- C. All end-of-travel and emergency over-travel limit switches must be set and verified as part of the commissioning process.

3.3 LABELING OF EQUIPMENT

- A. Mark and label each batten with its set number, load/arbor capacity, stage centerline, and lift line locations with appropriate paint.
- B. Provide labels clearly indicating date of manufacture, cloth type, manufacturer's name and address, size (width and height using 3/4" minimum lettering), and Owner's designated inventory number (to be coordinated with Owner) will be sewn into the back (in most cases, upstage) side of the upper hem at both ends of each drape panel.

3.4 CONTRACTOR COMMISSIONING

- A. Prior to energizing or testing the System ensure the following:
 - 1. Products are installed in proper and safe manner according to manufacturer's instructions.
 - 2. Dusts, debris, solder splatter, etc. is removed.
 - 3. Labeling has been provided.
 - 4. Temporary facilities and utilities have been properly disconnected, removed and disposed of off-site.
 - 5. Products are neat, clean and unmarred and parts securely attached.
 - 6. Broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. have been replaced or properly repaired, and debris cleaned up and discarded. Job site shall be left broom clean.
- B. Provide two portable VHF or UHF business band radios for use during acceptance testing with transmission range sufficient to cover entire project.
 - 1. Include rechargeable batteries and re-charger along with "holster" for wearing on belt.
 - 2. Radios to be available for duration of testing process, including any follow-up visits required prior to final acceptance.

END OF SECTION