

# Addendum No. 3



## Poinciana High School Auditorium Poinciana, FL 34758

*prepared for:*

The School District of  
Osceola County  
Kissimmee, FL 34744

issued:                    october 10, 2008  
commission no.:    0820104

**SCHENKELSHULTZ**  
□ □ □ ARCHITECTURE □ □ □

200 East Robinson Street, Suite 300  
Orlando, FL 32801  
voice: (407) 872-3322  
fax: (407) 872-3303  
[www.schenkelshultz.com](http://www.schenkelshultz.com)



**Addendum No. 3**  
**Poinciana High School Auditorium**

10/10/2008

Addendum No. 3 to Drawings dated April 4, 2008, The Poinciana High School Auditorium for the School District of Osceola County, Florida, as prepared by **SchenkelShultz**, 200 East Robinson Street, Suite 300, Orlando, Florida 32801.

This Addendum No. 3 shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified and set forth in this Addendum No. 3.

---

**CHANGES TO PROJECT MANUAL**

**ARCHITECTURAL**

**ITEM NO. 1.: GENERAL INFORMATION - SITE UTILIZATION PLAN**

- A. Add the Site Utilization Plan to the Construction Documents for the contractor's use.
- B. The Contractor is responsible to return the site, i.e., grass; asphalt drives, parking, etc. back to its original state prior to the start of construction.

**ITEM NO. 2.: PROJECT MANUAL, TABLE OF CONTENTS**

- A. Delete existing table of contents and replace with revised table of contents attached to this addendum.

**ITEM NO. 3.: PROJECT MANUAL, SECTION - 00030 LEGAL NOTICE**

- A. Delete Section 00030 – Legal Notice and replace with revised Section 00030 Legal Advertisement, attached.

**ITEM NO. 4.: PROJECT MANUAL, SECTION 00100 - INSTRUCTIONS TO BIDDERS**

- A. Delete Section 00100 – Instructions to Bidders and replace with revised Section 00100 - Instructions to Bidders, attached.

**ITEM NO. 5.: PROJECT MANUAL, SECTION 00300 - BID SUBMITTAL FORM**

- A. Delete Section 00300 – Bid Submittal Form and replace with revised Section 00300 Bid Submittal Form, attached.

**ITEM NO. 6.: PROJECT MANUAL, SECTION 00700 - AGREEMENT FOR CONSTRUCTION**

- A. Delete Section 00700 – Agreement for Construction from the Project Manual.

ITEM NO. 7.: PROJECT MANUAL, SECTION 00805 - SUPPLEMENTARY CONDITIONS

- A. Delete Section 00805 – Supplementary Conditions from the Project Manual.

ITEM NO. 8.: PROJECT MANUAL, AGREEMENT FOR CONSTRUCTION CHAPTER 1

- A. Add SBBC Agreement for Construction Chapter 1 Builder's Agreement to the Project Manual, attached.

ITEM NO. 9.: PROJECT MANUAL, AGREEMENT FOR CONSTRUCTION CHAPTER 2

- A. Add SBBC Agreement for Construction Chapter 2 Builder's Required Services to the Project Manual, attached.

ITEM NO. 10.: PROJECT MANUAL, AGREEMENT FOR CONSTRUCTION CHAPTER 3

- A. Add SBBC Agreement for Construction Chapter 3 General Terms and Conditions to the Project Manual, attached.

ITEM NO. 11.: PROJECT MANUAL, SECTION 01010 - SUMMARY OF WORK

- A. Sub-article 1.2.C: Delete "Construction Manager (CM)" from this reference.

ITEM NO. 12.: PROJECT MANUAL, SECTION 01030 - ALTERNATES

- A. Delete previous Section 01030 – Alternates and replace with new Section 01030 - Alternates as attached to this addendum.

ITEM NO. 13.: PROJECT MANUAL, SECTION 01115 - PROPOSAL REQUEST (PR) PROCEDURES

- A. Delete Section 01115 – Proposal Requests (PR) Procedures and replace with revised Section 01115 – Proposal Requests (PR) Procedures, attached.

ITEM NO. 14.: PROJECT MANUAL, SECTION 01310 - SUBMITTALS LOG

- A. Delete reference to Section 01310 – Submittals Log from the Table of Contents..

ITEM NO. 15.: PROJECT MANUAL, SECTION 01400 - QUALITY CONTROL AND TESTING LABORATORY SERVICES

- A. Delete Section 01400 – Quality Control and Testing Laboratory Services and replace with revised Section 01400 – Quality Control and Testing Laboratory Services, attached.

ITEM NO. 16.: PROJECT MANUAL, SECTION 01500 - TEMPORARY FACILITIES

- A. Delete Section 01500 – Temporary Facilities and replace with revised Section 01500 – Temporary Facilities, attached.

ITEM NO. 17.: PROJECT MANUAL, SECTION 01631 – PRODUCT SUBSTITUTIONS

- A. Delete Section 01631 – Product Substitutions and replace with revised Section 01631 – Product Substitutions, attached.

ITEM NO. 18.: PROJECT MANUAL, SECTION 01635 – SUBSTITUTION REQUEST FORM

- A. Delete Section 01635 – Substitution Request Form and replace with revised Section 01635 – Substitution Request Form, attached.

ITEM NO. 19.: PROJECT MANUAL, SECTION 01700 – CONTRACT CLOSEOUT

- A. Delete Section 01700 – Contract Closeout and replace with revised Section 01700 – Contract Closeout, attached.

ITEM NO. 20.: PROJECT MANUAL, SECTION 01720 – PROJECT RECORD DOCUMENTS

- A. Delete Section 01720 – Project Record Documents and replace with revised Section 01720 – Project Record Documents, attached.

ITEM NO. 21.: PROJECT MANUAL, SECTION 01740 – WARRANTIES AND BONDS

- A. Delete Section 01740 – Warranties and Bonds and replace with revised Section 01740 – Warranties and Bonds, attached.

ITEM NO. 22.: PROJECT MANUAL, SECTION 11060 - THEATRICAL STAGE EQUIPMENT

- A. Delete Section 11060 – Theatrical Stage Equipment in its entirety and replace with revised Section 11060 – Stage Equipment, attached.

ITEM NO. 23.: PROJECT MANUAL, SECTION 11061 - THEATRICAL DIMMING

- A. Delete Section 11061 – Theatrical Dimming completely.

**ELECTRICAL**

ITEM NO. 24.: PROJECT MANUAL, SECTION 16555 - STAGE LIGHTING

- A. Delete Section 16555 – Stage Lighting in its entirety and replace with revised Section 16555 – Stage Lighting, attached.

ITEM NO. 25.: PROJECT MANUAL, SECTION 16721 – ADDRESSABLE FIRE ALARM/DETECTION SYSTEM

- A. Delete Section 16721 – Addressable Fire Alarm/Detection System in its entirety and replace with revised Section 16721 – Addressable Fire Alarm/Detection System, attached.

**CHANGES TO DRAWINGS**

**CIVIL**

ITEM NO. 26.: DRAWING NO. C101

- A. Added Sheet C101, depicting demolition work without Bid Alternate No. 4.

ITEM NO. 27.: DRAWING NO. C401

- A. Added Sheet C401, depicting grading work and interface with existing round-about without Bid Alternate No. 4.

## **ELECTRICAL**

### ITEM NO. 28.: DRAWING NO. E101 – FLOOR PLAN – LEVEL 1 – LIGHTING

- A. Delete Drawing E101 dated 04/04/08 and replace with Drawing E101 marked Revised 10-10-08 as attached to this addendum. Work incorporated includes but is not limited to:
  - A. Add note identifying scope of lighting to be bid as alternate #2.

### ITEM NO. 29.: DRAWING NO. E103 – FLOOR PLAN – LEVEL 1 – THEATRICAL LIGHTING

- A. Delete Drawing E103 dated 04/04/08 and replace with Drawing E103 marked Revised 10-10-08 as attached to this addendum. Work incorporated includes but is not limited to:
  - A. Add four (4) Net3 RJ-45 control stations for remote lighting control.

### ITEM NO. 30.: DRAWING NO. E104 – LIGHTING DETAILS, CONTROLS & SCHEDULE

- A. Delete Drawing E201 dated 04/04/08 and replace with Drawing E201 marked Revised 10-10-08 as attached to this addendum. Work incorporated includes but is not limited to:
  - A. Revise lighting control/ dimming system riser diagram to reflect new components, cabling, and manufacturer part numbers.

### ITEM NO. 31.: DRAWING NO. E401 – ROOF PLAN – LIGHTNING PROTECTION

- A. Delete Drawing E401 dated 04/04/08 and replace with Drawing E401 marked Revised 10-10-08 as attached to this addendum. Work incorporated includes but is not limited to:
  - A. Add note identifying scope of lightning protection to be bid as alternate #2.

## **QUESTIONS, ANSWERS, AND INFORMATION FROM THE OCTOBER 8, 2008 PRE BID MEETING**

### ITEM NO. 32.: Question 1

Q: Can the sign in sheet be made available?

A: It is posted on the School District of Osceola Counties website at [www.osceola.k12.fl.us](http://www.osceola.k12.fl.us)

### ITEM NO. 33.: Question 2

Q: Are the bidders providing bid bond for 300 day or 240 completion price?

A: Per the School District of Osceola County, provide the bid bond based on the 300 day completion price. This has been clarified on the bid form.

### ITEM NO. 34.: Question 3

Q: Can the bid CD be submitted separately after the bid opening?

A: Per the School District of Osceola County, The CD can be submitted within 24 hours of the bid opening.

### ITEM NO. 35.: Question 4

Q: Can the forms be made available in a word document?

A: No, the School District of Osceola County will only allow them to be issued as a PDF document.

ITEM NO. 36.: Question 5

Q: \$5,000,000.00 in Auto Insurance is unusual, can that be reduced?

A: Per the School District of Osceola County, \$1,000,000.00/\$3,000,000.00 is required.

ITEM NO. 37.: Question 6

Q: Are there any Permit or Impact Fees?

A: No, plans have already been permitted. The only permit fees that the General Contractor is responsible for is for temporary power. The owner will provide water for the Contractor to hook up to. The Contractor will be responsible for adding a meter and paying for consumption.

ITEM NO. 38.: Question 7

Q: Are there any civil fees, i.e. St. Johns?

A: No, this permitting is already in place.

ITEM NO. 39.: Question 8

Q: Who is responsible for paying for Materials testing?

A: The School District of Osceola County will pay for the initial tests. Any retesting required as the result of a failed test is the responsibility of the contractor. This is included in specification section 01400.

ITEM NO. 40.: Question 9

Q: What is the tax percentage for Osceola County?

A: 7%, also included in the Contract is the School District Direct Purchase Program. The bid price needs to be based on a total turnkey price including; materials, sales taxes on the material and labor. The District may discuss the option of Direct Purchase to benefit from the sales taxes savings at a later date, however, for now:

All taxes must be included in your bid.

ITEM NO. 41.: Question 10

Q: Who is responsible for the Construction Dump fees?

A: The General Contractor.

ITEM NO. 42.: Question 11

Q: Could the list of General Contractors that have requested a copy of the Bid Package be shared?

A: The bidders list has been posted on the School District of Osceola Schools web site as well as at the Dodge Room and Central Florida Builders Exchange.

ITEM NO. 43.: Question 12

Q: The site where the building is going to be erected has underground pipe and wire, is any of it live?

A: The underground work is conduit from a previous yard of portable classrooms. None if it is expected to be live.

ITEM NO. 44.: Question 13

Q: Can we schedule a visit to Liberty High School in Poinciana to see the prototype Auditorium?

A: The date and time for this visit is Wednesday October 15, 2008 at 3:00p.m.

ITEM NO. 45.: Question 14

Q: Can we schedule another visit to Poinciana High School campus to bring our sub contractors?

A: The date and time for this visit is Thursday October 16, 2008 at 3:00p.m. Interested parties shall meet in the courtyard

ITEM NO. 46.: General Information Items

- A. The School District stated that it is very important that all children are safe and that the campus is secure at all times. This school is an active campus. All construction activity must be contained and fenced including the construction trailer and staging areas. Refer to the site utilization plan attached to this addendum.
- B. As an assembly occupancy, this structure will be a threshold building.

END OF ADDENDUM NO. 3



Entry & Exit  
w/ defined  
time constraints

Exit  
Entrance

open  
zones

constr.  
parking

constr.  
hydropneum.

drain link

school-use  
maintenance

school-use  
maintenance  
with screen on  
west side of B2

school-use  
maintenance

school-use  
maintenance

solid physical  
force to B1

solid physical  
force to B1

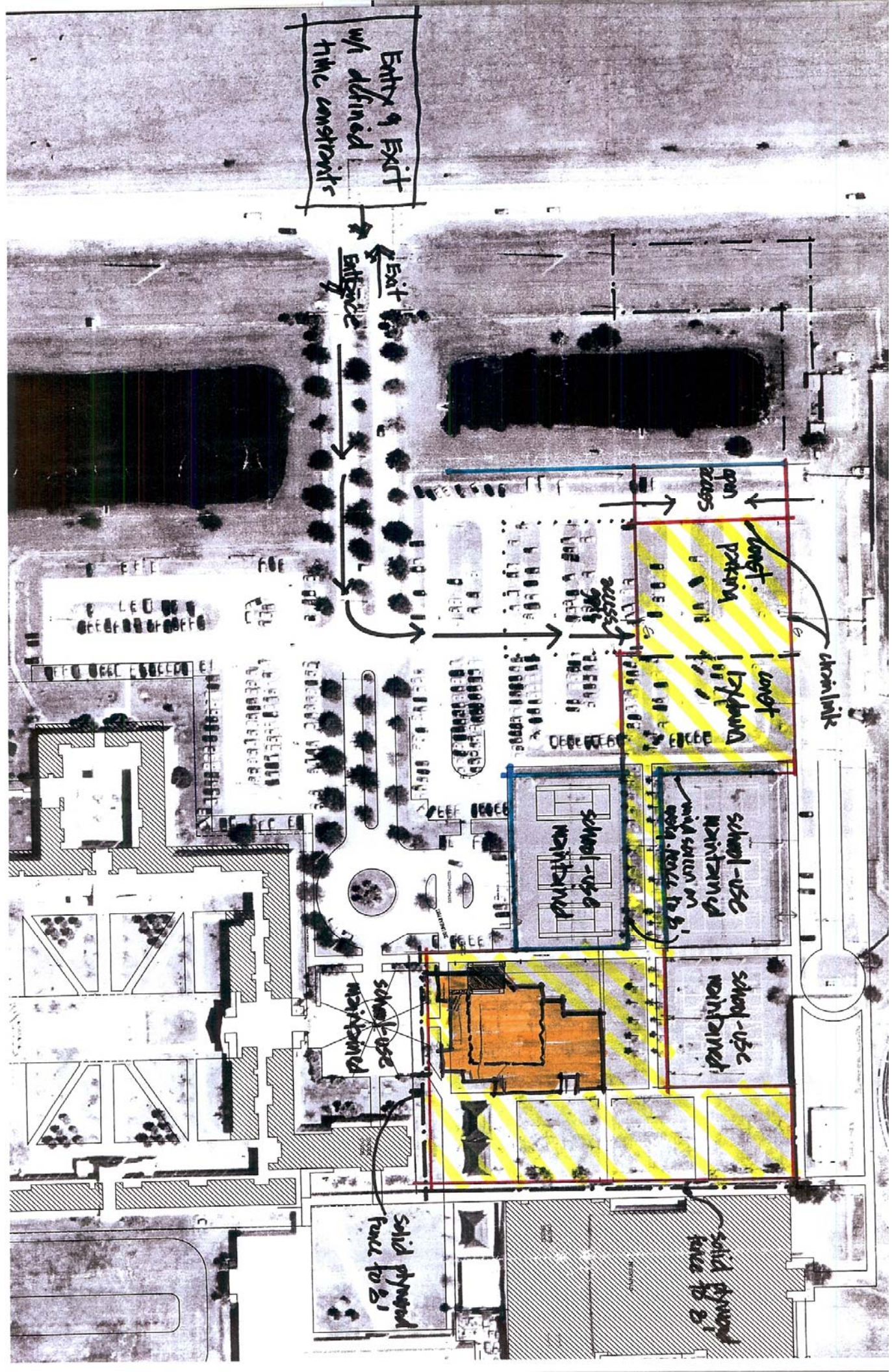




TABLE OF CONTENTS

**BOOK ONE**

TITLE PAGE

TABLE OF CONTENTS

BIDDING AND CONTRACT REQUIREMENTS

00004	Statement of Compliance
00005	Non-Asbestos Certification
00030	Legal Advertisement – Invitation to Bid - <b>Added per Add. No. 2, Modified by Add. No. 3</b>
00031	Soils Investigation Data – <b>Modified by Addendum No. 2</b> “Geotechnical Engineering Services, Proposed Poinciana High School Auditorium, Kissimmee, Osceola County, Florida” dated March 31, 2008 by PSI, Inc.
00100	Instructions to Bidders – <b>Added per Addendum No. 2, Modified by Addendum No. 3</b>
00130	Pre-Bid Conference – <b>Added per Addendum No. 2</b>
00300	Bid Submittal Form – <b>Added per Addendum No. 2, Modified by Addendum No. 3</b>
00310	Trench Safety Act – <b>Added per Addendum No. 2</b>
00400	Licensure – <b>Added per Addendum No. 2</b>
00430	Subcontractor List – <b>Added per Addendum No. 2</b>
00480	Florida Statutes on Public Entity Crimes – <b>Added per Addendum No. 2</b>
<del>00700</del>	<del>General Conditions – Deleted by Addendum No. 3</del>
<del>00805</del>	<del>Supplementary Conditions – Deleted by Addendum No. 3</del>
	Agreement for Construction Chapter 1 Builder’s Agreement – <b>Added per Addendum No. 3</b>
	Agreement for Construction Chapter 2 Builder’s Required Services – <b>Added per Addendum No. 3</b>
	Agreement for Construction Chapter 3 General Terms and Conditions – <b>Added per Addendum No. 3</b>

DIVISION 1: GENERAL REQUIREMENTS

01010	Summary of Work – <b>Modified by Addendum No. 2</b>
01027	Applications for Payment
01030	Alternates – <b>Added per Addendum No. 1, Modified by Addendums No. 2 and 3</b>
01035	Modification Procedures
01040	Project Coordination
01045	Cutting and Patching
01050	Field Engineering
01095	Reference Standards and Definitions
01110	Request For Information (RFI) Procedures
-----	RFI Form
01115	Proposal Request (PR) Procedures - <b>Modified by Addendum No. 3</b>
01200	Project Meetings
01300	Submittals
<del>01310</del>	<del>Submittals Log – Deleted by Addendum No. 3</del>
01311	Schedules and Reports
01400	Quality Control and Testing Laboratory Services - <b>Modified by Addendum No. 3</b>
01500	Temporary Facilities - <b>Modified by Addendum No. 3</b>
01600	Products, Materials, and Equipment
01631	Product Substitutions - <b>Modified by Addendum No. 3</b>
01635	Substitution Request Form - <b>Modified by Addendum No. 3</b>
01700	Contract Closeout - <b>Modified by Addendum No. 3</b>

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

01710 Construction Cleaning  
01720 Project Record Documents - **Modified by Addendum No. 3**  
01730 Operation and Maintenance Data  
01740 Warranties and Bonds - **Modified by Addendum No. 3**

#### DIVISION 2: SITEWORK

02070 Selective Demolition  
02100 Site Clearing  
02140 Dewatering  
02200 Earthwork  
02280 Soil Treatment  
02513 Asphaltic Concrete Paving  
02719 Water Distribution  
02720 Sewage Collection System  
02721 Storm Sewer System  
02800 Landscaping  
02810 Irrigation  
02820 Grassing

#### DIVISION 3: CONCRETE

03100 Concrete Formwork  
03120 Architectural Concrete Formwork  
03200 Concrete Reinforcement  
03300 Cast-In-Place Concrete  
03450 Tilt-Up Concrete Construction

#### DIVISION 4: MASONRY

04100 Mortar  
04125 Masonry Grout  
04150 Masonry Accessories  
04200 Unit Masonry  
04455 Marble Window Stools

#### DIVISION 5: METALS

05120 Structural Steel  
05210 Steel Joists  
05310 Steel Deck  
05500 Metal Fabrications  
05510 Metal Stairs  
05520 Handrails and Railings

#### DIVISION 6: WOOD AND PLASTICS

06100 Rough Carpentry  
06410 Millwork

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

DIVISION 7: THERMAL AND MOISTURE PROTECTION

07110	Sheet Membrane Waterproofing
07111	Bentonite Waterproofing
07210	Building Insulation
07215	Foamed-In-Place Insulation
07220	Roof and Deck Insulation
07245	Exterior Finish System
07250	Sprayed On Fireproofing
07270	Firestopping
07534	Mechanically Attached Flexible Sheet Roofing
07600	Flashing and Sheet Metal
07720	Roof Hatches
07726	Smoke Vents
07920	Sealants and Caulking

**BOOK TWO**

DIVISION 8: DOORS AND WINDOWS

08110	Steel Doors and Frames
08210	Wood Doors
08305	Access Doors
08331	Coiling Counter Doors
08332	Overhead Coiling Doors
08333	Overhead Coiling Fire Doors – <b>Added per Addendum No. 1</b>
08520	Aluminum Windows
08710	Finish Hardware (Door Hardware Schedule and Door Index)
08800	Glazing

DIVISION 9: FINISHES

09200	Stucco
09220	Veneer Plaster
09250	Gypsum Board
09300	Tile
09510	Acoustical Ceilings
09520	Sound Absorbing Wall Treatment & Panels – <b>Revised per Addendum No. 1</b>
09550	Wood Flooring - <b>Revised per Addendum No. 1</b>
09660	Resilient Flooring
09680	Carpet – <b>Added per Addendum No. 1</b>
09805	Concrete Floor Sealers
09900	Painting

DIVISION 10: SPECIALTIES

10100	Visual Display Boards
10165	Solid Plastic Toilet Compartments
10400	Identifying Devices
10520	Fire Extinguisher Cabinets and Accessories
10530	Aluminum Walkway Canopy

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

10660 Metal Storage Shelving  
10810 Toilet Accessories

DIVISION 11: EQUIPMENT

11060 Theatrical Stage Equipment – **Modified by Addendum No. 3**  
~~11061 Theatrical Dimming – Deleted by Addendum No. 3~~  
11065 Curtains and Tracks  
11132 Projection Screens  
11630 Miscellaneous Specialty Equipment

DIVISION 12: FURNISHINGS

12310 Plastic Laminate Faced Millwork  
12500 Window Treatment  
12710 Auditorium Seating

DIVISIONS 13 and 14 (Not Used)

**BOOK THREE**

DIVISION 15: MECHANICAL

15010 General Mechanical Provisions  
15050 Basic Mechanical Materials and Methods  
15052 Instructions and Maintenance Manuals  
15056 Housekeeping Pads, Concrete  
15060 Piping Systems: HVAC, Water  
15062 Refrigerant Pipe, Valves and Specialties  
15066 Piping: Condensate Drain  
15068 Piping Systems: Flushing and Cleaning  
15101 Valves, Cocks and Specialties: HVAC Systems  
15136 Thermometers  
15138 Gauges  
15151 Hangers and Supports  
15174 Pumps: Horizontal Base Mounted End Suction  
15191 Identification of Piping Systems and Equipment  
15201 Vibration Isolation Equipment  
15251 Insulation, HVAC  
15300 Fire Protection  
15400 Plumbing  
15401 Sanitary Sewer & Sanitary Vent Piping  
15402 Domestic Cold & Hot Water Supply Piping & Hot Water Circulating Piping  
15420 Drainage and Vent Systems  
15421 Floor Drains  
15423 Cleanouts and Cleanout Access Covers  
15429 Domestic Water Heaters: Commercial Electric  
15440 Plumbing Fixtures  
15450 Plumbing Fixtures and Trim  
15460 Valves, Cocks and Specialties for Plumbing Systems  
15465 Insulation for Plumbing Systems

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

15682	Chillers: Air-Cooled, Packaged, Rotary Screw
15777	Computer Room Air-Conditioning Unit
15778	Ductless Split-System Air-Conditioning Unit
15850	Air Handling Units, Central Station
15865	Fans: Centrifugal, Roof Upblast
15890	Ductwork
15894	Dampers: Fire and Fire/Smoke
15910	Duct System Accessories
15933	Terminal Units: VAV, Single, Inlet, Electric Coil
15940	Air Distribution Devices
15944	Louvers
15950	Direct Digital Control System
15951	Direct Digital Control System – Sequences of Operation
15960	Variable Frequency Drive
15980	Performance Verification, Preliminary
15981	Performance Verification, Final

#### DIVISION 16: ELECTRICAL

16010	Basic Electrical Requirements
16050	Basic Electrical Materials and Methods
16060	Grounding and Bonding
16073	Hangers and Supports for Electrical Systems
16075	Electrical Identification
16120	Conductors and Cables
16130	Raceways and Boxes
16140	Wiring Devices
16145	Lighting Control Devices
16211	Electricity Metering
16289	Transient Voltage Suppression
16410	Enclosed Switches and Circuit Breakers
16441	Switchboards
16442	Panelboards
16461	Low-Voltage Transformers
16491	Fuses
16511	Interior Lighting
16521	Exterior Lighting
16555	Stage Lighting – <b>Replaced by Addendum No. 3</b>
16665	Lightning Protection
16721	Addressable Fire Alarm/Detection System - <b>Revised per Add. No. 1, Replaced by Add. No. 3</b>
16728	Auditorium Sound Reinforcement Systems

#### DIVISION 17: INTEGRATED TECHNOLOGY SYSTEM

17010	Common Requirements and Work Results for Technology Systems
17020	Voice and Data Structured Cabling System
17050	Video Surveillance
17060	Intrusion Detection
17070	Educational Intercommunication & Program Systems

END OF TABLE OF CONTENTS





Invitation to Bid # SDOC-09-B-023 CJ-FPC  
Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

SECTION 00030  
LEGAL ADVERTISEMENT

**REVISED LEGAL ADVERTISEMENT**

**INVITATION TO BID  
CONSTRUCTION OF AN AUDITORIUM FOR POINCIANA HIGH SCHOOL,  
THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA  
ITB # SDOC-09-B-023 CJ-FPC**

**RECEIPT OF BIDS:** Sealed bids on forms prepared by the District will be received by The School District of Osceola County, Florida Purchasing Department at 817 Bill Beck Blvd., Building 2000, Kissimmee, Florida 34744 until 2:00 P.M. (local time) on October 29, 2008 for the following construction project:

**Construction of an Auditorium for Poinciana High School  
The School District of Osceola County, Florida  
2300 South Poinciana Blvd.  
Poinciana, Florida 34758**

**PROJECT DESCRIPTION:**

This project is for the construction of a New Auditorium Building on the existing **Poinciana High School** Campus. The Project will include an approximate 27,000 sq. ft. auditorium building with a lobby, concessions, control room, public restrooms, ticket booth, custodial closets, stage, stage storage and drama classroom. The project shall also include any required infrastructure; civil site work; connection to existing chiller system; and new electrical service.

**CONSTRUCTION ESTIMATE: \$4.9 Million**

**OBTAINING BID DOCUMENTS:**

All bid documents, forms, technical provisions, drawings, and addenda will be available from Schenkel & Shultz, Inc., located at 200 East Robinson Street, Suite 300, Orlando, Florida 32801. A deposit of **\$250.00 instead of \$125.00 that was advertised on September 21, 2008** including state sales tax, per set is required, which is refundable when a responsive bid is submitted and the Construction Documents are returned in good condition within ten (10) calendar days from the date bids are received.

The Legal Advertisement and all addenda will be posted to the Purchasing Department website at <http://www.osceola.k12.fl.us/depts/Purchasing/RFQRFPLINKPAGE.htm>.

**Notice: Any addenda issued during the bidding process will be available via download. It is the responsibility of all prospective bidders to check the web site for any addenda prior to closing of the bid.**

A **PRE-BID CONFERENCE** will be held. While this is not mandatory, all interested parties are encouraged to attend and participate. The meeting will be held at the Poinciana High School Cafeteria on Wednesday, October 8, 2008 at 2:00 P.M. All firms must check in at the Administration Office to receive a visitor's badge. The Pre-Bid Conference will include a review of the project requirements, procedures and a site visit.

It is the responsibility of the Bidder to become familiar with the site.

Individuals covered by the Americans with Disabilities Act of 1990 who are in need of accommodations to attend public bid openings or meetings should contact the School District of Osceola County, Florida Purchasing Department at (407) 870-4630 at least five (5) days prior to the date.

Invitation to Bid # SDOC-09-B-023 CJ-FPC  
Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT AND SECTION 286.26, FLORIDA STATUTES, PERSONS WITH DISABILITIES NEEDING SPECIAL ACCOMMODATION TO PARTICIPATE IN THE PROCEEDINGS SHOULD CONTACT THE PURCHASING DEPARTMENT AT 407-870-4630 FOR ASSISTANCE AT LEAST TWO (2) BUSINESS DAYS BEFORE THE DATE OF THE MEETING.

**BID BOND:** Each submittal shall be accompanied by an acceptable form of Bid Bond in an amount equal to at least five (5) percent of the amount of the bid, as a guaranty that, if the Bid is accepted, the Bidder will execute the Contract, provide certificates of insurance in the amounts and categories required by the District and file separate Performance and Payment Bonds in amounts and with sureties acceptable to the District, within ten (10) days after the award of the Bid.

**RIGHTS RESERVED:** The School Board of Osceola County, Florida reserves the right to reject any or all bids and to waive any formality or technicality in any bid in the best interest of The School District of Osceola County, Florida.

Should you have questions in regards to this solicitation, please contact:

Cheryl Jessee, Sr. Buyer  
School District of Osceola County  
817 Bill Beck Blvd.  
Kissimmee, Florida 34744  
Email: [Jesseec@osceola.k12.fl.us](mailto:Jesseec@osceola.k12.fl.us)  
Phone: (407) 870-4627  
Fax: 407.870.4616  
Hours: 8:00 A.M. – 4:30 P.M. Monday-Friday

An Equal Opportunity Agency

Run Dates:

Sunday	September 21, 2008 Orlando
Monday	September 29, 2008 Orlando
Monday	October 6, 2008 Orlando

PART 1 - GENERAL

1.1 DOCUMENTS

- A. Bona fide bidders may obtain sets of Project Documents from **SCHENKELSHULTZ**, 200 East Robinson Street, Suite 300, Orlando, FL 32801 upon deposit of \$250.00, including state sales tax, per set. Those who submit bids may obtain refund of deposits by returning sets in good condition no more than ten (10) days after Bids have been opened. Those who do not submit bids will forfeit deposits unless sets are returned in good condition at least ten (10) days before bids are opened.

1.2 EXAMINATION

- A. Bidders shall carefully examine the documents and the construction site to obtain first hand knowledge of existing conditions. Contractors will not be given extra payments for conditions that could have been determined by examining the site and documents.

1.3 QUESTIONS

- A. Submit all questions about all Invitation to Bid documents to the Purchasing Representative in writing. Replies will be posted to the Purchasing Department website and will be distributed by **SCHENKELSHULTZ** to all bidders of record, as Addenda to the Drawings and Project Manual and will become part of the Contract. The Owner will not be responsible for oral clarification. Questions received less than ten (10) days before the bid opening may not be answered.

1.4 SUBSTITUTIONS

- A. To obtain approval to use unspecified products, bidders shall submit written request no less than ten (10) days before the bid date and hour, to the Purchasing Representative. Requests received after this time will not be considered. Requests shall clearly describe the product for which approval is asked, including all data necessary to demonstrate acceptability. If the product is accepted by the Architect, an Addendum will be posted to the Purchasing Department website and distributed by **SCHENKELSHULTZ** to all bidders of record. See Section 01635 for substitution request form.

1.5 BASIS OF BID

- A. The bidder must include all unit cost items and all alternates shown on the Bid Forms; failure to comply may be cause for rejection. No segregated Bids or assignments will be considered.

1.6 PREPARATION OF BIDS

- A. Bids shall be typed on the Bidders letterhead, in the same form as included in the Project

Manual, Section 00300. Fill in all blank spaces. Bids shall be signed with name typed below signature. Where bidder is a corporation, bids must be signed with the legal name of the corporation followed by the name of the State of incorporation and the legal signatures of an officer authorized to bind the corporation to a contract.

#### 1.7 BID SECURITY

- A. Bid Security shall be made payable to the Owner in the amount of five (5%) percent of the Bid sum. Security shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Florida. The successful bidder's security will be retained until he has signed the Contract and furnished the required payment and performance bonds. The Owner reserves the right to retain the security of the next lowest bidder until the lowest bidder enters into contract or until thirty (30) days after bid opening, whichever is the shorter. All other bid security will be returned as soon as practicable. If any bidder refuses to enter into a Contract, the Owner will retain his Bid Security as liquidated damages, but not as a penalty. The Bid Security is to be submitted with the Submission of Bids.

#### 1.8 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

- A. Furnish and pay for bonds covering faithful performance of the Contract and payment of all obligations arising thereunder. Furnish bonds in such form as the Owner may prescribe and with surety company acceptable to the Owner. The bidder shall deliver said bonds to the Owner at the time established in Article 1.17 for the execution of the Contract. Failure or neglecting to deliver said bonds, as specified, shall constitute a breach of Contract and the Bid Security will be forfeited. See Sections 00805 Supplementary Conditions.

#### 1.9 SUBCONTRACTORS

- A. The Bidder shall have determined to his own satisfaction that subcontractors have been successfully engaged in the particular type of business for a reasonable length of time, have successfully completed installations comparable to that required by this project and is qualified technically and financially to perform work for which he is listed. All subcontractors shall be capable of being bonded.
- B. The Owner reserves the right to reject any subcontractor not certified and/or registered by the State of Florida to perform the work of their trade if such registration is required by Florida Law.
- C. A major subcontractors list shall be submitted to the Architect for review with receipt of Bids. No change shall be made in the list of subcontractors after the list is submitted as specified herein, unless agreed to in writing by the Owner.
  - 1. Major Subcontractors include:
    - a. Site
    - b. Concrete
    - c. Masonry
    - d. Roofing

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

- e. Plumbing
- f. HVAC
- g. Electrical

2. Refer to Section 00430.

- D. A complete list of subcontractors and suppliers shall be submitted to the Architect for review and approval within fifteen (15) days after date of Notice to Proceed.

#### 1.10 SUBMITTAL

- A. Submit Bid and Bid Bond in an opaque, sealed envelope. Identify the envelope with: (1) project name, (2) name of bidder. Submit Bids in accordance with the Invitation to Bid.

Each bidder shall submit four (4) complete sets of the Bid Submittal:

- **One (1)** hard copy marked "ORIGINAL"
- **Three (3)** hard copies marked "COPY"
- **One (1) COMPLETE electronic copy on a CD in PDF format**
- Note the **solicitation number** and **name of company on the disk**.

- B. All proposals shall be sealed and delivered or mailed to (faxes/e-mails will not be accepted):

School District of Osceola County, Florida  
Purchasing Department, Building 2000  
817 Bill Beck Blvd  
Kissimmee, Florida 34744-4495

- C. Mark package(s) "**ITB #SDOC 09-B-XXX-CJ FPC Construction of An Auditorium for Poinciana High School**"

**Note:** Please ensure that if a third party carrier (Federal Express, Airborne, UPS, USPS, etc.) is used, that they are properly instructed to deliver your bid **only** to the Purchasing Department, Building 2000 at the above address. To be considered, **a bid submittal must be received and accepted in the Purchasing Department before the Bid Closing Date and Time.**

**\* DO NOT OPEN \*SEALED INVITATION TO BID\* DO NOT OPEN \***

**SEALED BID NUMBER: ITB #SDOC-09-B-xXXX CJ FPC**

**BID TITLE: Construction of An Auditorium for Poinciana High School**

**BID DUE ON: \_\_\_\_\_ AT \_\_\_\_\_ P.M.**

**BID ENCLOSED \_\_\_\_\_ "NO BID LETTER" ENCLOSED \_\_\_\_\_**

Deliver To: The School District of Osceola County, Florida  
PURCHASING DEPARTMENT  
817 Bill Beck Blvd., Building 2000  
Kissimmee, FL 34744-4495

1.11 MODIFICATION AND WITHDRAWAL

- A. Bids may not be modified after submittal. Bidders may withdraw Bids at any time before bid opening, but may not resubmit them. No Bid may be withdrawn after the bid opening except where the award of Contract has been delayed for thirty (30) days beyond the receipt of bids.

1.12 DISQUALIFICATION

- A. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the bidder(s).

1.13 GOVERNING LAWS AND REGULATIONS

- A. Florida Excise Tax: Bidders should be aware of the Florida Law as it relates to tax assessments on construction equipment.

1.14 OPENING

- A. Bids will be opened as announced in the Invitation to Bid.

1.15 AWARD

- A. It is the Owner's intention to award a contract to the responsible bidder submitting the lowest responsive bid consisting of the base bid and any alternates accepted up to the established construction budget amount.
- B. The Owner reserves the right to add funds to the project in order to make an award or to accept any alternate desired.
- C. The Owner reserves the right to accept or reject any bid.
- D. Owner may request the Bidders to present evidence of experience, qualifications, and financial ability to carry out the terms of the Contract.
- E. Alternates will be accepted in any order, and/or the Owner may not accept some alternates, in order to utilize the maximum amount of funds available.

1.16 EXECUTION OF CONTRACT

- A. Notwithstanding any delay in the preparation and execution of the formal Contract Agreement, each Bidder shall be prepared to commence work within seven (7) days following receipt of official written order of the Owner to proceed, or on date stipulated in such order.
- B. The accepted bidder shall assist and cooperate with the Owner in preparing the formal Contract Agreement, and within seven (7) days following its presentation shall execute same and return it to the Owner.

1.17 INTERPRETATION OF QUANTITIES:

In the case of unit price items, the quantities of work to be done and materials to be furnished under this Contract, given in the Bid Submittal Form, are to be considered as approximate only and are to be used solely for the comparison of Bids received. The Owner and/or its Architect/Engineer do not expressly or by implication represent that the actual quantities involved will correspond exactly therewith; nor shall the Bidder plead misunderstanding or deception because of such estimate or quantities or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or material furnished in accordance with the Drawings and other Contract Documents, and it is understood that the quantities may be increased or diminished as provided in the General Conditions without in any way invalidating any of the unit or lump sum prices bid.

**NOTICE TO CONTRACTORS/VENDORS:**

**If a bid item is not provided in the bid section for a specific item in the plans and specifications, it must be brought to the District's attention prior to the bid opening. If a bid item is not included to meet the criteria in the plans and specifications, it does not relieve the contractor/vendor from providing the project as described in the plans and specifications.**

1.18 PUBLIC ENTITY LAW:

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or a public work, awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with a public entity, and may not transact business with any public entity in excess of Category Two of the Florida Statute Section 287.017 for a period of 36 months from the date of being placed on the convicted vendor list.

1.19 BIDDER'S PERSONNEL

During the performance of the contract, the bidder agrees to the following:

- A. The bidder shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap or national origin, except when such condition is a bona fide occupational qualification reasonably necessary for the normal operations of the bidder. The bidder agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- B. The bidder, in all solicitations or advertisements for employees placed by or on behalf of the bidder, shall state that such bidder is an Equal Opportunity Employer.
- C. Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

- D. The bidder shall include the provisions of the foregoing paragraphs A, B, and C, above, in every subcontract or purchase order so that the provisions will be binding upon each bidder.
- E. The bidder and any sub-contractor shall pay all employees working on this contract not less than minimum wage specified in the Fair Labor Standards Act (29 CFR 510-794) as amended.
- F. Any information concerning the School Board, its products, services, personnel, policies or any other aspect of its business learned by the bidder or personnel furnished by the bidder in the course of providing services pursuant to the Agreement, shall be held in confidence and shall not be disclosed by the bidder or any employee or agents of the bidder or personnel furnished by the bidder, without the prior written consent of the School Board.
- G. All employees assigned by the Bidder to the performance of work under this contract shall be physically able to do their assigned work. It shall be the Bidder's responsibility to insure that all employees meet the physical standards to perform the work assigned and are free from communicable diseases. This requirement also includes acceptable hygiene habits of Bidder's employees.
- H. The personnel employed by the Bidder shall be capable employees, age 18 years or above, qualified in this type of work.
- I. It is the Bidder's responsibility to ensure that all employees are legally allowed to work in the United States in accordance with Immigration Policies.
- J. The Bidder's employees shall be required to dress neatly, commensurate with the tasks being performed.
- K. All District facilities are smoke free. Smoking on District grounds is prohibited.
- L. It is the Bidders responsibility to see that every employee on the Bidder's work force is provided and wears an Identification Badge or company shirt/uniform in order to maintain security at the school's facility. It shall be Bidder's responsibility to inform the School District Representative(s) of all new employees promptly at time of employment.
- M. The Bidder shall require employees to be dressed in their appropriate work attire when reporting for duty.
- N. The Bidder shall prohibit their employees from disturbing papers on desks, opening desk drawers or cabinets, or using telephone or office equipment provided for official use.
- O. The Bidder shall require their employees to comply with the instructions pertaining to conduct and building regulations, issued by duly appointed officials, such as the building managers, guards, inspectors, etc.
- P. The School District's Representative(s) will determine how the Bidder will receive access to the facility.
- Q. If keys are provided and lost, the Bidder will be responsible for any and all costs associated with replacement keys and re-keying of the facility.



- R. When requested, the Bidder shall cooperate with any ongoing SCHOOL BOARD investigation involving economic loss or damage to SCHOOL BOARD buildings, or SCHOOL BOARD or personal property therein. The SCHOOL BOARD reserves the right to require any employee of the Bidder to submit to a polygraph test if the SCHOOL BOARD has a reasonable suspicion that the employee is or was involved in the incident or activity under investigation. The Bidder shall obtain a waiver from the employee authorizing the release to the SCHOOL BOARD of information acquired by the Bidder from the polygraph test. The SCHOOL BOARD, at its discretion, may require that the Bidder immediately remove the employee under investigation from working within SCHOOL BOARD buildings for the following reasons: 1) The employee's refusal to submit to a polygraph test in the above circumstances, or 2) an employee's refusal to sign the waiver referenced above or 3) an analysis of the polygraph test indicates that the employee is or was involved in the incident under investigation. If the test results show involvement on the part of the Bidder's employee, the Bidder will be obligated to cover the cost of the examination. If the test results indicate that the Bidder's employee was not involved in the incident, when the SCHOOL BOARD will pay for the cost of the examination.
- S. CONTROLLED SUBSTANCE OR ALCOHOL ABUSE ON SCHOOL BOARD PROPERTY: The successful Bidder(s) is hereby notified that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance or alcohol is prohibited on any school district property, or at any school board activities. Violations may subject the Bidder and/or the Bidder's employee(s) to prosecution, fines, imprisonment and/or cancellation of this or any other contract(s) that this Bidder presently holds. The Bidder(s) are required by this school board to take appropriate disciplinary action in such cases and/or require that the employee(s) satisfactory participation in a rehabilitation program.
- T. Any Bidder's employee convicted of violating a criminal drug statute in the workplace must report the conviction to the employer within five (5) workdays. Bidders (Employers) are required to report such convictions to the school board within ten (10) workdays of receiving this information.
- U. The School District of Osceola County, Florida, is committed to the education and safety of its students and employees. To that end, any bidder awarded a contract will be required to assure that the personnel assigned to the project, do not possess criminal records that would violate the School Board's standards for employment as set forth by the Florida Department of Education. Each bidder must certify that the company and its employees are or will be in compliance with those standards for the project awarded.
- V. The Bidder shall strictly prohibit interaction between their employees and the student(s).
- W. Bidder's employees may not solicit, distribute or sell products while on School District property.
- X. Friends, visitors or family members of the Bidder's employees are not permitted in the work area.
- Y. The Bidder shall adhere to all of the District's security standards.

1.20 COMPLIANCE WITH THE JESSICA LUNSFORD ACT

A. LEVEL 2 BACKGROUND SCREENING

In pursuant to Florida Statutes 1012.465, as modified, the School District will be required to screen any awarded vendor, their employee(s), or agent(s), and/or representative(s) who will be on school grounds when students may be present. This is a level 2 background screening. Participating bidders must take this into consideration when bidding on this contract. Prior to the start of any work/project/contract the awarded vendor must schedule with the district, dates and time with which to have the assigned personnel finger printed by the school district. The School District will notify the awarded vendor the names of those employee(s) that will be allowed to work on School District property. The School District reserves the right to check, at random, any person hired by the awarded vendor working on School District premises to see that the vendor is in compliance of this requirement. The awarded vendor must certify that the company and its employees are, or will be, in compliance with these standards for each project/contract awarded, prior to the finger printing process.

The fee to be charged all awarded vendors shall be the same fee charged the School Board at the time the fingerprinting is performed. Currently the School District is being charged \$61.00/set of fingerprinting.

The School District of Osceola County is now Sharing Finger Print Data with other Districts, if your employee(s) have been finger printed by another School District they only need to register with our District. To do so, they must bring to the School District's Human Resources Department the following items:

1. Two (2) separate forms of identification.
  - a. One must be a State issued "photo" ID
  - b. Social Security Number

B. FELONY OFFENCES

The awarded vendor(s), by signing this bid, certifies that all his employees, who may be assigned work under this contract, and who may have access to school grounds, have not been convicted of a felony, a misdemeanor involving (a) sexual assault, (b) obscenity and related offences, (c) drugs, (d) moral turpitude, (e) physical or sexual abuse or neglect of a child or an equivalent offense in another state, and/or (f) are not listed in any sexual offender registry.

1.21 CLAIM NOTICE

The bidder shall immediately report in writing to the School Board's designated representative or agent any incident that might reasonably be expected to result in any claim under any of the coverage mentioned herein. The bidder agrees to cooperate with the School Board in promptly releasing reasonable information periodically as to the disposition of any claims, including a resume' of claims experience relating to all bidder operations at the School Board project site.

## 1.22 RESOLUTION OF BID PROTESTS

The School Board Rule 7.70.V shall be followed as outlined below for the resolution of any bid protests:

- A. The School Board shall follow the procedure specified in Florida Statutes, Section 120.57(3) and as the same may be amended from time to time for the resolution of bid protests.
- B. The Purchasing Department shall provide notice of a decision or intended decision concerning a solicitation, contract award, or exceptional purchase by electronic posting.

The notice shall contain the following statement:

Failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.

- C. Any person who is adversely affected by the intended award of a solicitation or contract by the School Board or the recommendation of the Director of Purchasing or other responsible employee of the School Board shall file with the Director of Purchasing as agent for the School Board a notice of protest in writing within 72 hours after the electronic posting of the award or intended decision, and shall file a formal written protest within ten (10) days after the date he or she has filed the notice of protest. With respect to a protest of the specifications contained in a solicitation, the notice of protest shall be filed in writing within 72 hours after the electronic posting of the solicitation, and the formal written protest shall be filed within ten (10) days after the date the notice of protest is filed. All formal written protests must be filed with a bond payable to the School District equal to 1% of the estimated contract amount (Florida Statute 287.042(2)(c)). Failure to file a notice of protest or failure to file a formal written protest and bond shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. The School Board may, in its discretion, waive any procedural irregularity or defect in procedures so long as any opposing party is not materially prejudiced by such waiver. Saturdays, Sundays, and state holidays shall be excluded in the computation of the 72-hour time periods provided by this paragraph. The notice of protest and formal written protest shall be filed in the Purchasing Department between the hours of 8:00 a.m. and 4:30 p.m. upon any day the office is open for business.

The provisions specified herein constitute the exclusive remedy for any adversely affected party with respect to a bid protest. The formal written protest shall state with particularity the facts and law upon which the protest is based.

- D. Upon receipt of the formal written protest which has been timely filed, the Purchasing Director shall stop the bid solicitation process or the contract award process until the subject of the protest is resolved by final agency action, unless the School Board, by duly enacted resolution sets forth in writing the particular facts and circumstances which require the continuance of the bid solicitation process or the contract award process without delay in order to avoid an immediate and serious danger to the public health, safety or welfare.

The School Board finds that a substantial interest in the public welfare is the timely award of contracts when required as a condition of receiving grants or funds from outside sources which will be in addition to the regular school budget.

- E. The Purchasing Director shall schedule a meeting to provide an opportunity to resolve the protest by mutual agreement between the parties within seven (7) days, excluding Saturdays, Sundays, and state holidays, after receipt of a formal written protest and bond.
- F. If the Purchasing Director cannot resolve the protest by mutual agreement within the seven (7) day period referred to in Paragraph V.E above, the School Board shall conduct an informal administrative hearing, under Section 120.57(2), Florida Statutes, acting as the agency head, where there are no disputed issues of material fact. The informal hearing shall be held with notice of no less than 72 hours, excluding Saturdays, Sundays, and legal holidays within thirty (30) days of receipt of the formal written protest and bond, unless the parties, with the consent of the School Board, agree to extend the time for the hearing. The School Board shall have the right to schedule the hearing subject to these provisions.

END OF SECTION 00100

BID SUBMITTAL FORM

Bidder Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

To: The School District of Osceola County  
Purchasing Department  
817 Bill Beck Boulevard, Building 2000  
Kissimmee, Florida 34744

Project: Poinciana High School Auditorium  
2300 South Poinciana Blvd.  
Poinciana, Florida 34758

I have received and carefully reviewed all Invitation to Bid, including all Contract Documents prepared by:

**SCHENKELSHULTZ**  
200 East Robinson Street, Suite 300  
Orlando, Florida 32801

I have also received Addenda Nos. \_\_\_\_\_ and have included their provisions in my Bid Response. I have examined the Documents, Drawings, and the site, and submit the following Bid.

Prior to completing the Bid Submittal Form, the undersigned represents that he has carefully reviewed the Invitation to Bid, Instructions to Bidders, General Conditions of the Contract for Construction, Supplementary Conditions, and Technical Specifications, and understands these documents. Failure to comply with provisions of the Contract Documents may be cause for disqualification of bid.

In submitting this Bid, I agree to the following:

1. To hold my bid(s) open for 60 days after receipt of bids.
2. To accept the provisions in the Instructions to Bidders, regarding all Bid Security requirements.
3. To enter into and execute a Contract, if awarded on the basis of this Bid, and if required to furnish Performance Bond and Labor and Material Payment Bonds in accordance with the Instructions to Bidders.
4. To submit Certificates of Insurance for the coverage specified.
5. To accomplish the Work in accordance with the Invitation to Bid and Contract Documents.
6. To complete the Work covered by this Invitation to Bid within 300 calendar days from the date of written order to proceed with the Work to date at which work under this Invitation to Bid is completed.

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

7. To accept the Contractor's Construction Sequence of the Work as described in Division 1, Section 01 11 00.
8. It is recognized that Work for this Project is to be performed under no-lien contracts between the Owner and each Prime Contractor.

---

---

BASE BID: I agree to execute the work under the following Single Prime Contract Base Bid indicated for the lump sum amount given therein.

-----

Base Bid for Single Prime Contract	BASE BID AMOUNT
<b>BASE BID -</b>	\$ _____
	_____(State amount in words)

**ALTERNATES:**

- ALTERNATE NO. 1 – ACHIEVE SUBSTANTIAL COMPLETION WITHIN 240 DAYS (SPECIFY ADD OR DEDUCT) \$ \_\_\_\_\_
- ALTERNATE NO. 2 – DELETE COST OF COVERED CANOPY AREA BETWEEN GYM AND AUDITORIUM \$ \_\_\_\_\_
- ALTERNATE NO. 3 – DELETE BALLERINA CUTOUTS: \$ \_\_\_\_\_
- ALTERNATE NO. 4 – DELETE THE PAVING WORK AND ASSOCIATED WORK WITH EXISTING ROUND-ABOUT AREA \$ \_\_\_\_\_
- ALTERNATE NO. 5 – DELETE FIRE PUMP: \$ \_\_\_\_\_

---

---

I have also attached the following required submissions:

- 5% Bid Security (or Bid Bond will be provided for Base Bid 300 day Substantial Completion deadline)
- Non-Collusion Affidavit
- Conflict of Interest Form
- Experience/Completed Projects
- Drug Free Workplace Certification Form
- Certification Regarding Debarment, Suspension, and Other Responsibility Matters Primary Covered Transactions
- Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion

\*\*\*\*\*

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

Use this form if Bidder is Sole Proprietor:

IN TESTIMONY WHEREOF, the Bidder has hereunto set his hand this day of \_\_\_\_\_, 2008

Bidder

\*\*\*\*\*

Use this form if Bidder is a Partnership:

IN TESTIMONY WHEREOF, the Bidder (a firm) has hereunto set their hands this \_\_\_\_\_ day  
of \_\_\_\_\_, 2008.

(Firm Name)  
By

(Individual Names)

\*\*\*\*\*

Use this form if Bidder is a Corporation:

IN TESTIMONY WHEREOF, the Bidder (a Corporation) has caused this Bid Submittal to be signed by its  
President and Secretary, and affixed its corporate seal this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
Name of Corporation

\_\_\_\_\_  
President

\_\_\_\_\_  
Secretary

(S E A L)

**CERTIFICATES AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_, who signed the said bond on behalf of the principal, was then \_\_\_\_\_ of said corporation; that I know the signature, and that the signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

\_\_\_\_\_  
Secretary

(Corporate Seal)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

*Before me this day personally appeared \_\_\_\_\_, who, being duly sworn, deposes and says that he/she is the Attorney-in-Fact for the \_\_\_\_\_ and that this person has been authorized by \_\_\_\_\_ to execute the forgoing bond on behalf of the Contractor named therein in favor of The School District of Osceola County, Florida.*

\_\_\_\_\_  
Signature of Affiant

Sworn to / Affirmed and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_, who is personally known to me or who produced \_\_\_\_\_ as identification.

NOTARY PUBLIC – STATE OF \_\_\_\_\_

Type or print name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

(Seal)

Commission Expires \_\_\_\_\_

(Attach Power of Attorney to original Bid Bond and Financial Statement of Surety Company)

-----  
**END OF BID BOND**



NON-COLLUSIVE CERTIFICATION

No bid will be accepted that does not have this form completely executed.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each part thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- (a) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or any competitor;
- (b) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor;
- (c) No attempt has been made or will be made by the bidder to insure any other person, partnership, or corporation to submit or not to submit a bid for the purpose of restricting competition;
- (d) The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf.
- (e) That attached hereto (if corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signature of this bid or bid submittal in behalf of the corporation bidder.

\_\_\_\_\_  
(Individual)

\_\_\_\_\_  
(Corporation)

Date: \_\_\_\_\_

By: \_\_\_\_\_

This Non-Collusive Bidding Certificate must be submitted with the Bid.

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

**Construction of an Auditorium for Poinciana High School  
The School District of Osceola County, Florida  
2300 South Poinciana Blvd.  
Poinciana, Florida 34758**

(1) CONFLICT OF INTEREST FORM

I HEREBY CERTIFY that

1. I, (printed name) \_\_\_\_\_, am the (title) \_\_\_\_\_ and the duly authorized representative of the firm of (Firm Name) \_\_\_\_\_ whose address is \_\_\_\_\_, and that I possess the legal authority to make this affidavit on behalf of myself and the firm for which I am acting; and,
2. Except as listed below, no employee, officer, or agent of the firm have any conflicts of interest, real or apparent, due to ownership, other clients, contracts, or interests associated with this project; and,
3. This Bid Submittal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same services, and is in all respects fair and without collusion or fraud.

EXCEPTIONS to items above (List): \_\_\_\_\_

Signature: \_\_\_\_\_ Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_ Firm Name: \_\_\_\_\_

Date: \_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_, who is personally known to me or who has produced \_\_\_\_\_ as identification.

NOTARY PUBLIC – STATE OF \_\_\_\_\_

Type or print name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

(Seal)

Commission Expires \_\_\_\_\_

(2) OFFICERS AND SIGNIFICANT STAKEHOLDERS

Failure to list all officers and significant stakeholders of the business may prevent the bid/offer from being considered for award.

BUSINESS OFFICERS

President: Name: \_\_\_\_\_

Address: \_\_\_\_\_

President's Office Phone Number: \_\_\_\_\_

President's E-mail address: \_\_\_\_\_

Vice President: Name: \_\_\_\_\_

Address: \_\_\_\_\_

Vice President E-mail address: \_\_\_\_\_

Secretary: Name: \_\_\_\_\_

Address: \_\_\_\_\_

Treasurer: Name: \_\_\_\_\_

Address: \_\_\_\_\_

Project Manager (PM) Name: \_\_\_\_\_

PM Address: \_\_\_\_\_

PM Phone Number: \_\_\_\_\_

PM Cell Number: \_\_\_\_\_

PM email address: \_\_\_\_\_



**DRUG FREE WORKPLACE  
CERTIFICATION FORM**

In accordance with Florida Statute 287.087, preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids are equal with respect to price, quality and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs and penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1) notify employees that as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo-contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

\_\_\_\_\_  
Proposer's Signature

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

**Certification Regarding Debarment, Suspension,  
And Other Responsibility Matters  
Primary Covered Transactions**

**TO BE COMPLETED BY PRIME CONTRACTOR**

This certification is required by the regulations implementing *Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510 Participants responsibilities*. The regulations were published as ***Part IV of the January 30, 1989, Federal Register (pages 4722-4733)***.

\*\*\*\*\* BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON PAGE \_\_\_\_ \*\*\*\*\*

- 1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three-year period preceding this Invitation to Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
  - (d) Have not within a three-year period preceding this Invitation to Bid had one or more public transactions (Federal, State, or local) terminated for cause or default.
- 2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this Invitation to Bid.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Typed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Street Address, City, State and Zip Code

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

**Certification Regarding  
Debarment, Suspension, Ineligibility  
And Voluntary Exclusion**

**TO BE COMPLETED BY ALL SUB-CONTRACTORS (after bid award)**

This certification is required by the regulations implementing *Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510 Participants responsibilities*. The regulations were published as ***Part IV of the January 30, 1989, Federal Register (pages 4722-4733)***.

\*\*\*\*\* BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON PAGE \_\_\_\_ \*\*\*\*\*

Lower Tier Covered Transactions

- 1) The prospective lower tier participant certifies, by submission of this document, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
  
- 2) Where the prospective lower tier participant is unable to certify to the above statement, the prospective participant shall attach an explanation to this form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Typed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Street Address, City, State and Zip Code

**INSTRUCTIONS FOR DEBARMENT CERTIFICATION**

1. By signing and submitting this form, the prospective primary participant or lower tier participant (hereinafter referred to as prospective participant) is providing the certification set out herein in accordance with these instructions.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department of agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective participant shall provide immediate written notice to the person to whom this Invitation to Bid is submitted if at any time the prospective participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction", "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "invitation to bid", "voluntarily exclude", as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this invitation to bid is submitted for assistance in obtaining a copy of these regulations.
5. The prospective participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transactions", without modification in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a perspective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction may pursue available remedies, including suspension and/or debarment.

END OF SECTION 00300



**THE SCHOOL BOARD OF OSCEOLA COUNTY, FLORIDA**

**AGREEMENT FOR CONSTRUCTION**

**POINCIANA HIGH SCHOOL AUDITORIUM**

**CHAPTER 1  
BUILDER'S AGREEMENT**

**TABLE OF CONTENTS**

	<b><u>PAGE</u></b>
ARTICLE 1: GENERAL AGREEMENT PROVISIONS	1
ARTICLE 2: NOTICES	2
ARTICLE 3: SCOPE OF GENERAL CONTRACTOR'S WORK	3
ARTICLE 4: COMPENSATION OF THE GENERAL CONTRACTOR	3
ARTICLE 5: SPECIFIC INSURANCE REQUIREMENTS	6
ARTICLE 6: PERSONNEL, SUBCONTRACTOR, SUPPLIER AND CONSULTANT CHARTS	10
ARTICLE 7: CONSTRUCTION SCHEDULE AND SPECIFIC BOND REQUIREMENTS	11
ARTICLE 8: TAX EXEMPT OWNER DIRECT MATERIAL/EQUIPMENT PURCHASE PROGRAM	12
ARTICLE 9: MISCELLANEOUS	15
Exhibit A – Form of Payment Bond	20
Exhibit B – Form of Performance Bond	23
Exhibit C – Owner Direct Material/Equipment Purchase Program	27
Appendix A -- General Contractor's Personnel Chart	32
Appendix B -- General Contractor's Subcontractors and Suppliers Chart	33
Appendix C -- Owner's Consultants Chart	34

**AGREEMENT FOR CONSTRUCTION**

**CHAPTER 1  
BUILDER’S AGREEMENT**

This Agreement for Construction (hereinafter the “Agreement”) is made this \_\_\_\_ day of \_\_\_\_\_, 2008, between THE SCHOOL BOARD OF OSCEOLA COUNTY, FLORIDA, located at 817 Bill Beck Boulevard, Kissimmee, FL 34744 (hereinafter “Owner”) and \_\_\_\_\_, located at \_\_\_\_\_ (hereinafter “General Contractor”).

WHEREAS, the Owner owns that certain parcel of land (hereinafter referred to as the “Site”) having a street address of 2300 South Poinciana Boulevard, Kissimmee, FL 34758 [Poinciana High School], Osceola County, Florida;

WHEREAS, the Owner has retained the services of Schenkel & Shultz, Inc. (hereinafter referred to as the “Architect”) to furnish architectural and/or engineering services for the Poinciana High School Auditorium Project (hereinafter referred to as the “Project”);

WHEREAS, the Owner intends to construct the Project and is engaging the General Contractor to perform certain labor, supervision and services and provide certain equipment, goods and materials for the Project;

WHEREAS, the Owner and General Contractor each acknowledges that it will act in good faith in carrying out its duties and obligations; and

WHEREAS, The Owner’s engagement of the General Contractor is based upon the General Contractor’s representations to the Owner that it (i) is experienced in the type of labor and services the Owner is engaging the General Contractor to perform; (ii) is authorized and licensed to perform the type of labor and services for which it is being engaged in the State of Florida and Osceola County; (iii) is qualified, willing and able to perform general construction services for the Project; and (iv) has the expertise and ability to provide general construction services which will meet the Owner's objectives and requirements, and which will comply with the requirements of all governmental and public authorities and agencies having or asserting jurisdiction over the Project.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**ARTICLE 1**  
**GENERAL AGREEMENT PROVISIONS**

1.1 Recitals. The recitals set forth in the Whereas clauses are incorporated by reference and made a part of this Agreement.

1.2 The “Contract For Construction” is comprised of the following documents:

This “Chapter 1 - Builder’s Agreement” (hereafter “Chapter 1”), including the foregoing recitals, and all attached documents, appendices and addenda;

“Chapter 2 - Builder’s Required Services (General Contractor’s Form)” (hereafter “Chapter 2”), and all attached documents, appendices and addenda;

“Chapter 3 – General Terms and Conditions of Builder’s Contracts” (hereafter “Chapter 3”) and all attached documents, appendices and addenda;

Supplementary Conditions Section 00805 ITB #SDOC-09-B-023-CJ-FPC, p, \_\_\_\_\_;

Proposal(s) submitted by the General Contractor and accepted by the Owner, if any;

The Construction Documents, now existing or issued hereafter;

Any amendments or addenda executed by the Owner and the General Contractor hereafter;  
and

Approved Change Order(s) or field orders.

1.3 Documents not included or expressly contemplated in this Article 1 do not, and shall not, form any part of this Agreement For Construction.

1.4 The Owner shall: (a) furnish the General Contractor with \_\_\_\_\_ copies and one reproducible copy of the Construction Documents; and (b) furnish the General Contractor electronically formatted Construction Documents.

**ARTICLE 2**  
**NOTICES**

2.1 Unless otherwise provided, all notices shall be in writing, and may be served by (a) depositing the same in the United States mail addressed to the party to be notified, postpaid, and registered or certified with return receipt requested, (b) by delivering the same in person to such party, by (i) personal delivery, or (ii) overnight courier, or (c)



- 4.2 **Compensation Schedule.** Prior to the first application for payment, the General Contractor shall submit to the Architect a schedule of values for the Work to be performed, in a format and with sufficient supporting data, as may be required by the Architect. This schedule of values, unless objected to by the Architect or otherwise found to be inaccurate, shall be the basis for review of the General Contractor's application for payment.
- 4.3 **Payment.**
- 4.3.1 Based upon the approved application of progress payment, Owner shall make payment to General Contractor in the amount approved subject to the provisions of paragraphs below. The payment of any application for progress payment by the Owner including the final application does not constitute approval or acceptance of that part of the Project to which such payment relates or relieve the General Contractor of any of its obligations hereunder with respect hereto.
- 4.3.2 Progress Payments. Based upon applications for payment submitted to the Architect by the General Contractor and certificates for payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the General Contractor as provided below and elsewhere in the Contract Documents.
- 4.3.3 At the time or times established in this Agreement, the General Contractor shall submit to the Architect an itemized application for payment for Work completed in accordance with the previously submitted schedule of values. The application for payment shall be signed by the General Contractor, and notarized, and shall be supported by sufficient data which serves to establish the General Contractor's right to the payment, such as requisitions from subcontractors or material suppliers, and reflecting retainage of 10% which may be withheld until substantial completion or final completion. If agreed to by the Owner, the amount of retainage withheld may be reduced to 5% upon 50% completion of the Agreement value. The period covered by each application for payment shall be one calendar month ending on the last day of the month. The format and number of copies of such applications for payment shall be in a format as requested by the Owner. Retainage withheld may be reduced upon substantial completion of the Work to 150% of the estimated cost of all outstanding punch list items, upon approval by the Owner.
- 4.3.4 The application for payment shall reflect the amount of Work completed each month separated by materials stored and labor, inclusive of General Contractor's Fee, as a percent complete of each line item within the schedule of values for the Project. The General Contractor shall, upon request from the Owner, provide all required invoices, payrolls, petty cash accounts and any other evidence required by the Owner to verify the values indicated as percent complete in the application for payment.

- 4.3.5 Applications for payment may also include requests for payment for changes in the work which have been authorized by construction change directives, but not yet documented in a change order, only when such construction change directives have documented an adjustment to the Contract Sum. Further, applications for payment shall not include any requests for payment of amounts the General Contractor does not intend to pay to a subcontractor or material supplier, for any reason.
- 4.3.6 Applications for payment shall only be made on account of materials and equipment delivered and suitably stored at the Site for incorporation into the Work. Payments shall not be made for materials which are not suitably stored at the Site.
- 4.3.7 By submitting an application for payment, the General Contractor warrants that full and complete title will vest in the Owner with regard to all Work covered by an application for payment, no later than the time of such payment. Additionally, all Work represented by a submitted application for payment shall be free and clear of any and all liens, claims, security interests or encumbrances in favor of any person or entity. Each application for payment shall be accompanied, at the Owner's option, by a waiver of lien from each subcontractor or a certificate from each subcontractor stating that the subcontractor has been paid all amounts due the subcontractor from previous applications.
- 4.3.8 Upon receipt of the Architect's certificate for payment, the Owner shall make payment to the General Contractor. The General Contractor shall promptly pay each subcontractor out of the amounts paid to the General Contractor on account of such subcontractor's portion of the Work, minus any percentages retained as retainage from payments made to the General Contractor on account of such subcontractor's portion of the Work. The General Contractor shall, by appropriate written agreement with each subcontractor, require each subcontractor to make payments to sub-subcontractors and material suppliers in a similar manner. However, neither the Owner nor the Architect shall have an obligation to pay or to see the payment of money to a subcontractor, sub-subcontractor or material supplier.
- 4.3.9 Any certificate for payment, progress payment, or partial or entire use or occupancy of the Project by the Owner, shall not constitute acceptance of any work not in accordance with the Agreement or Contract Documents.
- 4.3.10 All Applications for Payment are subject to Owner's review and approval. Owner shall have the right to refuse to approve for payment any amounts, or portions thereof, requested by General Contractor in an Application for Payment, or rescind any amount previously approved for payment, and Owner may withhold any payments otherwise due General Contractor under this Contract or any other agreement between Owner and General Contractor, to the extent it is reasonably necessary, to protect Owner from any expense, cost or loss attributable to: (a) defective or deficient Work not properly remedied in accordance with the terms of

the Contract Documents; (b) the filing or reasonable evidence indicating the probable filing of third party claims against Owner attributable to the fault or neglect of General Contractor; (c) General Contractor's failure to make timely and proper payments to all subconsultants, subcontractors and suppliers; (d) reasonable evidence that the remaining Work cannot be completed for the unpaid Construction Price balance; (e) reasonable evidence indicating that the remaining Work cannot be completed within the remaining Contract Time; (f) General Contractor's failure to satisfactorily prosecute the Work in accordance with the requirements of the Contract Documents; or (g) any other material breach of the requirements of the Contract Documents by General Contractor. Owner shall have the right, but not the obligation, to take any corrective action Owner deems appropriate to cure any of the above noted items, at General Contractor's expense, if such items are not cured by General Contractor to Owner's reasonable satisfaction within three (3) business days after General Contractor's receipt of written notice from Owner.

#### 4.4 **Compensation For Change Orders.**

4.4.1 For change orders directed by Architect to be performed by the General Contractor on a time and materials basis pursuant to Subparagraph 9.5.1 of Chapter 3, the General Contractor shall be reimbursed the actual incurred cost and expense plus a markup of \_\_\_\_\_ percent (\_\_\_%) for the change order Work performed by its forces.

4.4.2 When additional Work by the General Contractor's subcontractors and suppliers is required and approved pursuant to Subparagraph 9.5.3 of Chapter 3, the General Contractor shall be reimbursed the actual incurred costs and expenses paid to those subcontractors and suppliers, plus a markup of \_\_\_\_\_ percent (\_\_\_%).

4.4.3 If the General Contractor disputes a change order decision pursuant to Paragraph 9.7 of Chapter 3, it must give the Owner its written notice of dispute, including the reasons therefor, within \_\_\_\_\_ calendar days of the disputed decision.

4.5 **Liquidated Damages.** If liquidated damages are assessed pursuant to Chapter 3, Article 17, damages shall be calculated at the rate of Seven Hundred Fifty (\$750.00) Dollars per calendar day for failure to meet the required date of Substantial Completion, or one-third (1/3) thereof for failure to meet the required date of Final Completion.

### **ARTICLE 5 SPECIFIC INSURANCE REQUIREMENTS**

5.1 The General Contractor shall deliver the required proofs of insurance to the Owner prior to the commencement of any Work, and in no event any later than 7 calendar days after the execution of this Agreement.



- 5.2 The General Contractor shall, throughout the performance of its services under this Agreement and throughout the term of this Agreement maintain and provide to the Owner the insurance coverages listed in this Article. The insurance policies shall be issued and underwritten by a licensed insurer, licensed as such in the State of Florida. The General Contractor shall provide insurance that may not be reduced, terminated, or cancelled unless 30 calendar days prior written notice thereof is furnished to the Owner. Certificates of insurance and copies of all policies (if required by the Owner) shall be furnished to the Owner within 7 calendar days after the execution of this Agreement. In the event of any cancellation or reduction in insurance coverage, the General Contractor shall obtain substitute coverage, without any lapse of coverage whatsoever. The insurance policies shall name the Owner, the Owner's representatives, and the officers, directors, agents, employees and assigns of the Owner as additional insureds (except for the professional liability and worker's compensation insurance).
- 5.3 The insurance required by in this Article shall include all major divisions of coverage, and shall be on a commercial general basis including premises and operations (including X-C-U), Independent Contractor Hired Products and Completed Operations, and Owned, Nonowned, and Hired Motor Vehicles. Such insurance shall be written for not less than any limits of liability required by law or others set forth in the Contract Documents, whichever is greater. All insurance shall be written on an occurrence basis, unless the Owner approves in writing coverage on a claims-made basis. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the work until date of final payment and termination of any coverage required to be maintained after final payment.
- 5.4 The General Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending limits of coverage.
- 5.5 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:
1. Premises Operation (including X-C-U as applicable)
  2. Independent Contractor's Hired
  3. Products and Completed Operations
  4. Personal Injury Liability
  5. General Contractor Liability including the provision for General Contractor's obligation of indemnification and hold harmless
  6. Owned, non-owned and hired motor vehicles
  7. Broad Form Property Damage including Completed Operations
- 5.6 The insurance required by this Article shall be written for not less than the following, or greater if required by law.
1. Workers' Compensation:
    - (a) State: As required by Chapter 440, Florida Statutes

- (b) Applicable Federal (e.g. Longshoremen’s Statutory)
  - (c) Employer’s Liability: \$500,000.00
2. Commercial General Liability (including Premises Operations; Independent Contractor Hired; Products and Completed Operations; Broad Form Property Damage):
- (a) Bodily Injury:  
\$1,000,000.00 per incident or occurrence
  - (b) Property Damage:  
\$1,000,000.00 per incident or occurrence
  - (c) Products and Completed Operations to be maintained for one year after final payment
  - (d) Property Damage Liability Insurance shall provide S, C or U Coverage as applicable
  - (e) Per project aggregate limit in the amount of \$2,000,000.00
3. Contractual Liability:
- (a) Bodily Injury:  
\$1,000,000.00 per incident or occurrence
  - (b) Property Damage:  
\$1,000,000.00 per incident or occurrence
4. Personal Injury, \$1,000,000.00 per claimant
5. Commercial Automobile Liability: The State of Florida has no-fault automobile insurance requirements. The Contractor shall be certain coverage is provided which conforms to any specific stipulation in the law.
- (a) \$1,000,000.00 per incident or occurrence combined single limit for bodily injury and property damage.
6. Builder’s Risk:
- (a) The General Contractor shall purchase and maintain “ALL RISKS” coverage, including flood and earthquake damage, fire and extended coverage upon the Project to the full and completed value thereof (a minimum acceptable is the amount of the Construction Price). This

coverage should also include automatic permission to occupy and shall cover the insurable interest of the Owner, Architect, General Contractor and subcontractor in the Work.

- (b) The Owner and General Contractor waive all rights against each other for damages caused by fire or other perils to the extent payment is actually made under insurance provided under this paragraph.

- 5.7 The General Contractor shall procure property insurance for any portion of the Work stored off Site or in transit, and the cost for such shall be borne by the General Contractor.
- 5.8 Insurance as Additional Remedy. Compliance with the insurance requirements of this Agreement shall not limit the liability of the General Contractor, its subcontractors, sub-subcontractors, material suppliers, employees, or agents to the Owner or others. Any remedy provided to the Owner, or the Owner's officers, employees, agents or assigns, by the insurance shall be in addition to and not in lieu of any other remedy available under the Agreement or otherwise.
- 5.9 No Waiver by Approval/Disapproval. Neither approval by the Owner nor failure to disapprove the insurance furnished by the General Contractor shall relieve the General Contractor of its full responsibility to provide the insurance as required by this Agreement.
- 5.10 The term "The School Board of Osceola County, Florida" shall include The School Board of Osceola County, Florida, a body corporate, the School District of Osceola County and all Authorities, Boards, Bureaus, Commissions, Divisions, Departments and offices thereof and individual members and employees thereof in their official capacity, and/or while acting on behalf of The School Board of Osceola County, Florida.
- 5.11 All insurance policies provided by General Contractor to meet the requirements of this Agreement shall name The School Board of Osceola County, Florida, as that name is defined in section 5.10, above, as an additional insured (except for professional liability and workers' compensation insurance) as to the operations of General Contractor under the Contract Documents and shall contain a severability of interests provisions.
- 5.12 Companies issuing the insurance policy or policies shall have no recourse against Owner for payment of premiums or assessments for any deductibles which all are at the sole responsibility and risk of General Contractor.
- 5.13 All insurance coverages of General Contractor shall be primary to any insurance or self-insurance program carried by Owner applicable to this Agreement, and the "Other Insurance" provisions of any policies obtained by General Contractor shall not apply to any insurance or self-insurance program carried by Owner applicable to this Agreement.

- 5.14 The Certificates of Insurance, which are to be provided pursuant to paragraph 5.2 above, must identify this Contract.
- 5.15 All insurance policies shall be fully performable in Osceola County, Florida, and shall be construed in accordance with the laws of the State of Florida.
- 5.16 All insurance policies to be provided by General Contractor pursuant to the terms hereof must expressly state that the insurance company will accept service of process in Osceola County, Florida and that the exclusive venue for any action concerning any matter under those policies shall be in the appropriate state court situated in Osceola County, Florida.
- 5.17 The acceptance by Owner of any Certificate of Insurance pursuant to the terms of this Agreement evidencing the insurance coverages and limits required hereunder does not constitute approval or agreement by Owner that the insurance requirements have been met or that the insurance policies shown on the Certificates of Insurance are in compliance with the requirements of this Agreement.
- 5.18 General Contractor shall require each of its subconsultants and subcontractors to procure and maintain, until the completion of that subconsultant's or subcontractor's work or services, insurance of the types and to the limits specified for General Contractor in this Agreement, unless such insurance requirement for the subconsultant or subcontractor is expressly waived in writing by Owner.
- 5.19 If any insurance provided pursuant to this Agreement expires prior to the completion of the Work required hereunder, renewal Certificates of Insurance and, if requested by Owner, certified, true copies of the renewal policies, shall be furnished to Owner 30 calendar days prior to the date of expiration.
- 5.20 Should at any time General Contractor not maintain the insurance coverages required in this Agreement, Owner may cancel this Agreement or at its sole discretion shall be authorized to purchase such coverages and charge General Contractor for such coverages purchased. If General Contractor fails to reimburse Owner for such costs within 30 calendar days after demand, Owner has the right to offset these costs from any amount due General Contractor under this Agreement. Owner shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company/companies used. The decision of Owner to purchase such insurance coverages shall in no way be construed to be a waiver of its rights under this Agreement.

**ARTICLE 6**  
**PERSONNEL, SUBCONTRACTOR, SUPPLIER**  
**AND CONSULTANT CHARTS**

- 6.1 The General Contractor shall prepare and attach as Appendix A to this Chapter the General Contractor's Personnel Chart which lists by name, job category and

responsibility the General Contractor's primary employees who will work on the Project. The General Contractor shall promptly inform the Owner in writing of any proposed replacements, the reasons therefor, and the name(s) and qualification(s) of proposed replacement(s). The Owner shall have the right to reject any proposed replacement.

- 6.2 The General Contractor (i) shall prepare and attach as Appendix B to this Chapter the General Contractor's Subcontractors And Suppliers Chart which lists by name and general Project responsibility each subcontractor and supplier who will be utilized by the General Contractor to provide goods or services with respect to the Project; (ii) shall not enter into any agreement with any subcontractor or supplier to which the Owner raises a reasonable, timely objection; and (iii) shall promptly inform the Owner in writing of any proposed replacements, the reasons therefor, and the name(s) and qualification(s) of proposed replacement(s). The Owner shall have the right to reject any proposed replacement.
- 6.3 The Owner shall prepare and attach as Appendix C to this Chapter the Owner's Consultants Chart which lists by name and general duties each consultant retained by the Owner to provide services with respect to the Project. The Owner reserves the right to engage any other consultants which it may deem necessary or desirable.

## ARTICLE 7 CONSTRUCTION SCHEDULE AND SPECIFIC BOND REQUIREMENTS

### 7.1 **Time For Performance.**

7.1.1 **Commencement Of Construction.** The General Contractor shall commence construction of its scope of the Work on or before December 1, 2008, (the "Commencement Date").

7.1.2. **Substantial Completion.** The General Contractor shall accomplish Substantial Completion of its scope of the Work on or before October 1, 2009 (the "required date of Substantial Completion").

7.1.3. **Final Completion.** The General contractor shall accomplish Final Completion of its scope of the Work on or before December 1, 2009 (the "required date of Final Completion").

- 7.2 **Construction Schedule.** The General Contractor shall no later than December 1, 2008, prepare and submit a final Construction Schedule to the Owner and the Architect for their review and acceptance pursuant to Chapter 3, Paragraph 16.1 of this Contract For Construction.

### 7.3 Bond Requirements.

- 7.3.1 Performance and Payment Bonds. The General Contractor shall furnish bonds covering the faithful performance of the Agreement and payment of any and all obligations arising under the Agreement as required by Florida law. Upon request, the General Contractor shall furnish a copy to any person or entity requesting a copy. Such bonds shall be in conformance and compliance with sec. 255.05, Florida Statutes, and shall contain the information and provisions set forth in the referenced section.
- 7.3.2 Within 10 calendar days after the execution of this Agreement by Owner and General Contractor, General Contractor shall provide Owner with Payment and Performance Bonds, in the form prescribed in **Exhibits A and B**, in the amount of 100% of the Construction Price, the costs of which are to be paid by General Contractor. The Performance and Payment Bonds must comply with the following provisions and must be otherwise acceptable to Owner:
- 7.3.2.1 The Bonds must be underwritten by a surety company which has a currently valid Certificate of Authority issued by the State of Florida, Department of Insurance, authorizing it to write surety bonds in the State of Florida.
- 7.3.2.2 The surety company shall have currently valid Certificate of Authority issued by the United States Department of Treasury under Sections 9304 to 9308 of Title 31 of the United States Code.
- 7.3.2.3 The surety company shall be in full compliance with the provisions of the Florida Insurance Code.
- 7.3.2.4 The surety company shall have at least twice the minimum surplus and capital required by the Florida Insurance Code at the time this Agreement is executed.
- 7.3.2.5 The Bonds must be fully performable in Florida, with service and venue in Osceola County, Florida.
- 7.3.3 If the surety for any bond furnished by General Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Documents, General Contractor shall, within 5 calendar days thereafter, substitute another bond and surety, both of which shall be subject to the minimum requirements noted above and Owner's approval. The cost of any such replacement bond shall be paid by General Contractor

- 7.3.4 In accordance with the requirements of Section 255.05(1)(a), Florida Statutes, General Contractor shall record within 5 calendar days after execution of this Agreement by Owner and General Contractor in the Public Records of Osceola County, Florida, a copy of the Performance and Payment Bonds. General Contractor shall deliver within 10 calendar days after execution of this Agreement by Owner and General Contractor to Owner evidence, reasonably acceptable to Owner, of the recording of said Bonds along with recording data. The delivery of such evidence is a condition precedent to Owner's obligation to make any progress payments to General Contractor hereunder. General Contractor shall deliver the original, recorded Performance and Payment Bonds to Owner within 2 business days after receipt of same from the Osceola County Clerk of the Circuit Court.

**ARTICLE 8  
TAX EXEMPT  
OWNER DIRECT MATERIAL/EQUIPMENT PURCHASE PROGRAM**

- 8.1 The Owner shall appoint the General Contractor as the Owner's authorized representative with respect to any matter arising out of the purchase orders under this program. The General Contractor will cooperate fully with the Owner with respect to the implementation of a tax exempt direct material/equipment purchase program involving the direct purchase of various construction materials, supplies and equipment that is currently part of this Contract. The Owner shall obtain, with the assistance of the General Contractor, the proper authorization from the State of Florida in the form of a Technical Assistance Advisement (TAA).

The Owner Direct Purchase Program is attached hereto as **Exhibit "C,"** controls the Direct Purchase Program for the Project. The Direct Purchase Program will be operated in accordance with the following provisions:

- 8.1.1 The Owner will issue its own purchase orders directly to the third party vendor or supplier of material and equipment purchased under the Direct Purchase Program. The purchase order will be accompanied by the Owner's Exemption Certificate which includes its name, address, and the exemption number with issuance and expiration date.
- 8.1.2 All material and equipment purchased under the Direct Purchase Program is sold directly to the Owner and is directly invoiced by the vendor or supplier.
- 8.1.3 The Owner takes title and possession of all materials and equipment purchased under the Direct Purchase Program from the vendor or seller before they are incorporated into the Project.

- 8.1.4 The Owner assumes all risk of loss on all material and equipment purchased under the Direct Purchase Program. The General Contractor cannot be held liable for damage or loss to the material or equipment.
- 8.1.5 The Owner is responsible for and pays the premiums on all insurance and/or bonding on materials or equipment purchased under the Direct Purchase Program. The General Contractor does not share any economic benefits of proceeds from bond or insurance covering risk of damage or loss of the material or equipment.
- 8.1.6 The Owner makes direct payment to the third party vendor or seller for all purchases from its own funds or accounts for all purchases under the Direct Purchase Program.
- 8.2 The Owner agrees to process its purchase orders so that the progress of construction is not jeopardized. Should the Owner fail to process the purchase orders within a time frame so as not to delay the construction, the General Contractor shall, at its sole discretion, void the Owner purchase order and purchase the item direct thereby waiving any rights the Owner may have for a direct purchase tax savings. Should the items included in the purchase order represent any materials, supplies or equipment that is part of a subcontractor's scope of Work, any terms and conditions that the subcontractor deems to be warranted to protect their interest, shall also be included and/or substituted. Vendors and suppliers must be approved by the Owner prior to the processing of purchase orders.
- 8.3 The items being purchased shall be purchased from the vendors and suppliers selected by the General Contractor and/or the subcontractor for prices negotiated by the General Contractor and/or subcontractor.
- 8.4 The General Contractor is responsible for establishing an accounting system that will adequately track and monitor the direct purchases made by the Owner. The determination of the adequacy of the accounting system shall be mutually agreed upon between the General Contractor and the Owner. The system developed by the General Contractor shall track and monitor that materials purchased (and shall adequately identify the same), costs, tax savings, and such other charts of accounts or information as may be reasonable requested by the Owner. The General Contractor shall submit a monthly accounting report of this information with the General Contractor's application for payment.
- 8.5 The General Contractor shall provide all rough drafts of purchase orders to the Owner for processing in such time and sequence that the Work will not be impeded or delayed in any manner. Notwithstanding anything in this Article 10.3 to the contrary, the General Contractor remains fully responsible under it's Contract with the Owner, and the implementation of this direct purchase program shall not be used in any manner by the



General Contractor to justify any delay unless such delay is a direct result of the Owner's failure to comply with the terms of the Direct Owner Purchase Program through no fault of the General Contractor. Should a delay be incurred that is not the result of the Owner's failure, as stated above, the General Contractor shall be held accountable for such a delay. The General Contractor, for \$10.00 and other valuable consideration, the adequacy of receipt of which is hereby acknowledged and deemed to be sufficient, does hereby release, waive and hold harmless the Owner from and against any claim for damages, acceleration damages, or any other matter, claim or damage that may arise from or be related to in any way the Owner's Direct Purchase Program to the extent stated herein.

- 8.6 The General Contractor shall be responsible for all purchases in the same manner as if the General Contractor had purchased the items, inclusive of managing the warranties for the Owner. The General Contractor shall cooperate with the Owner and take all action necessary to assure that all warranties with respect to any materials or equipment which may be available from any vendor are passed-through to the Owner.
- 8.7 Modification of the Contract Sum will be made by one (1) change order (or additional change orders in the sole discretion of the Owner) prior to final payment unless the Contract period crosses the Owner's fiscal year, in which case, one (1) change order will occur for each fiscal year, one prior to the close of the first year, and the other during the second fiscal year.
- 8.8 The General Contractor and its surety hereby agree that the performance bond penal amount shall be unaffected by any direct purchase deductive change order which is made pursuant to this program.
- 8.9 The General Contractor agrees that its builder's risk insurance coverage amount shall be unaffected by any direct purchase deductive change order implemented pursuant to this program.
- 8.10 Payment shall be directly made by the Owner to the vendor for any Direct Purchases.
- 8.11 To the extent authorized under Florida law, Owner agrees to indemnify and hold harmless Contractor, its subcontractors and suppliers of and from any claims, liability, or responsibility to the State of Florida for any action the State may take against any of them for the payment of any sales or use taxes as a result of Owner's direct purchase of such materials, supplies or equipment.
- 8.12 The Owner shall have the sole option to require the vendor to include a supply bond in the amount of 100% of the purchase order price. The bond shall be from a qualified surety company authorized to do business in the State of Florida and acceptable to the Owner and General Contractor. The cost of the supply bond shall be included in General Contractor's GMP.

- 8.13 The Owner agrees to make payments by the 15th of the month providing the General Contractor processes the invoices and delivers same to the Facilities Department by the 20th of the preceding month.
- 8.14 Owner shall not withhold retainage on any payments made to the vendor.

## **ARTICLE 9 MISCELLANEOUS**

- 9.1 Conduct While on School Property. The General Contractor acknowledges that its employees and agents must behave in an appropriate manner while on the premises of any school facility and shall at all times conduct themselves in a manner consistent with School Board policies and subject to the administrator or designee. It will be considered a breach of this Agreement for any agent or employee of the General Contractor to behave in a manner which is inconsistent with good conduct or decorum, or to behave in any manner which will disrupt the educational program or constitute any level of threat to safety, health, and well being of any student or employee of the School Board. The General Contractor agrees to immediately remove any agent or employee if directed to do so by the building administrator or designee.
- 9.2 Public Entity Crime Information Statement and Debarment – Section 287.133(2)(a) of the Florida Statutes states: “A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.”

By signing this Agreement, General Contractor certifies, to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by a federal department or agency.

(b) Have not, within a five-year period preceding the issuance of ITB #SDOC-09-B-023-CJ-FPC been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to

obtain, or performing a public (federal, state or local) transaction or contract under public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.

(c) Are not presently indicted or otherwise criminally charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in the preceding paragraph (b).

(d) Have not within a five-year period preceding the issuance of ITB #SDOC-09-B-023-CJ-FPC had one or more public transactions (federal, state or local) terminated for cause or default.

General Contractor agrees to notify School Board within 30 calendar days after the occurrence of any of the events, actions, debarments, proposals, declarations, exclusions, convictions, judgments, indictments, informations, or terminations as described in paragraphs 9.2 (a) – (d) above, with respect to General Contractor or its principals.

9.3 **Background Check.** The General Contractor agrees to comply with all requirements of sections 1012.32 and 1012.465, Florida Statutes, and all of its personnel who (1) are to be permitted access to school grounds when students are present, (2) will have direct contact with students, or (3) have access or control of school funds, shall successfully complete the background screening required by the referenced statutes and meet the standards established by the statutes. This background screening will be conducted by the School Board in advance of the General Contractor or its personnel providing any services under the conditions described in the previous sentence. The General Contractor shall bear the cost of acquiring the background screening required by section 1012.32, Florida Statutes, and any fee imposed by the Florida Department of Law Enforcement to maintain the fingerprints provided with respect to the General Contractor and its personnel. The parties agree that the failure of the General Contractor to perform any of the duties described in this section shall constitute a material breach of this agreement entitling the School Board to terminate immediately with no further responsibilities or duties to perform under this agreement. The General Contractor agrees to indemnify and hold harmless the School Board, its officers and employees from any liability in the form of physical or mental injury, death or property damage resulting from General Contractor's failure to comply with requirements of this section or with sections 1012.32 and 1012.465, Florida Statutes. General Contractor shall require each of General Contractor's subcontractors on the project to agree, in writing, to the provisions of this paragraph.

9.4 **No Waiver of Sovereign Immunity.** Nothing herein is intended to serve as a waiver of sovereign immunity by any agency or political subdivision to which sovereign immunity may be applicable.

9.5 **Non-Discrimination.** The parties shall not discriminate against any employee or participant in the performance of the duties, responsibilities and obligations under this agreement because of race, color, religion, gender, age, marital status, disability, political or religious beliefs, national or ethnic origin.

9.6 **Compliance with Federal Grant Requirements.** If made applicable by the use of federal grant funds in the Project or any other requirement as set out below, General Contractor and its subcontractors shall comply with the following enactments, rules, regulations and orders:

Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees).

Copeland "Anti-Kickback" Act (18 U.S.C. 874 and 40 U.S.C. 3145) as supplemented in Department of Labor regulations (29 CFR part 3).

Davis-Bacon Act (40 U.S.C. 3141 et seq.) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation).

Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 701 et seq.) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$2000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers).

All applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 7606), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000).

Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

INTENDING TO BE BOUND, the parties have executed this Agreement as of the date first written above.

**THE SCHOOL BOARD OF OSCEOLA COUNTY, FLORIDA**

**GENERAL CONTRACTOR**

By: \_\_\_\_\_  
John McKay, Chairman

By: \_\_\_\_\_

Name: \_\_\_\_\_  
Print Name

Date: \_\_\_\_\_

Date: \_\_\_\_\_

ATTEST:

ATTEST:

By: \_\_\_\_\_  
Michael A. Grego, Ed.D  
Superintendent

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**EXHIBIT A**  
**FORM OF PAYMENT BOND**

BOND NO. \_\_\_\_\_

**PUBLIC PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS:** That \_\_\_\_\_  
as Principal, and \_\_\_\_\_, as Surety, located at  
\_\_\_\_\_ (Business Address) are held and firmly bound to  
\_\_\_\_\_, as Obligee in the sum of (\$\_\_\_\_\_) for the  
payment whereof we bind ourselves, our heirs, executors, personal representatives, successors  
and assigns, jointly and severally.

**WHEREAS,** Principal has entered into an Agreement for Construction dated as of the \_\_\_\_  
day of \_\_\_\_\_, 200\_\_, with Obligee for the construction of:

\_\_\_\_\_  
in accordance with drawings and specifications, which contract is incorporated by reference and  
made a part hereof, and is referred to as the Contract.

**THE CONDITION OF THIS BOND** is that if Principal:

1. Promptly makes payment to all claimants as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, services, materials or supplies, used directly or indirectly by Principal in the prosecution of the Work provided for in the Contract, then this bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The provisions of this bond are subject to the time limitations of Section 255.05(2). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

**IN WITNESS WHEREOF**, the above parties have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 200\_\_, the name of each party being affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered  
in the presence of:

**PRINCIPAL:**

\_\_\_\_\_  
\_\_\_\_\_  
Witnesses as to Principal

\_\_\_\_\_  
By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Its: \_\_\_\_\_

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 200\_\_, by \_\_\_\_\_, as \_\_\_\_\_ of \_\_\_\_\_, a \_\_\_\_\_ corporation, on behalf of the corporation. He/she is personally known to me **OR** has produced \_\_\_\_\_ as identification.

My Commission Expires:

(AFFIX NOTARY SEAL)

\_\_\_\_\_  
Notary Public (Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title or Rank)

\_\_\_\_\_  
(Serial Number, if any)

ATTEST:

SURETY:

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
Witnesses as to Surety

\_\_\_\_\_  
(Authorized Signature)

\_\_\_\_\_  
(Printed Name)

**OR**

As Attorney in Fact  
(Attach Power of Attorney)

\_\_\_\_\_  
Witnesses

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Telephone Number)

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
200\_\_, by \_\_\_\_\_, as \_\_\_\_\_, of \_\_\_\_\_  
\_\_\_\_\_. Surety, on behalf of Surety. He/She is  
personally known to me **OR** has produced \_\_\_\_\_ as  
identification.

My Commission Expires:

(AFFIX NOTARY SEAL)

\_\_\_\_\_  
Notary Public (Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title or Rank)

\_\_\_\_\_  
(Serial Number, if any)



**EXHIBIT B**  
**FORM OF PERFORMANCE BOND**

BOND NO. \_\_\_\_\_

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
as Principal, and \_\_\_\_\_, as Surety, located at \_\_\_\_\_  
\_\_\_\_\_ (Business Address) are held and firmly bound to  
\_\_\_\_\_, as Oblige in the sum of  
\_\_\_\_\_ (\$ \_\_\_\_\_) for the payment  
whereof we bind ourselves, our heirs, executors, personal representatives, successors and  
assigns, jointly and severally.

WHEREAS, Principal has entered into an Agreement for Construction dated as of the \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_\_\_, with Oblige for the construction of  
\_\_\_\_\_

in accordance with drawings and specifications, which contract is incorporated by reference and  
made a part hereof, and is referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Contract at the times and in the manner prescribed in the Contract;  
and
2. Pays Oblige any and all losses, damages, expenses, costs and attorneys' fees,  
including appellate proceedings, that Oblige sustains because of any default by  
Principal under the Contract, including, but not limited to, all delay damages,  
whether liquidated or actual, incurred by Oblige; and
3. Performs the guarantee of all Work and materials furnished under the Contract for  
the time specified in the Contract,

then this bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities  
connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of  
time, alterations or additions to the terms of the Contract or other Work to be performed  
hereunder, or the specifications referred to therein shall in anyway affect its obligations under  
this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or  
additions to the terms of the Contract or to Work or to the specifications.

This instrument shall be construed in all respects as a common law bond. It is expressly understood that the time provisions and statute of limitations under Section 255.05, Florida Statutes, shall not apply to this bond.

In no event will the Surety be liable in the aggregate to Obligee for more than the penal sum of this Performance Bond regardless of the number of suits that may be filed by Obligee.

**IN WITNESS WHEREOF**, the above parties have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, the name of each party being affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered  
in the presence of:

**PRINCIPAL:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Witnesses as to Principal

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by \_\_\_\_\_, as \_\_\_\_\_ of \_\_\_\_\_, a \_\_\_\_\_ corporation, on behalf of the corporation. He/she is personally known to me **OR** has produced \_\_\_\_\_ as identification.

My Commission Expires:

(AFFIX NOTARY SEAL)

\_\_\_\_\_  
Notary Public (Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title or Rank)

\_\_\_\_\_  
(Serial Number, if any)

ATTEST:

SURETY:

\_\_\_\_\_

\_\_\_\_\_  
Witnesses as to Surety

\_\_\_\_\_

\_\_\_\_\_  
Witnesses

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(Authorized Signature)

\_\_\_\_\_  
(Printed Name)

**OR**

As Attorney in Fact  
(Attach Power of Attorney)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Telephone Number)

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
200\_\_, by \_\_\_\_\_, as \_\_\_\_\_  
of \_\_\_\_\_, Surety, on behalf of Surety.

He/She is personally known to me **OR** has produced \_\_\_\_\_ as  
identification.

My Commission Expires:

(AFFIX NOTARY SEAL)

\_\_\_\_\_  
Notary Public (Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title or Rank)

\_\_\_\_\_  
(Serial Number, if any)

**The School District of Osceola County, Florida**  
**Exhibit C**  
**Owner Direct Material/Equipment Purchase Program**

1. The General Contractor or subcontractor has included Florida State Sales and other applicable taxes in its bid for material, supplies and equipment. The Owner, being exempt from sales tax, reserves the right to make direct purchases of various construction equipment, materials or supplies included in the General Contractor's or subcontractor's bid and/or contract, substantially in accordance with the form of Purchase Order attached herewith.

Any equipment, materials or supplies directly purchased by the Owner that are included in the General Contractor's or subcontractor's contract shall be referred to as Owner-Purchased Materials and the responsibilities of both Owner, General Contractor and subcontractor relating to such Owner-Purchased Materials shall be governed by the terms and conditions of the procedures. The Owner will own and hold full title to all Owner-Purchased Materials.

2. Material suppliers shall be selected by the General Contractor or the subcontractor awarded the subcontract, as appropriate.

The General Contractor or subcontractor has included the price for all construction materials in his bid. Owner Purchasing of construction materials, if selected, will be administered on a deductive Change Order basis.

3. Subcontractor shall provide General Contractor a list of all intended suppliers, vendors, and material men for consideration as Owner-Purchased Materials. This list shall be submitted at the same time as the preliminary schedule of values. The subcontractor shall submit a description of the materials to be supplied, estimated quantities and prices.
4. Upon request from General Contractor, and in a timely manner, subcontractor shall prepare a standard Purchase Order Requisition Form in a form acceptable to the Owner and the General Contractor, to specifically identify the materials which Owner had, at its sole option, elected to purchase directly. The Purchase Order Requisition Form shall include:
  - A. The name, address, telephone number and contact person for the material supplier.
  - B. Manufacturer or brand, model or specification number of the item.
  - C. Quantity needed as estimated by the subcontractor.

- D. The price quoted by the supplier for the materials identified therein.
- E. Any sales tax associated, with such quote.
- F. Delivery dates as established by General Contractor or subcontractor.

Subcontractor shall include reference to any terms and conditions which have been negotiated with the vendors; i.e., payment terms, warranties, retainage, etc.

Such Purchase Order Requisition Forms are to be submitted to General Contractor's designated representative no less than fifteen (15) days prior to the need for ordering such Owner-Purchased Materials, in order to provide sufficient time for Owner review and approval and to assure that, such Directly Purchased Materials may be directly purchased by Owner and delivered to the Project site so as to avoid any delay to the Project.

5. After receipt of the Purchase Order Requisition Form, Owner shall prepare its Purchase Orders for equipment, materials or supplies which the Owner chooses to purchase directly. Pursuant to the Purchase Order, the vendor will provide the required quantities of material at the price established in the vendor's quote to the General Contractor or subcontractor, less any sales tax associated with such price. Promptly upon receipt of each Purchase Order, General Contractor and subcontractor shall verify the terms and conditions of the Purchase Order prior to its issuance to supplier and in a manner to assure proper and timely delivery of items. Owner's Purchasing Director or her designated representative shall be the approving authority for the Owner on Purchase Orders in conjunction with Owner-Purchased Materials. The Purchase Order shall require that the supplier provide the required shipping and handling insurance. The Purchase Order shall also require the delivery of the Owner-Purchased Materials on the delivery dates provided by the General Contractor or subcontractor in the Purchase Order Requisition Form and shall indicate F.O.B. jobsite.
6. In conjunction with the execution of the Purchase Orders by the suppliers, the General Contractor or subcontractor shall execute and deliver to the Owner, through the General Contractor, one or more deductive Change Orders, referencing the full value of all Owner-Purchased Materials to be provided by each supplier from whom the Owner elected to purchase material directly, plus all sales tax savings associated with such materials in General Contractor's bid to General Contractor.
7. All shop drawings and submittals shall be made by the General Contractor or subcontractor in accordance with the Project Specifications.
8. General Contractor or subcontractor, as the case may be, shall be fully responsible for all matters relating to the receipt of materials furnished by Owner in accordance with these Procedures, including, but not limited to, verifying correct quantities, verifying documentation of orders in a timely manner, coordinating purchases, providing and obtaining all warranties and guarantees required by the Contract Documents, inspection and acceptance of the goods at the time of delivery, and loss, or damage to equipment

and materials following acceptance of items by the Owner due to the negligence of the General Contractor. The General Contractor or subcontractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the General Contractor or subcontractor for the particular materials furnished. The General Contractor and subcontractor agree to indemnify and hold harmless the Owner from any and all claims of whatever nature resulting from non-payment of goods to suppliers arising from the actions or directions of General Contractor and subcontractor. Owner purchased materials shall be stored at the construction site.

9. As Owner-Purchased Materials are delivered to the jobsite, the subcontractor and the General Contractor, as Owner's Representative, shall visually inspect all shipments from the suppliers, and approve the vendor's invoice of material delivered. The General Contractor or subcontractor shall assure that each delivery of Owner-Purchased materials is accompanied by adequate to identify the Purchase Order against which the purchase is made. This documentation may consist of a delivery ticket and an invoice from the supplier conforming to the Purchase Order, together with such additional information as the Owner or General Contractor may require. The General Contractor, as Owner's Representative, shall verify in writing to the Owner the accuracy of the delivery ticket. The General Contractor or subcontractor will then forward the invoice to the Owner through the General Contractor for payment. The invoice shall be thereupon furnished to the Finance Department for processing and payment in the manner as all other Osceola School District invoices are processed. The Owner shall have the right to assign personnel to verify and audit the accuracy of all Director Purchase Documents.
  
10. The General Contractor or subcontractor shall insure that Owner-Purchased Materials conform to the Specifications, and determine prior to incorporation into the work if such materials are patently defective, and whether such materials are identical to the material ordered and match the description on the bill of lading. If the General Contractor or subcontractor discovers defective or non-conformities in the Owner-Purchased Material upon such visual inspection, the General Contractor or subcontractor shall not utilize such non-conforming or defective materials in the work and instead shall promptly notify the vendor of the defective or non-conforming condition in order to pursue repair or replacement of those materials without any undue delay or interruption to the Project. Additionally, the General Contractor or subcontractor shall notify the Owner, through the General Contractor, of such occurrence. If the General Contractor or subcontractor fails to perform such inspection and otherwise incorporated Owner-Purchased Materials, the condition of which it either knew or should have known by performance of an inspection, General Contractor or subcontractor shall be responsible for all damages to County resulting from General Contractor's or subcontractor's incorporation of such materials into the Project, including liquidated or delay damages. In the event that materials furnished are found to be defective or nonconforming, the General Contractor or subcontractor shall promptly take action to remedy the defect or non-conformance so as not to delay the work.
  
11. The General Contractor or subcontractor shall maintain records of all Owner-Purchased Materials it incorporates into the work from the stock of Owner-Purchased Materials in

- its possession. The General Contractor or subcontractor shall account monthly to the Owner, through the General Contractor, for any Owner-Purchased Materials delivered into the General Contractor's or subcontractor's possession, including portions of all such materials which have been incorporated into the work.
12. The General Contractor or subcontractor, as the Owner's agent, shall be responsible for obtaining and managing all warranties and guarantees for all material and products as required by the Contract Documents. All repair, maintenance or damage-repair calls shall be forwarded to the General Contractor or subcontractor for resolution with the appropriate supplier or vendor.
  13. Notwithstanding the transfer of Owner-Purchased Materials by the Owner to the General Contractor's or subcontractor's possession, the Owner shall retain title to any and all Owner-Purchased Materials.
  14. The transfer of possession of Owner-Purchased Materials from the Owner to the General Contractor or subcontractor shall constitute a bailment for the mutual benefit of the Owner and the General Contractor or subcontractor. The Owner shall be considered the bailor and the General Contractor or subcontractor the bailee of the Owner-Purchased Materials. Owner-Purchased Materials shall be considered returned to the Owner for the purposes of its bailment at such time as they are incorporated into the Project or consumed in the process of completing the Project. All Owner-Purchased Materials shall be stored at the construction site.
  15. The insurance purchased and maintained by the General Contractor shall be sufficient to protect against any loss of or damage to Owner-Purchased Equipment, Materials or Supplies. Such insurance shall cover the full value of any Owner-Purchased Materials not yet incorporated into the Project from the time the Owner first takes title. The Owner shall be named as an Additional Insured Party on such policies of insurance. The Owner will bear the costs of all Payment and Performance Bonds and Owner's Insurance including Builder's Risk Insurance as a reimbursable expense to the General Contractor. The Owner as an additional named insured on the Contractor's Builder's Risk Insurance and, in the event of damage or destruction to the Owner-Purchased Materials, the Owner will receive all proceeds derived from all claims against insurers or others to pay for repair or reconstruction as a result of damage or destruction.
  16. The Owner shall in no way be liable for interruption or delay in the Project, for any defects or other problems with the Project, or for any extra costs or time resulting from delay in the delivery of, or defects in, Owner-Purchased Materials when such delay is a result of the failure of the General Contractor's or subcontractor's performance.
  17. On a monthly basis, General Contractor or subcontractor shall be required to review invoices submitted by all suppliers of Owner-Purchased Materials delivered to the Project site during that month and either concur or object to the Owner's issuance of payment to the suppliers, based upon General Contractor's or subcontractor's records of material delivered to the site and any defects in such materials.



18. In order to arrange for the prompt payment to the supplier, the General Contractor or subcontractor shall provide to the Owner, through the General Contractor, a list indicating the acceptance of the goods or materials in accordance with the established monthly Payment Request Schedule. The list shall include a copy of the applicable Purchase Order, invoices, delivery tickets, written acceptance of the delivered items, and such other documentation as may be reasonably required by the Owner. Upon receipt and verification of the appropriate documentation, the Owner shall prepare a check drawn to the supplier based upon the receipt of data provided. This check will be released, delivered, and remitted directly to the supplier. The General Contractor or subcontractor agrees to assist the Owner to immediately obtain a partial or final release of lien waiver as appropriate.
19. Salvage materials shall be the property of the Owner and stored or removed from the site by the General Contractor or subcontractor at the Owner's direction.
20. The Owner's direct purchase of equipment, materials or supplies, as provided herein does not relieve the General Contractor or any subcontractor of any obligation required pursuant to the contract or subcontract pertaining to the performance of work, except as to the Owner's obligation to make direct payments to such vendors and may reduce the bonds to the extent permitted by Section 255.05, F.S.
21. In this Exhibit, a reference to "General Contractor or subcontractor" shall be a reference to a subcontractor if the equipment, materials or supplies is within the scope of the subcontract. Otherwise, the reference is to the General Contractor.

APPENDIX A

GENERAL CONTRACTOR'S PERSONNEL CHART

(TO BE SUPPLIED BY GENERAL CONTRACTOR)

APPENDIX B

GENERAL CONTRACTOR'S SUBCONTRACTORS AND SUPPLIERS CHART

(TO BE SUPPLIED BY GENERAL CONTRACTOR)

APPENDIX C

OWNER'S CONSULTANTS CHART

(TO BE SUPPLIED BY OWNER)

**AGREEMENT FOR CONSTRUCTION  
(General Contractor’s Fixed Price Form)**

**CHAPTER 2  
BUILDER’S REQUIRED SERVICES**

**TABLE OF CONTENTS**

ARTICLE 1 GENERAL PROJECT SERVICES .....1

    1.1 Essential Services.....1

    1.2 Compliance With Contractual Requirements .....1

    1.3 Cooperative Effort .....1

    1.4 Relationship To Architect.....1

    1.5 Additional Or Modified Required Services .....1

ARTICLE 2 PRE-CONSTRUCTION SERVICES .....1

    2.1 Construction Documents Review .....1

    2.2 Scheduling.....2

    2.3 Additional Or Modified Required Services .....2

ARTICLE 3 CONSTRUCTION SERVICES .....2

    3.1 Construction Supervision.....2

    3.2 General Contractor’s On-Site Facilities.....3

    3.3 Additional Or Modified Required Services .....3

ARTICLE 4 EXTRA SERVICES .....3

    4.1 Initiation Of Extra Services .....4

    4.2 Definition Of Extra Services.....4

APPENDIX 1 ADDITIONAL OR MODIFIED REQUIRED SERVICES.....5

**AGREEMENT FOR CONSTRUCTION  
(General Contractor's Fixed Price Form)**

**CHAPTER 2  
BUILDER'S REQUIRED SERVICES**

**ARTICLE 1  
GENERAL PROJECT SERVICES**

- 1.1 **Essential Services.** The General Contractor agrees to provide all services required to professionally complete its scope of the Work in an expeditious and economical manner consistent with this Agreement for Construction and the best interests of the Owner.
- 1.2 **Compliance With Contractual Requirements.** At all times the General Contractor is performing services, it shall comply with the requirements set forth in Chapter 1, Chapter 2 and Chapter 3 of this Agreement for Construction.
- 1.3 **Cooperative Effort.** The General Contractor shall, in consultation with the Owner, Architect, and the subcontractors, endeavor to develop, implement and maintain a spirit of cooperation, collegiality, and open communication among the parties so that the goals and objectives of each are clearly understood, potential problems are resolved promptly, and, upon completion, the Project is deemed a success by all parties.
- 1.4 **Relationship To Architect.** The Owner's designated Architect will be the Owner's representative in dealing with the General Contractor on all design and technical matters, and will administer this Agreement for Construction. Unless otherwise directed by the Owner, the Owner and the General Contractor shall communicate with each other in the first instance through the designated Architect. The Owner's instructions to the General Contractor will be issued through the designated Architect.
- 1.5 **Additional Or Modified Required Services.** Additional or modified required services, if any, included in General Project Services are listed in Appendix 1 and incorporated herein by reference.

**ARTICLE 2  
PRE-CONSTRUCTION SERVICES**

- 2.1 **Construction Documents Review.**
  - 2.1.1 Prior to commencement of construction activities the General Contractor shall review the Construction Documents for clarity, adequacy of detail, consistency, accuracy and completeness to identify:
    - (i) conflicts, omissions or overlaps, and unusual design details affecting construction cost and schedules; and

- (ii) factors with the potential to impact the Construction Schedule such as materials with long lead time, the unavailability of required labor, and other factors and make suggestions for acceptable alternatives.

2.1.2 Upon completion of its review of the Construction Documents, the General Contractor shall:

- (i) notify the Architect in writing of all problems, conflicts, defects, omissions, overlaps or deficiencies of which it became aware; and
- (ii) assist the Architect with the resolution of the identified problems, conflicts, defects, omissions, overlaps and deficiencies.

2.2 **Scheduling.** The General Contractor understands and acknowledges the Owner's intent that the Project will be complete by the Date of Substantial Completion. The General Contractor shall timely prepare and submit the Construction Schedule for the Owner's review and approval.

2.3. **Additional Or Modified Required Services.** Additional or modified required services, if any, included in Pre-Construction Services are listed in Appendix 1 and incorporated herein by reference.

### ARTICLE 3 CONSTRUCTION SERVICES

#### 3.1 **Construction Supervision.**

3.1.1 The General Contractor shall supervise and direct its scope of the Work at the Site. The General Contractor shall, at a minimum, staff the Project Site with personnel who shall:

- (i) supervise and coordinate the General Contractor's personnel and act as its primary liaison with the Owner and the Owner's Consultant(s).
- (ii) coordinate trade contractors and suppliers, and supervise Site construction services.
- (iii) be familiar with all trade divisions and trade contractors' scopes of Work, all applicable building codes, the Construction Documents, and this Agreement for Construction.
- (iv) check and review shop drawings and materials delivered to the Site, regularly review the Work to determine its compliance with the Construction Documents and this Agreement for Construction, periodically confer with the appropriate Owner's consultant(s) to assure acceptable levels of quality; and

- (v) prepare and maintain Project records, process documents, and staff the Site field office.
- 3.1.2 The General Contractor shall promptly reject any Work (a) which does not conform to the Construction Documents; or (b) which does not comply with any applicable law, statute, building code, rule or regulation of any public authority or agency of which it is aware.
- 3.1.3 The General Contractor shall comply with and cause its subcontractors and suppliers to comply with the Project Construction Schedule and applicable sub-schedules. The General Contractor shall obtain and review schedules from subcontractors and suppliers, coordinate sub-schedules with the Construction Schedule, and enforce compliance with all applicable schedules to insure timely completion of the Work. If at any time a Project is delayed, the General Contractor shall immediately notify the Owner of the probable cause(s) and possible alternatives, and make recommendations to minimize expense to the Owner.
- 3.1.4 The Architect will visit the Project Site at intervals appropriate to the stage of construction and with sufficient frequency to familiarize itself with the progress and quality of the Work and to inspect the Work. The Architect's interpretations and decisions shall be final regarding the Construction Documents and the Work.
- 3.2 **General Contractor's On-Site Facilities.** Commencing at the Date of Commencement and terminating on the Date Of Final Completion, the General Contractor shall provide a Site field office and toilet facilities at the Project Site.
- 3.2.1 The field office facilities shall be large enough to accommodate required meetings and shall include office furnishings and equipment such as desks, telephones, computers, copiers and other similar office equipment.
- 3.2.2 The General Contractor shall maintain in the Site field office, on a current basis, all necessary Construction Documents, schedules, shop drawings, product data, samples, purchase orders, maintenance manuals and instructions, daily logs, correspondence, memoranda, and all other Project-related documents.
- 3.2.3 The General Contractor shall provide temporary toilets at the Site for all workers for the duration of the construction period.
- 3.3 **Additional or Modified Required Services.** Additional or modified required services, if any, included in Construction Services are listed in Appendix 1 and incorporated herein by reference.



**ARTICLE 4  
EXTRA SERVICES**

- 4.1 **Initiation Of Extra Services.** The General Contractor shall provide such Extra Services as are initiated and authorized in writing by the Owner prior to performance. The services described in this Article 4 are not included in Required Services unless identified as an “Additional Or Modified Required Service”.
- 4.2 **Definition Of Extra Services.** Extra services include, but are not limited to:
- (i) services performed after the Date Of Final Completion, except when required as Basic Services.
  - (ii) services for preparation for and attendance at deposition, discovery or court or other dispute resolution proceedings on behalf of the Owner, except when such proceedings involve issues of fault, neglect or alleged liability of the General Contractor, or its agents, employees, or consultants.
  - (iii) other services not included in Required Services mutually agreed to by the Owner and the General Contractor in writing.
- 4.3 Payment of the General Contractor for Extra Services shall be in accordance with applicable provisions of Chapter 1.

**APPENDIX 1  
ADDITIONAL OR MODIFIED REQUIRED SERVICES**

GENERAL PROJECT SERVICES [¶ 1.5]

[Insert and identify with specificity all Additional Required Services, Modified Required Services, or state “None”]

PRE-CONSTRUCTION SERVICES [¶ 2.3]

[Insert and identify with specificity all Additional Required Services, Modified Required Services, or state “None”]

CONSTRUCTION SERVICES [¶ 3.3]

[Insert and identify with specificity all Additional Required Services, Modified Required Services, or state “None”]



**AGREEMENT FOR CONSTRUCTION**

**CHAPTER 3  
GENERAL TERMS AND CONDITIONS**

**TABLE OF CONTENTS**

ARTICLE 1 CONTRACT DOCUMENTS ..... 1

    1.1 Additional Sets Of Documents ..... 1

    1.2 Return Of Documents To Owner ..... 1

    1.3 Electronic Media..... 1

    1.4 Minimum Requirements ..... 1

    1.5 Owner Disclaimer Of Warranty ..... 1

    1.6 Conflicts In Documents ..... 1

    1.7 Shop Drawings And Submittals..... 2

    1.8 Contract Changes ..... 2

ARTICLE 2 BUILDER’S REVIEWS AND EVALUATIONS ..... 2

    2.1 Sufficiency Of Construction Documents And Drawings..... 2

    2.2 Sufficiency Of Site..... 3

ARTICLE 3 BUILDER’S DUTIES, OBLIGATIONS AND RESPONSIBILITIES ..... 3

    3.1 Performance Of Work..... 3

    3.2 Compliance With Governmental Requirements ..... 4

    3.3 Safety ..... 4

    3.4 Concurrent Records ..... 4

    3.5 As-Built Drawings ..... 4

    3.6 Bribes And Kick-Backs ..... 5

    3.7 Quality Control And Testing ..... 5

    3.8 Incident Reporting ..... 5

    3.9 Hazardous Substances ..... 5

    3.10 Owner’s Use Of And Access To The Site ..... 6

    3.11 Commissioning ..... 6

ARTICLE 4 BUILDER'S PERSONNEL, SUBCONTRACTORS, SUPPLIERS  
AND SITE FACILITIES ..... 6

    4.1 Project Staffing ..... 6

    4.2 Subcontractor / Supplier Contracts ..... 7

    4.3 Owner/Architect Approval..... 8

    4.4 Resolution Of Trade Disputes..... 8

    4.5 Licensing..... 8

ARTICLE 5 GOODS, PRODUCTS AND MATERIALS..... 8

    5.1 Quality Of Materials ..... 8

    5.2 Installation And Use Of Materials ..... 9

    5.3 Unsuitable Materials ..... 9

    5.4 Security For The Project ..... 9

ARTICLE 6 DOCUMENTS AND INFORMATION ..... 9

    6.1 Information From Owner ..... 9

    6.2 Resolution Of Questions ..... 10

    6.3 Processing Of Documents ..... 10

    6.4 Sufficiency Of Owner Information ..... 10

ARTICLE 7 SUBMITTALS..... 10

    7.1 Submittal Schedule ..... 10

    7.2 Processing Of Submittals ..... 10

ARTICLE 8 BUILDER’S INSPECTION AND CORRECTION OF DEFECTIVE  
OR INCOMPLETE WORK..... 11

    8.1 Rejection And Correction Of Work In Progress ..... 11

    8.2 Covered Or Concealed Work ..... 11

ARTICLE 9 CHANGE ORDERS AND CHANGES TO THE WORK..... 12

    9.1 Change Order Requests..... 12

    9.2 Owner-Directed Changes ..... 12

    9.3 Professional-Directed Changes ..... 12

    9.4 Administration Of Changes ..... 12

    9.5 Compensation For Changes ..... 12

    9.6 Performance Of Changes ..... 13

    9.7 Disputes Regarding Changes ..... 13

    9.8 Necessity For Signed Writing ..... 13

ARTICLE 10 FINANCIAL CLAIMS AND LIENS ..... 14

    10.1 Notification Regarding Liens..... 14

ARTICLE 11 OWNER’S CONSULTANT(S), ARCHITECT AND  
CONSTRUCTION ADMINISTRATION ..... 14

    11.1 Owner’s Designated Professional Representative ..... 14

    11.2 Professional Site Visits ..... 14

    11.3 Professional Rejection Of Work ..... 14

    11.4 Professional Evaluations ..... 14

    11.5 Professional Submittal Activities..... 15

    11.6 Professional Interpretations ..... 15

    11.7 Professional Change Order Activities..... 15

11.8 Professional Pay Application Activities ..... 15

11.9 Professional Relationship To Builder ..... 16

ARTICLE 12 INSPECTION, CORRECTION OF WORK, AND  
PROJECT CLOSE OUT ..... 16

12.1 Substantial Completion ..... 16

12.2 Final Completion ..... 17

ARTICLE 13 BUILDER’S WARRANTIES AND GUARANTEES ..... 19

13.1 One-Year Warranty ..... 19

13.2 Express Warranties And Guarantees – Builder ..... 19

13.3 Express Warranties And Guarantees - Subcontractors And Suppliers ..... 20

13.4 Non-Exclusivity And Survival ..... 20

13.5 Non-Limitation ..... 20

13.6 Commencement Of Obligations ..... 20

ARTICLE 14 OWNER’S DUTIES, OBLIGATIONS AND RESPONSIBILITIES ..... 21

14.1 Timely Compensation Of Builder ..... 21

14.2 Payment For Testing ..... 21

14.3 Owner Review Of Documents ..... 21

14.4 Status Of Owner ..... 21

14.5 Owner’s Utilities ..... 21

14.6 Statements Of Owner’s Capacity ..... 21

ARTICLE 15 BUILDER’S COMPENSATION ..... 21

15.1 Unit Prices ..... 22

15.2 Schedule Of Values ..... 22

15.3 Invoicing Procedures ..... 22

15.4 Payment Procedures ..... 23

15.5 Owner’s Right To Refuse Payment ..... 23

15.6 Builder’s Right To Refuse Performance For Non-Payment ..... 24

15.7 Correction Of Past Payments ..... 24

15.8 Invoice Warranties And Guarantees ..... 24

15.9 Builder’s Signature ..... 25

15.10 Compensation Of Builder’s Subcontractors And Suppliers ..... 25

15.11 Final Payment ..... 25

ARTICLE 16 SCHEDULE REQUIREMENTS ..... 25

16.1 Construction Schedule ..... 25

16.2 Delay In Performance ..... 26

16.3 Modifications To Time For Performance ..... 26

16.4 Early Completion ..... 27

16.5 Modification Dates Of Substantial Completion Or Final Completion ..... 27

16.6 Document Review ..... 27

ARTICLE 17 LIQUIDATED DAMAGES..... 27

    17.1 Time Of The Essence..... 27

    17.2 Failure To Timely Achieve Completion ..... 27

    17.3 Compensable Delay ..... 28

    17.4 Excusable Delay..... 28

    17.5 Owner’s Right To Withhold Payment ..... 28

ARTICLE 18 CONCEALED AND UNFORESEEN CONDITIONS..... 29

    18.1 Notification Regarding Unusual Conditions ..... 29

ARTICLE 19 BUILDER’S RECORDS ..... 29

    19.1 Preparation Of Records..... 29

    19.2 Retention Of Records..... 29

    19.3 Access To Records..... 30

ARTICLE 20 PROPRIETARY DOCUMENTS AND CONFIDENTIALITY ..... 30

    20.1 Nature And Use Of Information ..... 30

    20.2 Ownership Of Information..... 31

    20.3 Disclosure Of Information ..... 31

    20.4 Instructions To Employees ..... 31

    20.5 Non-Publication ..... 31

ARTICLE 21 GENERAL INSURANCE REQUIREMENTS ..... 31

    21.1 General Insurance Requirements ..... 31

    21.2 Certificates Of Insurance ..... 31

    21.3 Effect Of Insurance ..... 32

    21.4 Waiver Of Subrogation ..... 32

ARTICLE 22 GENERAL BOND REQUIREMENTS ..... 32

    22.1 General Bond Requirements ..... 32

    22.2 Delivery Of Bonds ..... 32

ARTICLE 23 OWNER’S RIGHT TO STOP WORK ..... 33

    23.1 Cease And Desist Order..... 33

ARTICLE 24 TERMINATION OR SUSPENSION OF AGREEMENT FOR CONSTRUCTION ..... 33

    24.1 Termination For Cause By Owner ..... 33

    24.2 Termination For Cause By Builder ..... 35

    24.3 Termination Or Suspension For Convenience ..... 35

    24.4 Builder’s Compensation When Builder Terminates For Cause  
    Or Owner Terminates For Convenience ..... 35

24.5 Builder’s Compensation When Owner Terminates For Cause ..... 36

24.6 Limitation On Termination Compensation ..... 36

24.7 Builder’s Responsibility Upon Termination ..... 36

24.8 Lack Of Duty To Terminate ..... 37

24.9 Limitation On Termination Claim ..... 37

ARTICLE 25 APPLICABLE LAW AND DISPUTE RESOLUTION ..... 37

25.1 Applicable State Law ..... 37

25.2 Court Actions ..... 37

25.3 Mutual Discussion ..... 37

25.4 Facilitative Mediation ..... 38

25.5 Conflicting Dispute Resolution Provisions ..... 38

25.6 Arbitration Preclusion ..... 38

25.7 Performance During Dispute Resolution ..... 39

ARTICLE 26 DAMAGES AND REMEDIES ..... 39

26.1 Builder’s Repair ..... 39

26.2 Builder’s Reimbursement ..... 39

26.3 General Indemnity ..... 39

26.4 Intellectual Property Indemnity ..... 40

26.5 Non-Exclusivity Of Owner’s Remedies ..... 40

26.6 Waiver Of Damages ..... 40

26.7 Interest ..... 40

ARTICLE 27 MISCELLANEOUS PROVISIONS ..... 40

27.1 Integration ..... 40

27.2 Severability ..... 40

27.3 Waiver ..... 40

27.4 Strict Compliance ..... 41

27.5 Third-Party Beneficiaries ..... 41

27.6 Survival ..... 41

27.7 Assignment ..... 41

ARTICLE 27 DEFINITIONS ..... 41

EXHIBIT D ..... 44





## AGREEMENT FOR CONSTRUCTION

### CHAPTER 3 GENERAL TERMS AND CONDITIONS

#### ARTICLE 1 CONTRACT DOCUMENTS

- 1.1 **Additional Sets Of Documents.** Any additional copies of the Construction Documents required by the Builder for execution of the Work shall be made by the Builder at its cost and expense from the reproducible set(s) furnished by the Owner.
- 1.2 **Return Of Documents To Owner.** The Builder shall return to the Owner the reproducible set(s), and all copies, of the Construction Documents upon Final Completion of the Work or termination of this Agreement for Construction.
- 1.3 **Electronic Media.** Unless otherwise specified in this Agreement for Construction, the Builder may request that the Construction Documents required by the Builder for the Work be furnished to it on electronic media. To the extent that such documents are available on electronic media, the Builder will be furnished one set of the requested information on electronic media. Any additional electronic copies of Construction Documents required by the Builder for execution of the Work shall be made by the Builder at the Builder's cost and expense. The Builder shall return one copy of electronic Construction Documents to the Owner upon final acceptance of the Work or termination of this Agreement for Construction, whichever occurs first, and shall destroy all remaining electronic copies of the documents within its possession.
- 1.4 **Minimum Requirements.** In every case, requirements established by the Construction Documents shall be considered as the minimum which will be accepted.
- 1.5 **Owner Disclaimer Of Warranty.** The Owner has requested that its Architect prepare documents for the Project, including the plans and specifications for the Project, which are to be complete, accurate, coordinated, and adequate for bidding, negotiating and constructing the Work. However, the Owner makes no representation or warranty of any nature whatsoever to the Builder concerning such documents. The Builder hereby acknowledges and represents that it has not relied, and does not and will not rely, upon any representations or warranties by the Owner concerning such documents, as no such representations or warranties have been or are hereby made.
- 1.6 **Conflicts In Documents.** In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Agreement for Construction, the following shall control:
  - 1.6.1 As between figures given on plans and scaled measurements, the figures shall govern;

- 1.6.2 As between large-scale plans and small-scale plans, the large-scale plans shall govern;
- 1.6.3 As between plans and specifications, the requirements of the specifications shall govern;
- 1.6.4 As between this document and the plans, specifications, general conditions or general requirements, this document shall govern.
- 1.7 **Shop Drawings And Submittals.** Shop drawings and other submittals from the Builder or its subcontractors and suppliers do not constitute a part of this Agreement for Construction.
- 1.8 **Contract Changes.** The Builder understands and agrees that this Agreement for Construction cannot be changed except as provided herein. No act, omission or course of dealing by the parties shall alter the requirement that modifications of this Agreement for Construction can be accomplished only by written documents signed by the parties.

## ARTICLE 2 BUILDER'S REVIEWS AND EVALUATIONS

- 2.1 **Sufficiency Of Construction Documents And Drawings.** The Builder acknowledges its continuing duty to review and evaluate the Construction Documents during the performance of its services and shall immediately notify the Owner and the Architect any (i) problems, conflicts, defects, deficiencies, inconsistencies or omissions it discovers in or between the Construction Documents; and (ii) variances it discovers between the Construction Documents and applicable laws, statutes, building codes, rules and regulations.
- 2.1.1 If the Builder performs any Work which it knows or should have known involves (i) a recognized problem, conflict, defect, deficiency, inconsistency or omission in the Construction Documents; or (ii) a variance between the Construction Documents and requirements of applicable laws, statutes, building codes, rules and regulations, without notifying the Architect and prior to receiving written authorization from the appropriate Architect to proceed, the Builder shall be responsible for the consequences of such performance.
- 2.1.2 Drawings are generally drawn to scale; however, the figured dimensions or notes thereon shall govern. Before ordering any materials or doing any Work, the Builder and subcontractors shall verify all measurements at the Site and shall be responsible for the correctness of same. Discrepancies shall be reported in writing to the Professional prior to proceeding with the Work. No extra charge or compensation will be entertained due to differences between actual measurements and dimensions indicated on drawings, if such differences do not result in a

change in the scope of Work or if the Professional failed to receive written notice before the Work was performed.

2.2 **Sufficiency Of Site.** Prior to signing this Agreement for Construction, the Builder has

- (i) visited the Site and become familiar with local conditions under which the Project is to be constructed and operated; and
- (ii) reviewed and familiarized itself with the Site survey and any existing structures on the Site, and gathered all other information necessary for a full understanding of the Work.

In addition, if the Work involves modifications to or remodeling of an existing structure(s) or other man-made feature(s) on the Site, the Builder has also

- (iii) reviewed all available as-built and record drawings, plans and specifications; and
- (iv) thoroughly inspected the structure(s) and man-made feature(s) to be modified or remodeled prior to submission of bid, if any, but in all events prior to signing this Agreement for Construction.

Claims resulting from the Builder's failure to familiarize itself with the Site or pertinent documents shall be deemed waived.

### **ARTICLE 3 BUILDER'S DUTIES, OBLIGATIONS AND RESPONSIBILITIES**

3.1 **Performance Of Work.** The Builder shall perform and complete its obligations under this Agreement for Construction using its best skill and attention, and covenants with the Owner to furnish management, supervision, coordination, labor and services (i) which expeditiously, economically and properly completes the Work in the manner most consistent with the Owner's interests and objectives; (ii) which comply with the Construction Documents and this Agreement for Construction; and (iii) in accordance with the highest standards currently practiced by persons and entities performing or providing management, supervision, coordination, labor and services on projects similar in size, complexity and cost to the Project.

3.1.1 The Builder shall not be required to provide professional services which constitute the practice of architecture or engineering.

3.1.2. All services rendered by the Builder for the Project shall be performed by or under the immediate supervision of persons possessing expertise in the discipline of the service being rendered.

- 3.1.3 The Builder shall, in the course of providing the Work, cooperate and communicate with the Owner and all other persons or entities as required for satisfactory completion of the Project.
- 3.1.4 The Builder understands and acknowledges that the Work referred to in this Agreement for Construction may be only part of the Project and that the Project may include the construction of other structures or other construction activities on the same Site. The Builder shall conduct all its activities so as not to interfere with the construction of, or operations within or from, other structures on the Site.
- 3.1.5 The Builder shall not damage, endanger, compromise or destroy any part of the Project or the Site, including by way of example and not limitation, work being performed by others on the Site, monuments, stakes, benchmarks and other survey points, utility services, and existing features or structures on the Site. Should the Builder damage, compromise or destroy any part of the Project or the Site, the Builder shall be fully and exclusively responsible for and bear all costs associated therewith.
- 3.2 **Compliance With Governmental Requirements.** The Builder shall:
- (i) comply with all applicable laws, statutes, building codes, rules, regulations and lawful orders of all governmental, public and quasi-public authorities and agencies having jurisdiction over the Project;
  - (ii) prepare and file documents required to obtain, and shall obtain, all necessary approvals and permits, including building permit(s), of all governmental authorities having jurisdiction over the Work; and
  - (iii) give all notices required of it by governmental authorities relating to the Project.
- 3.3 **Safety.** Safety shall be a prime concern of the Builder at all times. The Builder shall be solely responsible for and have control over the means, methods, techniques, sequences and procedures for coordinating and constructing the Work, including Site safety and safety precautions and programs.
- 3.4 **Concurrent Records.** The Builder shall, concurrently with performance, maintain detailed records of activities on the Site.
- 3.5 **As-Built Drawings.** The Builder shall maintain at the Site one copy of all drawings, specifications, addenda, approved shop drawings, change orders, submittals, and other modifications in good order and accurately marked depicting all changes as they occur during construction. The as-built drawings shall be available at all times to the Owner, the Architect, the Owner's consultants, and quality control and testing agency personnel. The drawings shall be neatly and clearly marked in color during construction to record all

variations made during construction, and the Builder shall include such supplementary notes and details necessary to clearly and accurately represent as-built construction.

**3.6 Bribes And Kick-Backs.** The Builder shall not by any means:

- (i) induce any person or entity employed in the construction of the Project to give up any part of the compensation to which that person or entity is entitled;
- (ii) confer on any governmental, public or quasi-public official having any authority or influence over the Project, any payment, loan, subscription, advance, deposit of money, services or anything of value, present or promised;
- (iii) offer nor accept any bribes or kick-backs in connection with the Project from or to any individual or entity, including any of its trade contractors, subcontractors, consultants, suppliers or manufacturers of Project goods and materials; or
- (iv) without the express written permission of the Owner, call for or by exclusion require or recommend the use of any subcontractor, consultant, product, material, equipment, system, process or procedure in which the Builder has a direct or indirect proprietary or other pecuniary interest.

**3.7 Quality Control And Testing.** The Builder shall develop and implement a quality management program to insure quality construction. Unless otherwise specified in this Agreement for Construction, the Owner shall select the quality control and testing agencies and pay for the cost of specified measures and tests required by the Construction Documents. The Builder shall coordinate all tests and inspections required by the Construction Documents, and the Builder shall arrange for tests and inspections to be conducted as necessary to avoid any interference with the progress of Work. No claims for extension of time or extra costs will be allowed on account of any testing, retesting, inspection, re-inspection, or rejection of Work when defective or deficient Work is found.

**3.8 Incident Reporting.** The Builder shall immediately notify the Owner and Architect, both orally and in writing, of the nature and details of all incidents which may adversely affect the quality or progress of the Work including, but not limited to, union jurisdictional disputes, accidents, delays, damages to Work and other significant occurrences.

**3.9 Hazardous Substances.** The Builder shall immediately notify the Owner and the Architect, both orally and in writing, of the presence and location of any physical evidence of, or information regarding, environmental contamination on the Site (including but not limited to Hazardous Substances and petroleum releases) of which it becomes, or reasonably should have become, aware. If the Builder encounters environmental contamination (including but not limited to Hazardous Substances and petroleum releases), the Builder shall (i) immediately stop performance of Work or that portion of the Work affected by or affecting such contamination; (ii) secure the contaminated area against intrusion; (iii) not disturb or remove the contamination; (iv) not proceed, or allow any subcontractor or supplier to proceed, with any Work or other

activities in the area affected by such contamination until directed to do so by the Owner; and (v) take any other steps necessary to protect life and health.

3.10 **Owner's Use Of And Access To The Site.** The Builder shall perform the Work so as not to interrupt any operations of the Owner on the Site.

3.10.1 The Builder understands and acknowledges that the Owner may need access to or use of certain areas of the Site or Work prior to the Builder's achievement of Substantial Completion, and that such occupancy, access or use shall not constitute the Owner's acceptance of any Work.

3.10.2 The Builder shall not enter any Owner-occupied area of the Site or Project unless first approved and scheduled by the Owner. The Builder understands and acknowledges that the Owner may incur damages if the Owner's operations on the Site are interrupted or impaired as a result of the Work.

3.10.3 The Builder shall afford the Owner's own forces, and other consultants, trade contractors, subcontractors and suppliers, access to the Site for performance of their activities, and shall connect and coordinate its construction and operations with theirs as required by the Construction Documents.

3.11 **Commissioning.** The Builder shall, through the Owner's Representative, schedule and coordinate all equipment and systems start-ups and Project commissioning within its scope of the Work.

3.11.1 The Builder shall provide the Owner with operation and maintenance manuals and other operational documentation not less than twenty-eight calendar days prior to the required date of Substantial Completion to allow adequate time for training prior to commissioning and the Owner's occupancy of the Project.

3.11.2 The Builder shall meet with the Owner's personnel not less than twenty-eight (28) calendar days prior to the required date of Substantial Completion to familiarize and train them with respect to maintenance and use of the Project. The appropriate Architect will attend and assist with such familiarization and training.

#### **ARTICLE 4 BUILDER'S PERSONNEL, SUBCONTRACTORS, SUPPLIERS AND SITE FACILITIES**

4.1 **Project Staffing.** The Builder shall staff the Project with qualified and designated individuals and entities responsible for its obligations and performance.

4.1.1 The Builder shall name a representative (the "Builder's Representative") to serve as its primary communication contact with the Owner and the Architect.

- 4.1.2 The Builder shall employ persons skilled in the tasks assigned to them and shall contract with subcontractors and suppliers skilled in the tasks assigned to them and capable of working harmoniously with all trades, crafts and other individuals on the Project. The Builder shall use its best efforts to minimize the likelihood of any strike, work stoppage or other labor disturbance.
- 4.1.3 The Builder shall immediately remove from the Site, for the duration of the Project, any person making an inappropriate religious, racial, sexual or ethnic comment, statement or gesture toward any other individual.
- 4.1.4 The Builder shall immediately remove from the Site, for the duration of the Project, any person who is incompetent, careless, or not working in harmony.
- 4.1.5 The Builder shall be responsible to the Owner for the acts and omissions of its agents and employees, consultants, subcontractors and suppliers.
- 4.2 **Subcontractor / Supplier Contracts.** The Builder shall enter into written contracts with its subcontractors and suppliers, and those written contracts shall be consistent with this Agreement for Construction. It is the intent of the Owner and the Builder that the obligations of the Builder's subcontractors and suppliers inure to the benefit of the Owner and the Builder, and that the Owner be a third-party beneficiary of the Builder's agreements with its subcontractors and suppliers.
- 4.2.1 The Builder shall make available to each subcontractor and supplier, prior to the execution of written contracts with any of them, a copy of the pertinent portions of this Agreement for Construction, including those portions of the Construction Documents to which the subcontractor or supplier will be bound, and shall require that each subcontractor and supplier shall similarly make copies of applicable parts of such documents available to its respective subcontractors and suppliers.
- 4.2.2 The Builder shall include in its written contracts with its subcontractors and suppliers a provision which contains the acknowledgment and agreement of the subcontractor or supplier that it has received and reviewed the applicable terms, conditions and requirements of this Agreement for Construction that are included by reference in its written contract with the Builder, and that it will abide by those terms, conditions and requirements.
- 4.2.3 The Builder's written contracts with its subcontractors and suppliers shall preserve and protect the rights of the Owner and include the acknowledgment and agreement of each subcontractor or supplier that the Owner is a third-party beneficiary of the contract. The Builder's agreements with its subcontractors and suppliers shall require that in the event of default under, or termination of, this Agreement for Construction, and upon request of the Owner, the Builder's subcontractors and suppliers will perform services for the Owner.

- 4.3 **Owner/Architect Approval.** Builder shall not employ any subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment) whether initially or as a substitute against whom the Owner or Architect may have reasonable objection. A subcontractor or other person or organization identified in writing to the Owner and Architect by the Builder prior to the Notice of Award and not objected to in writing by the Owner or Architect prior to the Notice of Award will be deemed acceptable to the Owner and the Architect in most circumstances. Acceptance of any subcontractor, other person or organization by the Owner or the Architect shall not constitute a waiver of any right of the Owner or the Architect to reject defective Work or Work not in conformance with the Contract Documents. If the Owner or the Architect after due investigation has reasonable objections to any subcontractor, other person or organization proposed by Builder after the Notice of Award, the Builder shall submit an acceptable substitute. Builder shall not be required to employ any subcontractor, other person or organization against whom it has reasonable objection. The Builder shall not without the consent of the Owner and Architect, make any substitution of any subcontractor, other person or organization who has been accepted by the Owner and the Architect unless the Owner determines that there is good cause for doing so.
- 4.4 **Resolution Of Trade Disputes.** The Builder shall promptly resolve claims, complaints, labor disputes and disputes over assignment of work tasks by and among its subcontractors and suppliers.
- 4.5 **Licensing.** Builder's subcontractors and suppliers, and all persons performing work on the Project, shall be properly licensed by all applicable regulatory, governmental or administrative authorities having jurisdiction. Builder shall request, collect and retain documentary evidence from such subcontractors, suppliers and other persons before the commencement of the work and provide such evidence to Owner upon request.

## ARTICLE 5 GOODS, PRODUCTS AND MATERIALS

- 5.1 **Quality Of Materials.** The Builder shall furnish goods, products, materials, equipment and systems which:
- (i) comply with this Agreement for Construction;
  - (ii) conform to applicable specifications, descriptions, instructions, drawings, data and samples;
  - (iii) are new (unless otherwise specified or permitted) and without apparent damage;
  - (iv) are of quality, strength, durability, capacity or appearance equal to or higher than that required by the Construction Documents;
  - (v) are merchantable;
  - (vi) are free from defects; and



(vii) are beyond and in addition to those required by manufacturers' or suppliers' specifications where such additional items are required by the Construction Documents.

5.2 **Installation And Use Of Materials.** All goods, products, materials, equipment and systems named or described in the Construction Documents, and all others furnished as equal thereto shall, unless specifically stated otherwise, be furnished, used, installed, employed and protected in strict compliance with the specifications, recommendations and instructions of the manufacturer or supplier, unless such specifications, recommendations or instructions deviate from accepted construction practices, or the Construction Documents, in which case the Builder shall so inform the Owner and the appropriate Professional and shall proceed as directed by that Professional, unless otherwise directed by the Owner. The Builder shall coordinate and interrelate all trade contracts, and subcontracts to ensure compatibility of goods, products, materials, equipment and systems, and validity of all warranties and guarantees, required by the Construction Documents for the Work.

5.3 **Unsuitable Materials.** The Builder shall inform the Owner of goods, products, materials, equipment or systems which the Builder knows or should have known are unsuitable or unavailable at the time of bid submission, and claims relating to or arising out of claims that goods, products, materials, equipment or systems are unsuitable or unavailable shall not be entertained by the Owner unless the Builder, subcontractor, or supplier notified the Owner in writing at the time of bid submission, along with proposed alternatives. Approval by the Owner and a Professional of substitute goods, products, materials, equipment or systems does not mean or imply final acceptance by the Owner and Professional if such items should be defective or not as previously represented. Should the Builder furnish any approved goods, products, materials, equipment or systems different from or in addition to those required by the Construction Documents which require supplemental materials or installation procedures different from or in addition to those required for specified items, the Builder shall provide such at no increased cost to the Owner.

5.4 **Security For The Project.** The Builder shall provide security for the Project, including but not limited to security for its Work in progress and for the goods, products, materials, equipment, systems, construction machinery, tools, devices and other items required, used or to be used for its scope of the Work.

## **ARTICLE 6 DOCUMENTS AND INFORMATION**

6.1 **Information From Owner.** The Owner shall provide the Builder with information reasonably necessary to assist the Builder in performing its services including, if applicable:

- (i) the Site legal description and any required survey;
  - (ii) all written and tangible material in its possession concerning conditions below ground at the Site;
  - (iii) if the Project involves an existing structure, all available as-built drawings, record drawings, plans, specifications and structure system information with respect to such structure; and
  - (iv) the Owner's pertinent Project dates and key milestone dates.
- 6.2 **Resolution Of Questions.** The Builder shall resolve all questions concerning the Construction Documents with the Professional who has prepared the documents.
- 6.3 **Processing Of Documents.** When requested to do so by the Owner, the Builder shall process documents, and provide other reasonably required drawings, services and certifications, necessary to enable the Owner to (i) obtain financing or insurance for the Project; (ii) obtain approvals, permits and Certificates of Occupancy for the Project not otherwise required to be obtained by Builder; and (iii) represent that the Work complies with requirements of governmental agencies having jurisdiction over the Project.
- 6.4 **Sufficiency Of Owner Information.** The furnishing of information by the Owner to the Builder shall not relieve the Builder of responsibilities contained elsewhere in this Agreement for Construction to evaluate information and documents provided by the Owner and the Builder shall timely notify the Owner in writing of any additional information needed or services required from the Owner in order for the Builder to perform the Work.

## ARTICLE 7 SUBMITTALS

- 7.1 **Submittal Schedule.** The Builder shall timely prepare and transmit to the designated Professional a schedule for provision of all anticipated submittals. The schedule shall (i) include submittals required by the specifications; (ii) be in a format acceptable to the Professional; and (iii) set forth specific dates for submission of the listed submittals. The Builder shall review and approve all submittals prior to submission to a Professional.
- 7.2 **Processing Of Submittals.** The Builder shall in timely fashion review, approve if appropriate and forward submittals to the Architect for review and approval along with such detail and information as the Professional requires. No part of the Work dealt with by a submittal shall be fabricated or performed until such approval has been given.
- 7.2.1 A Professional is responsible to the Owner, but not to the Builder, to verify that the submittals conform to the design concept and functional requirements of the plans and specifications, that the detailed design portrayed in shop drawings and

proposed equipment and materials shown in submittals are of the quality specified and will function properly, and that the submittals comply with the Agreement for Construction.

- 7.2.2 All Work shall be performed in accordance with approved submittals. Approval of submittals by a Professional shall not relieve the Builder from complying with this Agreement for Construction, including all plans and specifications, except as changed by Change Order.

## **ARTICLE 8 BUILDER'S INSPECTION AND CORRECTION OF DEFECTIVE OR INCOMPLETE WORK**

- 8.1 **Rejection And Correction Of Work In Progress.** During the course of Project, the Builder shall inspect and promptly reject any Work (i) which does not conform to the Construction Documents; or (ii) which does not comply with any applicable law, statute, building code, rule or regulation of any governmental, public and quasi-public authorities and agencies having jurisdiction over the Project.
- 8.1.1 The Builder shall promptly correct or require the correction of all rejected Work, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Builder shall bear all costs of correcting such Work, including additional testing and inspections and compensation for all services and expenses necessitated by such correction.
- 8.1.2 The Builder shall bear the cost of correcting destroyed or damaged Work, whether completed or partially completed, of the Owner or other trade contractors or subcontractors caused by the Builder's correction or removal of rejected Work.
- 8.2 **Covered Or Concealed Work.** If a portion of the Work has been covered, the Builder shall, if notified to do so by the Owner or a Professional, uncover the designated portion for observation and then replace it.
- 8.2.1 If the designated portion of the Work was covered contrary to the request of the Owner or the Professional, or to requirements specifically expressed in the Construction Documents, the Builder shall receive no additional compensation for the costs of uncovering and replacement or modification of the Construction Schedule.
- 8.2.2 If the designated portion of the Work was covered prior to a specific request by the Owner or the Professional that it remain uncovered, the Builder shall receive additional compensation for the costs of uncovering and replacement or modification of the Construction Schedule(s) only if the designated portion of the Work was in conformance with the Construction Documents.

**ARTICLE 9**  
**CHANGE ORDERS AND CHANGES TO THE WORK**

- 9.1 **Change Order Requests.** Any party to the construction process may request changes to the Work, compensation or applicable schedules.
- 9.1.1 With respect to such requests for changes by the Builder, the Builder shall prepare and submit change order requests to the designated Professional.
- 9.1.2 With respect to requests for changes by parties other than the Builder, the Builder shall promptly review and respond to change order requests submitted by a Professional.
- 9.1.3 When requested to do so, the Builder shall prepare and submit to a Professional drawings, specifications or other data in support of a change order request.
- 9.1.4 Each change order shall include time and monetary impacts of the change, whether the change order is considered alone or with all other changes during the course of the Project.
- 9.2 **Owner-Directed Changes.** The Owner may unilaterally direct the Builder to implement changes in the Work so long as the Work the Owner is requiring is not outside of the general scope of this Agreement for Construction, and the Builder, upon written direction from the Owner, shall proceed with such change.
- 9.3 **Professional-Directed Changes.** A Professional, without the Owner's prior approval, may authorize or direct the Builder to make minor changes in the Work which are consistent with the intent of the Construction Documents and which do not involve a change in Project cost, time for construction, scope, or approved design elements, and the Builder shall promptly carry out such changes. Any such minor changes shall be implemented by written field order and executed by the Builder.
- 9.4 **Administration Of Changes.** A Professional will administer and manage all change order requests and change orders and will prepare required drawings, specifications and other supporting data as necessary in connection with minor changes, change order requests and change orders.
- 9.5 **Compensation For Changes.** With respect to all change order requests involving credit to the Owner or additional compensation to the Builder, the Builder shall (i) obtain from subcontractors and suppliers the best possible price quotations; (ii) review such quotations to ascertain whether they are reasonable; (iii) prepare an itemized accounting together with appropriate supporting data, including reasonable expenditures by, and

savings to, those performing the Work involved in the proposed change; and (iv) provide a reasonable price quotation to the designated Professional.

- 9.5.1 If price quotations for change order requests are determined by the Professional to be unreasonable, the Builder shall, in writing, justify said quotations or provide additional back-up materials. If after review of the additional information the Professional determines the quotation is unreasonable, the Owner may require the subject Work be performed on a time and material basis.
- 9.5.2 The Builder and its subcontractors and suppliers shall be allowed no additional compensation for any costs, fees or expenses incurred in performing services already required by this Agreement for Construction, and shall not be entitled to additional reimbursement for home-office, other non-job-site or indirect overhead expenses, or tools necessary for construction.
- 9.5.3 It is the responsibility of the Builder to review and approve all pricing of additional work required of its subcontractors and suppliers.
- 9.6 **Performance Of Changes.** Upon receipt of a field order or change order, changes in the Work shall be promptly performed. All changes in the Work shall be performed under applicable conditions of the Construction Documents.
- 9.7 **Disputes Regarding Changes.**
- 9.7.1 Regardless if there is a dispute (i) that a change has occurred; (ii) whether a change in the Work will result in adjustment of compensation or applicable schedules; or (iii) as to the amount of any adjustment of compensation or applicable schedules, the change shall be carried out if the Owner so directs. No claim shall be prejudiced by performance of the Work so long as the Owner is notified of the claim in writing prior to performance of the Work which is the subject of the dispute and the party disputing the decision of the Owner recites the reasons for its dispute in the written notice. Failure to notify the Owner in writing shall constitute a waiver of any claim resulting from the change.
- 9.7.2 In the event a change order request is approved by the Owner in the absence of an agreement as to cost, time, or both, the appropriate Professional will (i) receive and maintain all documentation pertaining thereto; (ii) examine such documentation on the Owner's behalf; (iii) take such other action as may be reasonably necessary or as the Owner may request; and (iv) make a written recommendation to the Owner concerning any appropriate adjustment in the Construction Price or time.
- 9.8 **Necessity For Signed Writing.** No act, omission or course of dealing shall alter the requirement that change orders shall be in writing and signed by the Owner, and that change orders are the exclusive method for effecting any adjustment to compensation or applicable schedules. The Builder understands and agrees, on behalf of itself and its

subcontractors and suppliers, that neither compensation nor applicable schedules can be changed by implication, oral agreement, or unwritten change order.

## **ARTICLE 10 FINANCIAL CLAIMS AND LIENS**

- 10.1 **Notification Regarding Liens.** The Builder shall immediately notify the Owner and Architect, both orally and in writing, of the nature and details of any claimed mechanics' liens, construction liens, builder's trust fund claims, or claims of any type made by anyone against the Owner, the Architect, the Builder or any subcontractor or supplier of any of them or against the Project whether or not such claims arise from the Work.

## **ARTICLE 11 OWNER'S CONSULTANT(S), ARCHITECT AND CONSTRUCTION ADMINISTRATION**

- 11.1 **Owner's Designated Professional Representative.** Unless otherwise directed by the Owner, one designated Professional shall act as the Owner's representative from the effective date of this Agreement for Construction until one year from the date of achievement of Substantial Completion.
- 11.1.1 The Professional so designated will be the Owner's design representative during performance of the Work and will consult with and advise the Owner on all design and technical matters.
- 11.1.2 The designated Professional will act as initial interpreter of the requirements of this Agreement for Construction and as the Owner's advisor on claims.
- 11.2 **Professional Site Visits.** The Architect will visit the Site with sufficient frequency for familiarization with the progress and quality of the Work and to inspect the Work to determine compliance of the Work with (i) this Agreement for Construction, including approved shop drawings and other submittals; (ii) the Construction Schedule; and (iii) applicable laws, statutes, building codes, rules or regulations of all governmental, public and quasi-public authorities and agencies having or asserting jurisdiction over the Project.
- 11.3 **Professional Rejection Of Work.** The Architect may disapprove or reject Work which does not comply with (i) this Agreement for Construction including approved shop drawings and other submittals; or (ii) applicable laws, statutes, building codes, rules or regulations of any governmental, public and quasi-public authorities and agencies having or asserting jurisdiction over the Project.
- 11.4 **Professional Evaluations.**

- 11.4.1 The Architect will review and evaluate the results of all inspections, tests and written reports required by this Agreement for Construction and by any governmental entity having or asserting jurisdiction over the Project. The Architect will take appropriate action on test results, including acceptance, rejection, requiring additional testing or corrective work, or such other action deemed appropriate by the Architect. The Architect will promptly reject Work which does not conform to and comply with testing requirements.
- 11.4.2 The Architect may require inspection or testing of any Work in addition to that required by this Agreement for Construction or governmental entities having or asserting jurisdiction over the Project when such additional inspections and testing is necessary or advisable, whether or not such Work is then fabricated, installed or completed. The Architect will take appropriate action on all such special testing and inspection reports, including acceptance, rejection, requiring additional testing or corrective work, or such other action deemed appropriate by the Architect.
- 11.5 **Professional Submittal Activities.** The Architect will review and approve, reject or take other appropriate action on submittals such as shop drawings, product data, samples and proposed equal materials or equipment and requested substitutions within not more than fourteen calendar days, and will not approve any submittals unless such submittals conform with (i) the Project design concept; (ii) this Agreement for Construction; and (iii) the Owner's budgeted Total Project Construction Cost. A Professional's review of submittals shall not constitute final acceptance of materials or equipment furnished or installed if such materials or equipment should be defective or not as represented by approved submittals or as otherwise required by the Construction Documents. The Builder remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performance of the Work.
- 11.6 **Professional Interpretations.** A Professional will, when requested to do so in writing by the Builder, promptly and so as to cause no unnecessary delay, render written or graphic interpretations and decisions necessary for the proper execution of the Work. A Professional's interpretations and decisions relating to artistic effect shall be final if not inconsistent with this Agreement for Construction.
- 11.7 **Professional Change Order Activities.** The Architect will consult with and advise the Owner concerning, and will administer and manage, all change order requests and change orders on behalf of the Owner.
- 11.8 **Professional Pay Application Activities.** The appropriate Professional will review applications for payment, including such accompanying data, information and schedules as the Professional requires, to determine the amounts due to the Builder and shall authorize payment by the Owner to the Builder in writing. After the Work is determined to be finally complete and the Professional determines that the Builder has completed the

Work, the Professional will determine whether the Builder is entitled to final payment, and if so will so certify to the Owner in writing.

- 11.9 **Professional Relationship To Builder.** The duties, obligations and responsibilities of the Builder under this Agreement for Construction shall not be changed, abridged, altered, discharged, released, or satisfied by any duty, obligation or responsibility of any Professional. The Builder shall not be a third-party beneficiary of any agreement by and between the Owner and any Professional. The duties of the Builder to the Owner shall be independent of, and shall not be diminished by, any duties or obligations of any Professional to the Owner.

## ARTICLE 12 INSPECTION, CORRECTION OF WORK, AND PROJECT CLOSE OUT

- 12.1 **Substantial Completion.** Substantial Completion of the Work shall be deemed to have occurred on the later of the dates that the Work passes a Substantial Completion inspection, and the required Substantial Completion documentation and items have been produced.
- 12.1.1 When the Builder believes that the Work is substantially complete, it shall notify the Owner and the appropriate Professional that its Work is ready for a Substantial Completion inspection.
- 12.1.2 At or prior to the Substantial Completion inspection, the Builder will prepare and furnish to the Professional a Declaration of Substantial Completion, which at a minimum must:
- (i) contain a blank for entry of the date of Substantial Completion, which date will fix the commencement date of warranties and guaranties and allocate between the Owner and the Builder responsibility for security, utilities, damage to the Work and insurance;
  - (ii) include a list of items to be completed or corrected and state the time within which the listed items will be completed or corrected; and
  - (iii) contain signature lines for the Owner, the Builder and the Professional.
- 12.1.3 Upon receipt of notification from the Builder the appropriate Professional will coordinate with the Owner and the Builder a date for inspection of the Work to determine whether the Work is substantially complete.
- 12.1.4 At inspection(s) to determine whether the Work is substantially complete, the Professional will:
- (i) inspect the Work;



- (ii) list additional items to be completed or corrected; and
- (iii) determine, in consultation with the Owner, whether Substantial Completion of the Work has occurred.

12.1.5 If the Work is determined not to be substantially complete, the Work shall be prosecuted until the Work is substantially complete and the inspection process shall be repeated at no additional cost to the Owner until the Work is determined to be substantially complete.

12.1.6 On or prior to the required date of Substantial Completion, the Builder shall deliver to the appropriate Professional keys, permits, the certificate of occupancy, and other necessary and customary documents and items pre-requisite for the Owner's occupancy and use of the Work for its intended purpose. The Professional will obtain and review Substantial Completion documentation and items, and will inform the Builder of any deficiencies.

12.1.7 When the Owner, the Builder and the appropriate Professional agree that the Work has passed the Substantial Completion inspection and the Builder has produced the required Substantial Completion documentation and items, they shall each sign the Declaration of Substantial Completion declaring the Work substantially complete and establishing the actual date of Substantial Completion. The Declaration of Substantial Completion shall also include a list of and timeline for the completion of Work needing completion and correction.

12.2 **Final Completion.** Final Completion of the Work shall be deemed to have occurred on the later of the dates that the Work passes a Final Completion inspection and that the Builder has produced all required Final Completion close-out documentation and items. Final Completion shall not be deemed to have occurred and no final payment shall be due the Builder or any of its subcontractors or suppliers until the Work has passed the Final Completion inspection and all required Final Completion close-out documentation and items have been produced to the Owner by the Builder.

12.2.1 When the Builder believes the Work is finally complete, the Builder shall notify the Owner and the appropriate Professional that the Work is ready for Final Completion inspection.

12.2.2 Upon receipt of such notification from the Builder, the Professional will coordinate with the Owner and the Builder a date for inspection of the Work to determine whether the Work is finally complete.

12.2.3 At the Final Completion inspection to determine whether the Work is finally complete, the Professional will:

- (i) inspect the Work;

- (ii) determine whether all items on the list included with the Declaration of Substantial Completion have been satisfactorily completed and corrected;
- (iii) determine whether the Work complies with (a) this Agreement for Construction; (b) applicable laws, statutes, building codes, rules or regulations of all governmental, public and quasi-public authorities and agencies having jurisdiction over the Project; and (c) applicable installation and workmanship standards;
- (iv) determine whether required inspections and approvals by the official(s) having or asserting jurisdiction over the Project have been satisfactorily completed; and
- (v) determine, in consultation with the Owner, whether the Work is finally complete.

12.2.4 If the Work is not finally complete, the Builder shall continue to prosecute the Work, and the inspection process shall be repeated at no additional cost to the Owner, until the Work is finally complete.

12.2.5 On or prior to the date of Final Completion, the Builder shall deliver to the appropriate Professional the following Final Completion close-out documentation and items:

- (i) all operating and instruction manuals not previously produced during commissioning and required maintenance stocks;
- (ii) two (2) sets of as-built drawings and markups;
- (iii) certification and affidavit that all insurance required of the Builder beyond final payment, if any, is in effect and will not be canceled or allowed to expire without notice to the Owner;
- (iv) written consent of the surety(ies), if any, to final payment;
- (v) full, final and unconditional waivers of mechanics or construction liens, releases of builder's trust fund or similar claims, and release of security interests or encumbrances on the Project property from each contractor, subcontractor, supplier or other person or entity who has, or might have a claim against the Owner or the Owner's property;
- (vi) full, final and unconditional certification and affidavit that all of the Builder's obligations to contractors, subcontractors, suppliers and other third parties for payment for labor, materials or equipment related to the Project have been paid or otherwise satisfied;

- (vii) all written warranties and guarantees relating to the labor, goods, products, materials, equipment and systems incorporated into the Work, endorsed, countersigned, and assigned as necessary;
- (viii) affidavits, releases, bonds, waivers, permits and other documents necessary for final close-out of Work;
- (ix) a list of any item(s) due but unable to be delivered and the reason for non-delivery; and
- (x) any other documents reasonably and customarily required or expressly required herein for full and final close-out of the Work.

12.2.6 The appropriate Professional will review and determine the sufficiency of all Final Completion close-out documentation and items required for Final Completion which are submitted by the Builder, and will immediately inform the Builder about any deficiencies and omissions.

### **ARTICLE 13 BUILDER'S WARRANTIES AND GUARANTEES**

13.1 **One-Year Warranty.** In addition to the warranties and guarantees set forth elsewhere in this Agreement for Construction, the Builder, upon request by the Owner or the Professional, shall promptly correct all failures or defects in the Work for a period of one year after the actual date of Substantial Completion, or the date of acceptance by the Owner, whichever is later.

13.1.1 The Builder shall schedule, coordinate and participate in a walk-through inspection of the Work one month prior to the expiration of the one-year correction period, and shall notify the Owner, the appropriate Architect, and any necessary subcontractors and suppliers of the date of, and request their participation in, the walk-through inspection. The purpose of the walk-through inspection will be to determine if there are defects or failures which require correction.

13.1.2 Should the Builder fail to promptly correct any failure or defect, the Owner may take whatever actions it deems necessary to remedy the failure or defect and the Builder shall promptly reimburse the Owner for any expenses or damages it incurs as a result of the Builder 's failure to correct the failure or defect.

13.2 **Express Warranties And Guarantees – Builder.** In addition to the warranties and guarantees set forth elsewhere herein, the Builder expressly warrants and guarantees to the Owner:

- (i) that the Work complies with (a) the Construction Documents; and (b) all applicable laws, statutes, building codes, rules and regulations of all governmental, public and quasi-public authorities and agencies having jurisdiction over the Project.
- (ii) that all goods, products, materials, equipment and systems incorporated into the Work conform to applicable specifications, descriptions, instructions, drawings, data and samples and shall be and are (a) new (unless otherwise specified or permitted) and without apparent damage or defect; (b) of quality equal to or higher than that required by the Construction Documents; and (c) merchantable; and
- (iii) that all management, supervision, labor and services required for the Work shall comply with this Agreement for Construction and shall be and are performed in a workmanlike manner.

- 13.3 **Express Warranties And Guarantees - Subcontractors And Suppliers.** The Builder shall require that all of its subcontractors and suppliers provide written warranties, guarantees and other undertakings to the Owner and the Builder in a form identical to the warranties, guarantees and other undertakings set forth in this Agreement for Construction, including the warranties, guarantees and undertakings set forth in this Article, which warranties, guarantees and undertakings shall run to the benefit of the Owner as well as the Builder.
- 13.4 **Non-Exclusivity And Survival.** The warranties and guarantees set forth in this Article shall be in addition to all other warranties, express, implied or statutory, and shall survive the Owner's payment, acceptance, inspection of or failure to inspect the Work, and review of the Construction Documents.
- 13.5 **Non-Limitation.** Nothing contained in Paragraph 13.1, shall be construed to establish a period of limitation with respect to the Builder's obligations under this Agreement for Construction. Paragraph 13.1 relates only to the Builder's specific obligations with respect to the Work, and has no relationship to the time within which the Builder's contractual obligations under this Agreement for Construction may be enforced, nor to the time within which proceedings may be commenced to establish the Builder's liability with respect to any contractual obligations pursuant to Paragraph 13.1 or contained elsewhere herein.
- 13.6 **Commencement Of Obligations.** Unless otherwise specified, all of the Builder's warranty and guaranty obligations, including the time period(s) for all written warranties and guarantees of specifically designated equipment required by the Construction Documents, shall begin on the actual date of Substantial Completion or the date of acceptance by the Owner, whichever is later.

## ARTICLE 14

## **OWNER'S DUTIES, OBLIGATIONS AND RESPONSIBILITIES**

- 14.1 **Timely Compensation Of Builder.** The Owner shall timely compensate the Builder in accordance with this Agreement for Construction.
- 14.2 **Payment For Testing.** Unless otherwise required to be provided by the Builder in its scope of services, Owner shall secure and pay for all Project testing.
- 14.3 **Owner Review Of Documents.** The Owner shall review documents prepared by the Builder in a timely manner and in accordance with schedule requirements. Review by the Owner shall be solely for the purpose of determining whether such documents are generally consistent with the Owner's intent. No review of such documents shall relieve the Builder of any of its responsibilities.
- 14.4 **Status Of Owner.** The Owner shall not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the Builder, for any of the foregoing purposes, be deemed the agent of the Owner.
- 14.5 **Owner's Utilities.** The Owner shall provide water, gas and electrical energy only as they exist at the Site prior to the start of construction. The Builder shall be responsible to provide and pay for connections to, extensions from and means of using these utilities.
- 14.5.1 The Owner will pay utility company bills for water, gas and electrical energy which is required for the Project and which passes through the Owner's meters. However, the Owner shall not pay for (i) water which is expended without proper regard for ecological and conservation considerations; (ii) electrical energy expended in electric heating devices; or (iii) utilities for Builder's field offices.
- 14.5.2 Acceptance by the Builder of the use of the Owner's water, gas and electrical energy constitutes a release from the Builder to the Owner of all claims and liability for any damages or losses which may be incurred by the Builder as a result of water, gas and electrical energy outages or voltage variations or surges.
- 14.6 **Statements Of Owner's Capacity.** The Owner, upon reasonable written request, shall furnish to the Builder in writing statements of
- (i) the record legal title to the Site on which the Project is located and the Owner's interest therein at the time of execution of this Agreement for Construction; and
  - (ii) the Owner's financial capacity to pay for the Project, subject to such reasonable confidentiality requirements that the Owner may impose.

## **ARTICLE 15 BUILDER'S COMPENSATION**

- 15.1 **Unit Prices.** If any portion of the Construction Price is determined by the application of unit prices, the number of units contained in the Builder's Compensation Schedule is an estimate only, and the compensation to the Builder shall be determined by the actual number of units incorporated in, or required by, the Work.
- 15.2 **Schedule Of Values.** The Builder shall prepare and present to the Owner and the designated Professional the Builder's schedule of values, apportioning the different elements of the Work for purposes of periodic and final payment. The Builder's schedule of values shall be presented in the format, and with such detail and supporting information, requested by the Professional or Owner. The Builder shall not imbalance or artificially inflate any element of its schedule of values. Upon the Professional and Owner's acceptance, the schedule of values shall be used to process and pay the Builder's payment requests. The schedule of values shall not be changed without written change order authorized by the Owner.
- 15.3 **Invoicing Procedures.** In accordance with the procedures and requirements set forth in this Article, the Builder shall invoice the Owner and the Owner shall pay the Builder the Construction Price.
- 15.3.1 At least every thirty calendar days after commencement of performance, but no more frequently than once a month, the Builder shall submit invoices to the Professional requesting payment for labor and services rendered during the preceding thirty calendar days. The Owner's designated Professional may require the Builder to use a specific form for applications for payment, which Builder shall use. Each invoice shall contain such detail and be backed up with whatever supporting information the Owner or a Professional requests and shall at a minimum state:
- (i) the total Construction Price;
  - (ii) the amount due for properly provided labor, materials and equipment properly incorporated into the Project; and with respect to amounts invoiced for materials or equipment necessary for the Project and properly stored at the Site (or elsewhere if offsite storage is approved in writing by the Owner), be accompanied by written proof that the Owner has title to such materials or equipment and that such material and equipment is fully insured against loss or damage;
  - (iii) a breakdown of the various phases or parts of the Work as related to the Construction Price;
  - (iv) the value of the various phases or parts of the Work actually performed;
  - (v) previously invoiced amounts and credit payments made;

- (vi) the total amount due, less any agreed retainage;

and shall also have attached such Release and Affidavit and other documentation verifying the Builder's payment to subcontractors and suppliers as the Owner or a Professional may request. The Release and Affidavit shall be substantially in the form of the Release and Affidavit incorporated in bid solicitation documents of ITB #SDOC -09-023-CJ-FPC and attached hereto as Exhibit D.

#### 15.4 **Payment Procedures.**

15.4.1 The Professional will review the Builder's applications for payment, including such accompanying data, information and schedules as the Professional requires, to determine the amounts due to the Builder and, based upon such review, together with its inspections of the Work, shall authorize payment by the Owner to the Builder in writing. Such authorization will constitute the Professional's certification to the Owner that

- (i) the Work described in the Builder's invoice has progressed to the level indicated and has been performed in accordance with the Agreement for Construction;
- (ii) all necessary and appropriate lien waivers have been submitted; and
- (iii) the amount requested is currently due and owing to the Builder.

15.4.2 In the case of unit price work, the Professional's recommendations for payment will constitute a final determination of quantities and classifications of such work.

15.4.3 Payments shall be deemed timely if postmarked at least two business days before the Payment Date defined in Chapter 1 or any other payment due date stated in this Article 15.

15.4.4 Owner agrees to make payments by the 20<sup>th</sup> of the month providing the Builder processes the invoices and delivers same to the Owner's Facilities Department by the 20<sup>th</sup> of the preceding month.

15.5 **Owner's Right To Refuse Payment.** A Professional's approval of the Builder's invoice shall not preclude the Owner from exercising any of its remedies under this Agreement for Construction. In the event of a dispute, payment shall be made on or before the Payment Date for amounts not in dispute, subject to any setoffs claimed by the Owner. The Owner shall have the right to refuse to make payment and, if necessary, may demand the return of a portion or all of the amount previously paid to the Builder due to:

- (i) the Builder's failure to perform the Work in compliance with the requirements of this Agreement for Construction or any other agreement between the parties;

- (ii) the Builder's failure to correctly and accurately represent the Work performed in a payment request, or otherwise;
- (iii) the Builder's performance of the Work at a rate or in a manner that, in the Owner's opinion, is likely to result in the Project or any portion of the Project being inexcusably delayed;
- (iv) the Builder's failure to use funds previously paid the Builder by the Owner, to pay the Builder's Project-related obligations including, but not limited to, the Builder's subcontractors, materialmen, and suppliers;
- (v) claims made, or likely to be made, against the Owner or its property;
- (vi) loss caused by the Builder or the Builder's subcontractors, or suppliers; or
- (vii) the Builder's failure or refusal to perform any of its obligations to the Owner.

15.6 **Builder's Right To Refuse Performance For Non-Payment.** If within thirty calendar days from the Payment Date the Owner, without cause or basis hereunder, fails to pay the Builder any amounts then due and payable to the Builder, the Builder shall have the right, in addition to all other rights and remedies contained herein, to cease performance of the Work until receipt of proper payment after first providing fourteen calendar days written notice to the Owner of its intent to cease work.

15.7 **Correction Of Past Payments.** All prior payments, whether based on estimates or otherwise, may be corrected and adjusted in any subsequent payment and shall be corrected and adjusted in the final payment. In the event that any invoice contains a defect or impropriety which would prevent payment by the Payment Date, the Owner shall notify the Builder in writing of such defect or impropriety. Any disputed amounts determined by the Owner to be payable to the Builder shall be due thirty calendar days from the date the dispute is resolved.

15.8 **Invoice Warranties And Guarantees.** The Builder expressly warrants and guarantees to the Owner that:

- (i) title to all goods, products, materials, equipment and systems covered by an invoice will pass to the Owner either by incorporation into the Work, or upon receipt of payment by the Builder, whichever occurs first;
- (ii) all goods, products, materials, equipment and systems covered by an invoice are free and clear of liens, claims, security interests or encumbrances; and
- (iii) no goods, products, materials, equipment or systems covered by an invoice have been acquired by the Builder, or its subcontractors or suppliers, subject to an agreement under which an interest therein or an encumbrance thereon is retained



by the seller or otherwise imposed by the Builder, or its subcontractors or suppliers.

- 15.9 **Builder's Signature.** The signature of the Builder on any invoice constitutes the Builder's certification to the Owner that (i) the Builder's services listed in the invoice have progressed to the level indicated and have been performed as required by this Agreement for Construction; (ii) the Builder has paid its subcontractors and suppliers their proportional share of all previous payments received from the Owner; and (iii) the amount requested is currently due and owing.
- 15.10 **Compensation Of Builder's Subcontractors And Suppliers.** Upon receipt of payment from the Owner, the Builder shall pay each of its subcontractors and suppliers out of the amount received by the Builder on account of such subcontractor's or supplier's portion of the Work, the amount to which each entity is entitled, reflecting percentages actually retained from payments to the Builder on account of such entity's portion of the Work. The Owner shall have no obligation to pay, and shall not be responsible for payments to, the Builder's subcontractors or suppliers. However, the Owner reserves the right, but has no duty, to make payment jointly to the Builder and to any of its subcontractors or suppliers in the event that the Owner becomes aware that the Builder fails to pay or unreasonably withholds payment from one or more of those entities. Such joint check procedure, if employed by the Owner, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the Owner to repeat the procedure in the future.
- 15.11 **Final Payment.** Prior to being entitled to receive final payment, and as a condition precedent thereto, the Builder must achieve Final Completion. The Owner shall, subject to its rights set forth above in this Article, make final payment of all sums due the Builder within fourteen calendar days of a Professional's execution of a final approval for payment.

## ARTICLE 16 SCHEDULE REQUIREMENTS

- 16.1 **Construction Schedule.** The Construction Schedule shall include all pertinent dates and periods for timely completion of the Work.
- 16.1.1 Unless otherwise directed and approved by the Owner, the Builder shall prepare the Construction Schedule as a critical path schedule with separate divisions for each major portion of the Work or operations. The Construction Schedule shall include and properly coordinate dates for performance of all divisions of the Work, including completion of off-Site requirements and tasks, so that the Work can be completed in a timely and orderly fashion consistent with the required dates of Substantial Completion and Final Completion.

- 16.1.2 The Construction Schedule shall include (i) the required Commencement Date, the required dates of Substantial Completion and Final Completion; (ii) any guideline and milestone dates required by the Owner; (iii) any applicable subcontractor and supplier subschedules; (iv) a submittal schedule which allows sufficient time for review of documents and submittals; (v) the complete sequence of construction by activity, with dates for beginning and completion of each element of construction; and (vi) required decision dates.
- 16.1.3 By reviewing the Construction Schedule, the Owner and a Professional do not assume any of the Builder's responsibility (i) that the Construction Schedule be coordinated or complete; or (ii) for timely and orderly completion by the required dates of Substantial Completion, Final Completion and any milestone dates required by the Owner.
- 16.1.4 The Builder shall review, on a weekly basis, the actual status of the Work against the Construction Schedule. The Builder shall discuss the status of the Work weekly with the designated Professional, so that proper overall management may be provided.
- 16.1.5 The Builder shall periodically and in all instances when the Builder anticipates that performance of the Work will be delayed or in fact has been delayed, but not less frequently than monthly, prepare a revised Construction Schedule and show actual progress of the Work through the revision date, projected completion of each remaining activity, activities modified since previous submittal, major changes in scope, and other identifiable changes. The updated Construction Schedule shall be accompanied by a narrative report which (i) states and explains any modifications of the critical path schedule, including any changes in logic; (ii) defines problem areas and lists areas of anticipated delays; (iii) explains the anticipated impact the problems and delays will have on the schedule and scheduled activities; (iv) reports corrective action taken or proposed; and (v) states how problems anticipated by projections shown on the schedule will be resolved to avoid delay in delivering the Work by the required dates of Substantial Completion and Final Completion, and other milestone dates required by the Owner, if any.
- 16.2 **Delay In Performance.** If at any time the Builder anticipates that performance of the Work will be delayed or in fact has been delayed, the Builder shall (i) immediately notify the designated Professional of the probable cause of and effect from the delay, and possible alternatives to minimize the delay; and (ii) take all corrective actions reasonably necessary to deliver the Work by the required dates of Substantial Completion and Final Completion, and other milestone dates required by the Owner, if any.
- 16.3 **Modifications To Time For Performance.** The Builder shall determine and promptly notify the Owner and the Architect in writing when it believes adjustments to the required dates of Substantial Completion or Final Completion, or other milestone dates required

by the Owner, if any, are necessary, but no such adjustments shall be effective unless approved in writing by the Owner and Architect.

- 16.4 **Early Completion.** The Builder may attempt to achieve Substantial Completion before the required date of Substantial Completion. However, such planned early completion shall be for the Builder's sole convenience and shall not create any additional Builder rights or Owner obligations under this Agreement for Construction, nor shall it change the required dates of Substantial Completion or Final Completion. The Owner shall not pay the Builder any additional compensation for achievement of Substantial Completion or Final Completion prior to the required dates nor will the Owner owe the Builder any compensation should the Owner cause the Builder not to achieve Substantial Completion earlier than the required date of Substantial Completion or Final Completion earlier than the required date of Final Completion.
- 16.5 **Modification Dates Of Substantial Completion Or Final Completion.** The Builder may propose modifications to the required dates of Substantial Completion or Final Completion. The Owner may, but is not required to, accept the Builder's proposal. Modification(s) of the required dates of Substantial Completion or Final Completion shall be accomplished only by duly authorized and accepted change order(s) stating the new date(s) with specificity and reciting that all references in this Agreement for Construction to the required dates of Substantial Completion or Final Completion shall thereafter refer to the date(s) as modified, and all rights and obligations, including the Builder's liability for actual damages, delay damages and liquidated damages, shall be determined in relation to the date(s) as modified.
- 16.6 **Document Review.** The Builder shall provide documents to the Owner and Architect for review in accordance with schedule requirements and with sufficient lead time to allow the Owner and Architect reasonable time for review.

## ARTICLE 17 LIQUIDATED DAMAGES

- 17.1 **Time Of The Essence.** The parties hereto mutually understand and agree that time is of the essence in the performance of this Agreement for Construction and that the Owner will incur damages if the Work is not completed on time. The Builder shall at all times carry out its duties and responsibilities as expeditiously as possible and shall begin, perform and complete its services so that (i) the Work progresses in accordance with the Construction Schedule; (ii) the Work is substantially completed by the required date of Substantial Completion; and (iii) the Work is finally complete by the date of Final Completion.
- 17.2 **Failure To Timely Achieve Completion.** The parties hereto mutually understand and agree that the Owner will sustain substantial monetary and other damages in the event of a failure or delay by the Builder in the completion of the Work. If the Builder inexcusably fails to achieve Substantial Completion by the required date of Substantial Completion as established and previously set forth in this Agreement for Construction,

the Builder shall pay to the Owner, as liquidated damages for delay and not as a penalty, the daily amount specified in Chapter 1 for each and every day after the required date of Substantial Completion until Substantial Completion. This liquidated damages provision shall apply and remain in full force and effect in the event that the Builder is terminated by Owner for default and shall apply until Substantial Completion has been achieved by any completing builder. If the Builder fails to achieve Final Completion by the required date of Final Completion as established and previously set forth in this Agreement for Construction, the Builder shall pay to the Owner, as liquidated damages for delay and not as a penalty, fifteen (15%) percent of the daily amount stated for failure to timely achieve Substantial Completion, even if not actually imposed, for each calendar day of unexcused delay in achieving Final Completion.

- 17.3 **Compensable Delay.** If the Builder is delayed at any time in the progress or performance of the Work by (i) acts or omissions of the Owner or Architect; (ii) major changes ordered by the Owner in the scope of Work; or (iii) any other cause which the Owner determines may justify the compensation of the Builder for the delay, the Builder's compensation shall be equitably adjusted to cover the Builder's actual and direct increased costs attributable to such delay.
- 17.4 **Excusable Delay.** If the Builder is delayed at any time in the progress or performance of the Work by (i) acts or omissions of the Owner or Architect; (ii) major changes ordered by the Owner in the scope of Work; (iii) fire; (iv) unusual delays in transportation; (v) adverse unusual weather conditions not reasonably anticipated by the Builder; (vi) unavoidable casualties; (vii) causes beyond the Builder's control which the Owner agrees in writing are justifiable; or (viii) any other cause which the Owner determines may justify the delay, the Construction Schedule shall be extended for a period equal to the length of such delay, but only if (a) such delay is not in any way caused by default or collusion on the part of the Builder or by any cause which the Builder could reasonably control or circumvent; (b) the Builder would have otherwise been able to timely perform all of its obligations under this Agreement for Construction but for such delay; and (c) immediately but not later than seven calendar days after the beginning of any such delay the Builder gives notice of its delay claim to the Owner.
- 17.5 **Owner's Right To Withhold Payment.** When it reasonably believes (i) that Substantial Completion will be inexcusably delayed; or (ii) that the Builder will fail to achieve Final Completion by the date of Final Completion, the Owner shall be entitled, but not required, to withhold from any amounts otherwise due the Builder the daily amount specified for liquidated damages in this Article for each calendar day of the unexcused delay.
- 17.5.1 If and when the Builder overcomes the delay in timely achieving Substantial Completion or Final Completion, or any part thereof, for which the Owner has withheld payment, the Owner shall promptly release to the Builder those funds withheld, but no longer applicable, as liquidated damages.

17.5.2 Delay caused by labor disputes, picketing, employee boycotts, or the like which directly or indirectly involves employees of the Builder or its subcontractors and suppliers is not the responsibility of the Owner and will result in time extensions only if agreed to in writing by the Owner at the time such events arise.

## **ARTICLE 18 CONCEALED AND UNFORESEEN CONDITIONS**

18.1 **Notification Regarding Unusual Conditions.** If (i) the Builder encounters concealed and unforeseen conditions of an unusual nature which affect the performance of the Work; or (ii) the conditions vary from those indicated by the Construction Documents; and (iii) such conditions are not ordinarily found to exist or differ materially from those generally recognized as inherent in work of the character provided by the Builder, the Builder shall promptly, but in no event later than three calendar days after first observance of the conditions, notify the appropriate Architect and the Owner before conditions are disturbed and give the Architect or the Owner opportunity to observe the condition in its undisturbed state.

18.1.1 The conditions will be promptly investigated and, if they differ substantially and cause a material increase or decrease in the Builder's cost of, or time required for, performance of the Work, compensation or time for performance or both will be equitably adjusted.

18.1.2 All adjustments in compensation or extensions of time shall be by change order. Change order requests must be made within fourteen calendar days from the date of observation of the changed conditions.

18.1.3 The Builder's failure to notify the Architect and Owner as provided in this Article shall constitute a waiver of any claim arising out of or relating to such concealed or unknown condition.

## **ARTICLE 19 BUILDER'S RECORDS**

19.1 **Preparation Of Records.** The Builder shall, concurrently with performance of its services, prepare substantiating records regarding services rendered and goods furnished.

19.2 **Retention Of Records.** The Builder shall retain in its records copies of all (i) written communications; (ii) memoranda of verbal communications; (iii) accounting records (including original estimates and estimating work sheets, purchase orders and invoices); (iv) job site notes; (v) daily logs; (vi) reports; (vii) notices; (viii) all subcontract files (including proposals of successful and unsuccessful bidders); (ix) change order files (including documentation covering negotiated settlements); (x) written policies and procedures, (xi) records necessary to evaluate and verify direct and indirect costs (including by way of example overhead allocations, payroll records, time sheets, rental

receipts, fixed asset records); and (xii) other documents such as plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos, accounting records, documents reflecting the unit price of construction and other writings or things which document the Project, its design, its cost, and its construction.

19.2.1 The Builder shall maintain substantiating records for four years after the date of Final Completion or for any longer period of time as may be required by law or good construction practice. If the Builder receives notification of a dispute or the commencement of litigation regarding the Project within this four-year period, the Builder shall continue to maintain all Project records until final resolution of the dispute or litigation.

19.2.2 The Builder shall, upon seven days' request from the Owner, secure from its subcontractors and suppliers copies of (i) written communications; (ii) memoranda of verbal communications; (iii) accounting records (including original estimates and estimating work sheets, purchase orders and invoices); (iv) job site notes; (v) daily logs; (vi) reports; (vii) notices; (viii) all subcontract files (including proposals of successful and unsuccessful bidders); (ix) Change Order files (including documentation covering negotiated settlements); (x) written policies and procedures, (xi) records necessary to evaluate and verify direct and indirect costs (including overhead allocations), and (xii) other documents generated with respect to the Project.

19.3 **Access To Records.** Upon the request of the Owner, the Builder shall make its records available during normal business hours to the Owner, its authorized representative(s) or to any state, federal or other regulatory authority. Any such authority, the Owner and its authorized representative(s) shall be entitled to inspect, examine, review and copy the Builder's records at the copying party's reasonable expense, within adequate work space at the Builder's facilities. Failure by the Builder to supply substantiating records from itself and its subcontractors and suppliers upon the request of the Owner shall be reason to exclude the related costs from amounts which might otherwise be payable by the Owner pursuant to this Agreement for Construction.

## **ARTICLE 20 PROPRIETARY DOCUMENTS AND CONFIDENTIALITY**

20.1 **Nature And Use Of Information.** All information, documents, and electronic media furnished by the Owner to the Builder (i) belong to the Owner; (ii) are proprietary and confidential; (iii) are furnished solely for use on the Owner's Project; (iv) shall be kept confidential by the Builder; and (v) shall not be used by the Builder on any other project or in connection with any other person or entity, unless disclosure or use thereof in connection with any matter other than services rendered to the Owner hereunder is specifically authorized in writing by the Owner in advance. The Owner hereby grants to the Builder a limited license to use and reproduce applicable portions of the Construction

Documents necessary for execution of the Work. All copies made under this license shall bear the statutory copyright notice, if any, shown on the documents.

- 20.2 **Ownership Of Information.** All information, documents, and electronic media prepared by or on behalf of the Builder for the Project are the sole property of the Owner free of any retention rights of the Builder. The Builder hereby grants to the Owner an unconditional right to use, for any purpose whatsoever, any information, documents or electronic media prepared by or on behalf of the Builder for the Project, free of any copyright claims, trade secrets or other proprietary rights with respect to such documents.
- 20.3 **Disclosure Of Information.** The Builder shall not disclose any information it receives from the Owner to any other person or entity except to the extent necessary to allow it to perform its duties under this Agreement for Construction.
- 20.4 **Instructions To Employees.** Because it is difficult to separate proprietary and confidential information from that which is not, the Builder shall instruct its employees and agents to regard all information which is not in the public domain as information which is proprietary and confidential.
- 20.5 **Non-Publication.** Submission or distribution of documents to meet official regulatory requirements or for other required purposes in connection with the Project is not to be construed as publication in derogation of the Owner's common law copyrights or other reserved rights.

## ARTICLE 21 GENERAL INSURANCE REQUIREMENTS

- 21.1 **General Insurance Requirements.** Unless otherwise required, each insurance policy:
- (i) shall be issued by an insurance carrier acceptable to the Owner;
  - (ii) shall be kept in force throughout performance of the Builder's services and for one year after the end of such performance;
  - (iii) shall be an occurrence policy; and
  - (iv) shall be evidenced by a certificate of insurance acceptable to the Owner which provides that the coverage evidenced thereby shall not be substantially modified or canceled without twenty-eight calendar days' prior written notice to the Owner.
- 21.2 **Certificates Of Insurance.** Prior to performance of services on the Project, the Builder shall (i) have all required insurance coverage in effect; and (ii) deliver to the Owner certificates of insurance for all its required minimum insurance coverage. The Builder shall (i) require that its subcontractors, and suppliers have similar coverage in effect, and prior to the performance of any services on the Project by the Builder's subcontractors

and suppliers, and (ii) shall ensure that all required insurance coverages of its subcontractors and suppliers is in effect. The Owner shall have no responsibility to verify compliance by the Builder or its subcontractors and suppliers. Upon the request of the Owner, the Builder shall deliver to the Owner certificates of insurance and/or copies of policies for all required insurance coverage.

- 21.3 **Effect Of Insurance.** Compliance with insurance requirements shall not relieve the Builder of any responsibility to indemnify the Owner for any liability to the Owner as specified in any other provision of this Agreement for Construction, and the Owner shall be entitled to pursue any remedy in law or equity if the Builder fails to comply with the contractual provisions of this Agreement for Construction. Indemnity obligations specified elsewhere in this Agreement for Construction shall not be negated or reduced by virtue of any insurance carrier's (i) denial of insurance coverage for the occurrence or event which is the subject matter of the claim; or (ii) refusal to defend any named insured.
- 21.4 **Waiver Of Subrogation.** The Builder hereby releases and discharges the Owner and the Owner's Related Parties of and from all liability to the Builder, and to anyone claiming by, through or under the Builder, by subrogation or otherwise, on account of any loss or damage to tools, machinery, equipment or other property, however caused.

## ARTICLE 22 GENERAL BOND REQUIREMENTS

- 22.1 **General Bond Requirements.** If the Builder is required to provide performance and payment bond(s), the penal sum of each bond shall be in an amount not less than the Construction Price, as adjusted by any change order(s), and each bond shall:
- (i) be in a form approved by the Owner;
  - (ii) incorporate by reference the terms of this Agreement for Construction;
  - (iii) be executed by a company certified by the Secretary of the United States Department of Treasury pursuant to the Act of July 30, 1947 (61 Stat. 646, as amended; 6 U.S.C. 6-13);
  - (iv) be executed by a company licensed and authorized to do business in the state in which the Project is located; and
  - (v) be accompanied by a power of attorney certifying that the person(s) executing the bond have the authority to do so.
- 22.2 **Delivery Of Bonds.** After recordation in the Public Records of Osceola County, the Builder shall deliver any required bond(s) and power(s) of attorney to the Owner prior to commencement of the Work.



**ARTICLE 23**  
**OWNER'S RIGHT TO STOP WORK**

- 23.1 **Cease And Desist Order.** If the Builder fails or refuses to perform or fails to correct defective Work as required, or persistently fails to carry out the Work in accordance with the Agreement for Construction, the Owner may, by written notice, order the Builder to cease and desist in performing the Work or any portion of the Work until the cause for the order has been eliminated to the satisfaction of the Owner. Upon receipt of such instruction, the Builder shall immediately cease and desist as instructed by the Owner and shall not proceed further until the cause for the Owner's order has been corrected, no longer exists, or the Owner instructs that the Work may resume.
- 23.1.1 The Builder shall not be entitled to an adjustment in the time for performance or the Construction Price under this clause since such stoppages are considered to be the fault of the Builder.
- 23.1.2 The right of the Owner to stop Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Builder or others.
- 23.1.3 In the event the Owner issues instructions to cease and desist, and in the further event that the Builder fails and refuses with seven calendar days to provide adequate assurance to the Owner that the cause of such instructions will be eliminated or corrected, then the Owner shall have the right, but not the obligation, to carry out the Work or any portion of the Work with its own forces, or with the forces of another builder, and the Builder shall be responsible for the cost of performing such Work by the Owner.
- 23.1.4 The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the Owner may have against the Builder.

**ARTICLE 24**  
**TERMINATION OR SUSPENSION OF**  
**AGREEMENT FOR CONSTRUCTION**

- 24.1 **Termination For Cause By Owner.**
- 24.1.1 The Owner may terminate this Agreement for Construction for cause if the Builder materially breaches this Agreement for Construction by:
- (i) refusing, failing or being unable to properly manage or perform on any Project;

- (ii) refusing, failing or being unable to supply the Project with sufficient numbers of workers, properly skilled workers, proper materials, or maintain applicable schedules;
- (iii) refusing, failing or being unable to make prompt payment to subcontractors or suppliers;
- (iv) disregarding laws, ordinances, rules, regulations or orders of any public authority or quasi-public authority having jurisdiction over the Project;
- (v) refusing, failing or being unable to substantially perform in accordance with the terms of the Agreement for Construction as determined by the Owner, or as otherwise defined elsewhere herein, or
- (vi) refusing, failing or being unable to substantially perform in accordance with the terms of any other agreement between the Owner and Builder.

24.1.2 Upon the occurrence of any of the events described in Paragraph 24.1.1, the Owner may give written notice to the Builder setting forth the nature of the default and requesting cure within seven calendar days from the date of notice. At any time thereafter, if the Builder fails to initiate the cure or if the Builder fails to expeditiously continue such cure until complete, the Owner may give written notice to the Builder of immediate termination, and the Owner, without prejudice to any other rights or remedies, may take any or all of the following actions:

- (i) complete all or any part of the Work, including supplying workers, material and equipment which the Owner deems expedient to complete the Work;
- (ii) contract with others to complete all or any part of the Work, including supplying workers, material and equipment which the Owner deems expedient to complete the Work;
- (iii) take such other action as is necessary to correct such failure;
- (vi) take possession of all materials, tools, construction equipment and machinery on the Site owned or leased by the Builder;
- (v) directly pay the Builder's subcontractors and suppliers compensation due to them from the Builder;
- (vi) finish the Work by whatever method the Owner may deem expedient; and
- (vii) require the Builder to assign the Builder's right, title and interest in any or all of Builder's subcontracts or orders to the Owner.

24.1.3 If the Owner terminates the Agreement for Construction for cause, and the Owner takes possession of all materials, tools, construction equipment and machinery on the Site owned or leased by the Builder, the Builder's compensation shall be increased by fair payment, either by purchase or rental at the election of the Owner, for any materials, tools, construction equipment and machinery items retained, subject to the Owner's right to recover from the Builder the Owner's damages resulting from the termination.

24.1.4 If the Owner terminates this Agreement for Construction for cause, and it is subsequently determined by a court of competent jurisdiction that such termination was without cause, then in such event, said termination shall be deemed a termination for convenience as set forth in Paragraph 24.3.

## 24.2 **Termination For Cause By Builder.**

24.2.1 The Builder may terminate this Agreement for Construction for cause if the Owner materially breaches this Agreement for Construction by:

- (i) refusing, failing or being unable to make prompt payment to the Builder without just cause;
- (ii) disregarding laws, ordinances, rules, regulations or orders of any public authority of quasi-public authority having jurisdiction over any Project; or refusing, failing or being unable to substantially perform in accordance with the terms of this Agreement for Construction or any other agreement between the Owner and the Builder.

24.2.2 Upon the occurrence of any of the events described in Paragraph 24.2.1, the Builder may give written notice to the Owner setting forth the nature of the default and requesting cure within seven calendar days from the date of notice. If the Owner fails to cure the default within seven calendar days, the Builder, without prejudice to any rights or remedies, may give written notice to the Owner of immediate termination.

24.3 **Termination Or Suspension For Convenience.** The Owner may at any time give written notice to the Builder terminating this Agreement for Construction or suspending the Project, in whole or in part, for the Owner's convenience and without cause. If the Owner suspends the Project for convenience, the Builder shall immediately reduce its staff, services and outstanding commitments in order to minimize the cost of suspension.

24.4 **Builder's Compensation When Builder Terminates For Cause Or Owner Terminates For Convenience.** If this Agreement for Construction is (i) terminated by the Builder pursuant to Paragraph 24.2; (ii) terminated by the Owner pursuant to Paragraph 24.3; or (iii) suspended more than three months by the Owner pursuant to Paragraph 24.3, the Owner shall pay the Builder specified amounts due for Work actually performed prior to the effective termination date and reasonable costs associated with

termination. The Owner may agree to additional compensation, if any, due to the Builder. Absent agreement on the additional amount due the Builder, the Owner shall pay the Builder:

- (i) reasonable costs incurred in preparing to perform the terminated portion of the Work, and in terminating the Builder's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided, however, that if it appears that the Builder would not have profited or would have sustained a loss if the Work had been completed, no profit shall be allowed or included, and the amount of compensation shall be reduced to reflect the anticipated rates of loss, if any; and
- (ii) reasonable costs of settling and paying claims arising out of the termination of subcontracts or supplier orders. These costs shall not include amounts paid in accordance with other provisions hereof.

**24.5 Builder's Compensation When Owner Terminates For Cause.** If this Agreement for Construction is terminated by the Owner for cause pursuant to Paragraph 24.1, no further payment shall be made to the Builder until Final Completion of the Project. At such time, the Builder shall be paid the remainder of the Construction Price less all costs and damages incurred by the Owner as a result of the default of the Builder, including liquidated damages applicable thereto. The Builder shall additionally reimburse the Owner for any additional costs or expenses incurred.

**24.6 Limitation On Termination Compensation.** Irrespective of the reason for termination or the party terminating, the total sum paid to the Builder shall not exceed the Contract Construction Price, as properly adjusted, reduced by the amount of payments previously made and penalties or deductions incurred pursuant to any other provision of this Agreement for Construction, and shall in no event include duplication of payment.

**24.7 Builder's Responsibility Upon Termination.** Irrespective of the reason for termination or the party terminating, if this Agreement for Construction is terminated, the Builder shall, unless notified otherwise by the Owner,

- (i) immediately stop work;
- (ii) terminate outstanding orders and subcontracts;
- (iii) settle the liabilities and claims arising out of the termination of subcontracts and orders; and
- (iv) transfer title and deliver to the Owner such completed or partially completed Work, and, if paid for by the Owner, materials, equipment, parts, fixtures, information and such contract rights as the Builder has.

- 24.8 **Lack Of Duty To Terminate.** The right to terminate or suspend the Work shall not give rise to a duty on the part of either the Owner or the Builder to exercise that right for the benefit of the Owner, the Builder or any other persons or entities.
- 24.9 **Limitation On Termination Claim.** If the Builder fails to file a claim within one year from the effective date of termination, the Owner shall pay the Builder only for services actually performed and expenses actually incurred prior to the effective termination date.

## ARTICLE 25 APPLICABLE LAW AND DISPUTE RESOLUTION

- 25.1 **Applicable State Law.** This Agreement for Construction shall be deemed to be entered into in and shall be interpreted under the laws of the State of Florida.
- 25.2 **Court Actions.** Except as expressly prohibited by law:
- (i) all legal actions hereunder shall be conducted only in the state court having subject matter jurisdiction over the matter in controversy in Osceola County, Florida; except that any final judgment may be enforced in other jurisdictions in any manner provided by law.
  - (ii) Builder (which term for the purposes of this subparagraph shall include Builder's surety) consents and submits to the exclusive jurisdiction of the state courts in Osceola County, Florida and agrees to accept service of process from the State of Florida in any matter to be submitted to any such court; and Owner and Builder each hereby waive and renounce any and all rights and options which they, or either of them, have or might have to bring or maintain any such litigation or action in the federal court system of the United States or in any United States District Court.
  - (iii) the choice of jurisdiction and venue described in the preceding paragraphs shall be mandatory and not permissive in nature, thereby precluding the possibility of litigation or trial in any jurisdiction or venue other than that specified herein;
  - (iv) the parties waive any right to assert the doctrine of forum *non conveniens* or to object to venue; and
  - (v) **THE PARTIES WAIVE ANY RIGHT TO A JURY TRIAL, AND AGREE THAT ALL LEGAL ACTIONS SHALL BE TRIED, BOTH AS TO FACTUAL AND LEGAL ISSUES, ONLY TO THE COURT.**
- 25.3 **Mutual Discussion.** In case of any dispute, claim, question or disagreement arising from or relating to the Project or arising out of this Agreement for Construction or the breach thereof, the parties shall first attempt resolution through mutual discussion.

- 25.4 **Facilitative Mediation.** If the parties cannot resolve any dispute, claim, question, or disagreement arising from or relating to the Project or arising out of this Agreement for Construction or the breach thereof through mutual discussion, as a condition precedent to any litigation, the parties shall in good faith participate in private, non-binding facilitative mediation seeking a just and equitable solution satisfactory to all parties.
- 25.4.1 All parties to a mediation shall promptly provide all other parties to the mediation with copies of essential documentation relevant to the support or defense of the matter being mediated.
- 25.4.2 The parties shall not be required to mediate for a period greater than ninety-one calendar days unless otherwise agreed to in writing by the parties. The parties shall share equally any administrative costs and fees of such proceedings, but shall each be responsible for their own expenses otherwise incurred.
- 25.4.3 In the event that the statute of limitations would run during the required mediation period, either party may institute litigation so as to avoid the running of such statute upon the condition that such party immediately seek a stay of such litigation pending the conclusion of the mediation period.
- 25.4.4 During the course of mediation, any party to the mediation may apply for injunctive relief from any court of competent jurisdiction until the mediation period expires or the dispute is otherwise resolved.
- 25.4.5 The Owner, the Architect, the Builder, and any other parties involved in any way in the design or construction of the Project are bound, each to each other, by this requirement to mediate prior to commencement of any litigation, provided that they have signed this Agreement for Construction or an agreement that incorporates this Agreement for Construction by reference or signed any other agreement which binds them to mediate. Each such party agrees that it may be joined as an additional party to a mediation involving other parties under any such agreement. In the case where more than one mediation is begun under any such agreement and any party contends that the mediations are substantially related, the mediations may be conducted by the mediator selected in the first mediation which was commenced.
- 25.5 **Conflicting Dispute Resolution Provisions.** Neither party to this Agreement for Construction shall enter into any contract with regard to the Project which directly or indirectly gives the right to resolve any dispute with, involving, or affecting the other to any other person or legal entity which is in conflict with the dispute resolution procedures required by this Article.
- 25.6 **Arbitration Preclusion.** In case of a dispute relating to the Project, or arising out of this Agreement for Construction, no party to this Agreement for Construction shall be required to participate in or be bound by, any arbitration proceedings.

- 25.7 **Performance During Dispute Resolution.** The Owner and the Builder agree that pending the resolution of any dispute, controversy, or question, the Owner and the Builder shall each continue to perform their respective obligations without interruption or delay, and the Builder shall not stop or delay the performance of the Work.

## ARTICLE 26 DAMAGES AND REMEDIES

- 26.1 **Builder's Repair.** The Builder shall, at its expense, promptly correct, repair, or replace all goods, products, materials, systems, labor and services which do not comply with the warranties and guarantees set forth in this Agreement for Construction, or any other applicable warranty or guarantee.
- 26.2 **Builder's Reimbursement.** The Builder shall promptly reimburse the Owner for any expenses or damages incurred by the Owner as a result of (i) the Builder's failure to substantially perform in accordance with the terms of this Agreement for Construction; (ii) deficiencies or conflicts in the Construction Documents attributable to the Builder or of which the Builder was or should have been aware; (iii) breach of the warranties and guarantees set forth in this Agreement for Construction or any other applicable warranty or guarantee; or (iv) other acts or omissions of the Builder.
- 26.3 **General Indemnity.** To the fullest extent permitted by law the Builder shall secure, defend, protect, hold harmless, and indemnify the Owner and the Owner's Related Parties from and against any and all liability, loss, claims, demands, suits, costs, fees and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants), by whomsoever brought or alleged, and regardless of the legal theories upon which premised, including, but not limited to, those actually or allegedly arising out of bodily injury to, or sickness or death of, any person, or property damage or destruction (including loss of use), which may be imposed upon, incurred by or asserted against the Owner or the Owner's Related Parties allegedly or actually arising out of or resulting from the Builder's services, including without limitation any breach of contract or negligent act or omission (i) of the Builder; or (ii) of the Builder's subcontractors or suppliers, or (iii) of the agents, employees or servants of the Builder or its subcontractors or suppliers.
- 26.3.1 To the fullest extent permitted by law, the Builder, for itself and for its subcontractors and suppliers, and the respective agents, employees and servants of each, expressly waives any and all immunity or damage limitation provisions available to any agent, employee or servant under any workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts, to the extent such statutory or case law would otherwise limit the amount recoverable by the Owner or the Owner's Related Parties pursuant to the indemnification provision contained in the paragraph above.

- 26.4 **Intellectual Property Indemnity.** To the fullest extent permitted by law, the Builder shall defend, protect, hold harmless, and indemnify the Owner and the Owner's Related Parties from and against any and all liability, loss, claims, demands, suits, costs, fees and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants), by whomsoever brought or alleged, for infringement of patent rights, copyrights, or other intellectual property rights, except with respect to designs, processes or products of a particular manufacturer expressly required by the Owner or Architect in writing. If the Builder has reason to believe the use of a required design, process or product is an infringement of a patent, the Builder shall be responsible for such loss unless such information is promptly given to the Owner.
- 26.5 **Non-Exclusivity Of Owner's Remedies.** The Owner's selection of one or more remedies for breach of this Agreement for Construction contained herein shall not limit the Owner's right to invoke any other remedy available to the Owner under this Agreement for Construction or by law.
- 26.6 **Waiver Of Damages.** The Builder shall not be entitled to, and hereby waives any monetary claims for or damages arising from or related to, lost profits, lost business opportunities, unabsorbed overhead or any indirect consequential damages.
- 26.7 **Interest.** The Owner is entitled to interest at the legal rate for judgments in the State of Florida on all amounts due from the Builder that remain unpaid thirty days after the amount is deemed due, whether as a result of a resolution of a dispute or otherwise.

## ARTICLE 27 MISCELLANEOUS PROVISIONS

- 27.1 **Integration.** This Agreement for Construction represents the entire and integrated agreement between the Owner and the Builder, and supersedes all prior negotiations, representations or agreements, either written or oral, for the Project. This Agreement for Construction may be amended only by written instruments signed by both the Owner and the Builder, and is subject to such reasonable modifications as may be required by the Owner's lender(s) or insurer(s), if any.
- 27.2 **Severability.** If any provision of this Agreement for Construction, or the application thereof, is determined to be invalid or unenforceable, the remainder of that provision and all other provisions shall remain valid and enforceable.
- 27.3 **Waiver.** No provision of this Agreement for Construction may be waived except by written agreement of the parties. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing. A waiver of any provision shall not affect or alter the remaining provisions of this Agreement for Construction.



- 27.4 **Strict Compliance.** No failure of the Owner to insist upon strict compliance by the Builder with any provision of this Agreement for Construction shall operate to release, discharge, modify, change or affect any of the Builder's obligations.
- 27.5 **Third-Party Beneficiaries.** This Agreement for Construction shall inure solely to the benefit of the parties hereto and their successors and assigns, and, except as otherwise specifically provided in this Agreement for Construction, nothing contained in this Agreement for Construction is intended to or shall create a contractual relationship with, or any rights or cause of action in favor of, any third party against either the Owner or the Builder.
- 27.6 **Survival.** All provisions of this Agreement for Construction which contain continuing obligations shall survive its expiration or termination.
- 27.7 **Assignment.** Except as prohibited by applicable law, Builder shall not assign any or all of its benefits or executory obligations under this Agreement for Construction without the prior, written approval of the Owner. The Builder agrees that its rights to payment hereunder and the rights of any assignee shall be subject to the rights of the Owner arising prior to such payment. Owner has the right to assign its rights hereunder without prior notice to Builder and, in the event of such assignment, Builder shall continue to perform its obligations hereunder for the account of the assignee; provided, however, that such obligations shall be conditioned upon such assignee covenanting to make all payment required by the Contract Documents and not paid prior to the date of such substitution. The Owner and the Builder bind their successors and assigns to the other party to this Agreement for Construction.

## ARTICLE 28 DEFINITIONS

When one of the following capitalized words, terms or phrases is used in this contract, it shall be interpreted or construed first as defined below, second according to its generally accepted meaning in the construction industry, and third according to its common and customary usage.

**Builder:** An entity, including but not limited to a general contractor, a trade contractor or a construction manager, engaged directly by the Owner pursuant to an Agreement for Construction.

**Construction Price:** The dollar amount for which a Builder agrees to perform the Work set forth in a Agreement for Construction.

**Construction Documents:** Plans, specifications, change orders, revisions, addenda, and other information which set forth in detail the Work.

**Construction Schedule:** The timetable which sets forth pertinent dates for timely completion of the Work.

**Agreement for Construction:** A written agreement between the Owner and a Builder for provision of goods, products, materials, equipment, systems, management, supervision, labor and services required to construct all or part of a Project.

**Contract For Professional Services:** A written agreement between the Owner and a Professional for provision of services and related items required to design or engineer all or part of a Project.

**Declaration Of Substantial Completion:** Document declaring the Work substantially complete and suitable for occupancy or beneficial use by the Owner.

**Final Completion:** The stage of construction when the Work has been completed in accordance with the Agreement for Construction and the Owner has received all documents and items necessary for closeout of the Work.

**Hazardous Substances:** The term "Hazardous Substance" shall have the same meaning and definition as set forth in the Comprehensive Environmental Response Compensation and Liability Act as amended, 42 U.S.C. § 6901 *et seq.*, and regulations promulgated thereunder (collectively "CERCLA") and any corresponding state or local law or regulation, and shall also include: (a) any Pollutant or Contaminant as those terms are defined in CERCLA; (b) any Solid Waste or Hazardous Constituent as those terms are defined by, or are otherwise identified by, the Resource Conservation and Recovery Act as amended, 42 U.S.C. § 6901 *et seq.*, and regulations promulgated thereunder (collectively "RCRA") and any corresponding state or local law or regulation; (c) crude oil, petroleum and fractions of distillates thereof; (d) any other material, substance or chemical defined, characterized or regulated as toxic or hazardous under any applicable law, regulation, ordinance, directive or ruling; and (e) any infectious or medical waste as defined by any applicable federal or state laws or regulations.

**Professional:** An entity, including but not limited to an architect, civil engineer or geotechnical engineer, engaged directly by the Owner to provide design or engineering services.

**Project:** A planned construction undertaking as more specifically described immediately preceding the recitals in Chapter 1 of a Contract For Professional Services or in an Agreement for Construction.

**Project Design Schedule:** The timetable which sets forth the required relationships between, and pertinent dates for, required completion of design and engineering services, documents and related activities.

**Site:** The geographical location of a Project, usually defined by legal boundary lines, and the location characteristics including, but not limited to, grades and lines of streets, alleys, pavements and adjoining structures, rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, existing buildings and improvements, and service and utility lines.

**Substantial Completion:** The stage of construction when the Owner can occupy or beneficially use satisfactorily completed Work for its intended purpose, and only minor items which can be corrected or completed without any material interference with the Owner's use of the Project remain to be corrected or completed.

**Total Project Construction Cost:** The total cost to the Owner to complete construction of the Project, including, without limitation, the Work, the cost of utilities, the cost of fees for permits and licenses, and modifications necessitated by local conditions.

**Work:** Any and all computers, construction machinery, documents, equipment, facilities, fixtures, furnishings, goods, heat, items, labor, licenses, management, materials, permits, products, services, supervision, supplies, systems, taxes, testing, tools, utilities, transportation, vehicles, and water, required to be performed or supplied and/or necessary for proper execution and completion of the Project, or some portion thereof, whether or not incorporated or to be incorporated into the Project; provided, however, that Work does not include performance of pre-construction services by a Construction Manager.

**EXHIBIT D**

**RELEASE AND AFFIDAVIT**

STATE OF FLORIDA )  
 )  
COUNTY OF \_\_\_\_\_ )

Before me, the undersigned authority, personally appeared \_\_\_\_\_, who after being duly sworn, deposes and says:

Before me, the undersigned authority, personally appeared \_\_\_\_\_, who after being duly sworn, deposes and says:

1. In accordance with the Contract Documents and in consideration of \$\_\_\_\_\_ paid, \_\_\_\_\_ (“General Contractor”) releases and waives for itself and its subcontractors, materialmen, successors and assigns, all claims demands, damages, costs and expenses, whether in contract or in tort, against The School Board of Osceola County, Florida, a body corporate existing under the laws of the State of Florida (“Owner”) relating in any way to the performance of the Agreement between General Contractor and Owner, dated \_\_\_\_\_, 200\_\_, for the period from \_\_\_\_\_ to \_\_\_\_\_.

2. General Contractor certifies for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which Owner might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

3. General Contractor agrees to indemnify, defend and save harmless Owner from all demands or suits, actions, claims of liens or other charges filed or asserted against Owner arising out of the performance by General Contractor of the Work covered by this Release and Affidavit.

4. General Contractor certifies that it has paid all its subcontractors and materialmen in full all amounts owed them from any previous payments received by General Contractor from Owner and has not withheld any such amounts. In the event General Contractor withholds any unpaid amounts due to its subcontractors and/or materialmen from the payment it receives from Owner with respect to the Application for Payment referenced in paragraph 5 below, General Contractor agrees to immediately refund all such unpaid amounts to Owner.

5. This Release and Affidavit is given in connection with General Contractor’s [monthly/final] Application for Payment No.\_\_\_\_\_.

**General Contractor:**

Witnesses:  
\_\_\_\_\_

By: \_\_\_\_\_  
Its: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

[Corporate Seal]

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 200\_\_, by \_\_\_\_\_, as \_\_\_\_\_ of \_\_\_\_\_, a \_\_\_\_\_ corporation, on behalf of the corporation. He/She is personally known to me or has produced a \_\_\_\_\_ (state) driver's license no. \_\_\_\_\_ as identification.

My Commission Expires:

\_\_\_\_\_

Notary Public (Signature)

(AFFIX NOTARY SEAL)

\_\_\_\_\_

(Printed Name)

\_\_\_\_\_

(Title or Rank)

\_\_\_\_\_

(Serial Number, if any)



PART 1 – GENERAL

1.1 GENERAL

- A. Alternates allow the Owner to compare total costs where alternative materials and methods might be used, certain alternatives have been established as described in this Section of these Specifications.
- B. Required alternatives are worded briefly. Claims for additional compensation will not be granted because of manifest omissions or discrepancies due to the brevity. Pertinent Sections of these Specifications describe the materials and methods required under the various alternatives.
- C. Each bidder shall submit with his proposal in the space provided on the Bid Proposal Form alternative proposals stating the additions or deductions from the base bid lump sum amount for substituting, omitting, adding, changing, or altering materials, equipment, or construction from that shown on the Drawings or specified.
- D. The difference in cost shall include omissions, changes, alterations, additions, and adjustments of trades as may be necessary because of each addition, substitution, omission, change, or alteration.
- E. If the Owner elects to proceed on the basis of one or more of the alternatives, make modifications to the Work required in the furnishing and installation of the selected alternative or alternatives to the approval of the Architect and at no additional cost to the Owner other than as proposed on the Bid Proposal Form.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for Alternates.
- B. Definition: An Alternate is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.
- C. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated into the project.
- D. Notification: Immediately following the award of the Contract, prepare and distribute to each party involved, notification of the status of each Alternate. Indicate whether Alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternates.

### 1.3 SUMMARY OF REQUESTED ALTERNATES

- A. ALTERNATE NO. 1 – Substantial Completion: Indicate the cost difference to achieve Substantial Completion from 300 days to 240 days. Specify the amount as an ADD or DEDUCT on the Bid Submittal Form.
- B. ALTERNATE NO. 2 – Aluminum Canopy: Indicate the cost to delete the Aluminum Walkway Canopy and CMU columns located between the new Auditorium and the existing Cafeteria as shown on drawings A101, and A501. This will include the associated underground storm drainage system shown on drawing C400. The canopy lighting is included in this Canopy alternate on Sheet E101.
- C. ALTERNATE NO. 3 – Ballerina Cutouts: Indicate the cost to delete the Ballerina Cutouts as shown on Drawing Sheets A601 and A602 and detailed on drawing A603.
- D. ALTERNATE NO. 4 – Asphalt Round-A-Bout: Indicate the cost to delete the asphalt loop parking on the North East corner of the Auditorium as shown on Civil Drawings C101 and C401.
- E. ALTERNATE NO. 5 – Fire Pump: Indicate the cost to delete the fire pump and associated piping from Room 9-124. As part of this Alternate, include costs to delete the one hour rated walls, fire dampers, and fire rated doors as shown and/or indicated for this space. In lieu of fire rated walls, provide smoke tight partitions for this area. Base Bid: If this Alternate is not taken, provide fire pump, damper, and rated construction as shown and/or indicated on Drawings for Room 9-124.

PART 2 – PRODUCTS (Not Applicable).

### PART 3 – EXECUTION

- 3.1 Install in accordance with referenced specification Sections.

END OF SECTION 01030



PART 1 – GENERAL

1.1 SUMMARY

- A. This section includes administration and procedural requirements for proposal requests, including the measurement and payment criteria applicable to work required.

1.2 DEFINITION

- A. A Proposal Request is a written direction in the form of an AIA Document from the Architect, Contractor and Owner used to document changes in Scope of Work and to identify the cost impact of the change.

1.3 CAUSE FOR PROPOSAL REQUESTS

- A. Changes in Scope of work may be affected by:
  - 1. As a result of design changes that are cost related changes in order to complete or enhance the scope of the change in question and results in added value to the Owner.
  - 2. As an Owner requested change that is a cost related change in scope that is initiated by the Owner.
  - 3. As an unforeseen change that is a cost related change in scope that is most generally related to existing site conditions or existing facility that could not have been known at Bid time and clearly unidentifiable.
  - 4. As a value engineering change that is a cost related change that after identifying or solving techniques the required function at the lowest or lower cost achieved.
  - 5. As a construction change that is a cost related change that is closely related to a design change but is brought to the attention of the Architect due to installation means and method or construction clarification.

1.4 PROCEDURES

- A. Architect will issue written direction through a Proposal Request Form (AIA Document G709) which will include detailed information, drawings or sketches and changes in Scope of Work of the Contract Documents.
- B. Contractor shall review the Proposal Request and submit its cost Proposal for the cost related changes.
  - 1. Contractor shall indicate if the cost is an “add to” or “deduct from” the Contract Sum. Note: Proposal requests may be issued for deduct cost items as well.
- C. Contractor shall submit its cost proposal within ten (10) working days or state in writing when the Proposal will be returned based on the given circumstances.
  - 1. Each proposal shall include a material and labor breakdown for all work performed by their own forces, or subcontractor’s forces.

2. Supporting time sheets for time and material work and subcontractors cost proposals shall be included in the Prime Contractors' Proposal. All of these items shall be included in deduct proposal requests as well.
- D. Each Proposal issued by the Contractor shall specifically address any required additional or deducted Contract time.
  1. If there is no mention of Contract time, it is assumed that no additional time is required.
  2. No consideration of additional time will be given for previously approved Proposals without specific written approval from the Owner or Architect.
- E. The maximum aggregate increased cost for combined overhead and profit shall be as noted in the General and Supplementary Conditions.
  1. This combined sum for overhead and profit as specified shall be used in deduct proposal requests as well.
- F. The value of any Scope of Work change shall be determined by mutual acceptance of a lump sum, unit pricing or by using a time and material basis not to exceed plus the appropriate mark-up.
- G. Architect will review the Contractor's cost proposal and provide a recommendation to the Owner.
- H. Owner reserves the right to reject the Contractor's cost proposal associated with the Proposal Request.
- I. Owner will review the Architect's recommendations and, if appropriate, approve the Contractor's cost proposal.
  1. A construction memorandum will be issued to the Contractor notifying the Contractor of approval with any clarifications.
- J. The approved Proposal Request shall become part of the Contract documentation when issued in the form of a Change Order.
  1. The Owner reserves the right to include multiple Proposal Requests in one Change Order.
- K. For payment purposes, Contractor may list each Change Order by number with a listing of each Proposal Request on the schedule of values submitted with each Pay Application.
  1. Owner will pay for approved percentages of each Proposal Request until completed.
- L. Contractor shall carry out the Scope of Work changes after notification of approval.
  1. Work related to the Proposal Request shall be carried out within a reasonable time in order to not delay other work or to cause increased cost because of other work.
  2. Contractor shall have ten (10) working days in which to respond to Proposal Request or to notify Architect, in writing, of the date on which the Proposal is anticipated.

3. These requirements apply to “add” as well as “deduct” proposal requests.
  4. If the Contractor fails to respond to the Proposal Request or notify the Architect within (10) calendar days, this lack of action shall be construed as no additional cost for the Proposal Request.
- M. If the Contractor’s cost proposal is rejected by the Architect, all parties shall review the Scope of Work and cost proposal and agree to an acceptable cost.
- N. If the Contractor and Architect cannot come to an agreement on an acceptable cost, the Contractor may be directed to proceed with the Scope of Work changes on a time and material basis not to exceed the Contractor’s cost Proposal.
1. Contractor shall be required to submit daily time sheets for the Architect to review and approve.
  2. Owner will review and approve the final costs upon recommendation of the Architect.

#### 1.6 CHANGE ORDERS

- A. Owner will assemble the Change Order by Proposal Request or by grouping a number of Proposal Requests.
- B. Two original copies of the Change Order will be printed for signatures.
1. Upon completion of the signature process an original copy will be forwarded to the Contractor.
- C. Payment for the Change Order will be possible after signatures are obtained from the Architect, the Contractor and the Owner and upon acceptance by the Owner.

#### 1.7 AS-BUILT DOCUMENTATION

- A. The Contractor will update the as-built documents in the field for each and every Proposal Request that changes the contents of the Documents.
1. Owner reserves the right to inspect the Contractor’s as-built documents before each Pay Application.
    - a. The status of Contractor’s as-builts may result in withholding of payment for that portion of the work.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01115



SECTION 01400  
QUALITY CONTROL AND TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 SUMMARY

- A. Quality Control Management Program: The General Contractor will implement a quality control management program for the Project to insure quality construction.
- B. Definitions: The quality control management program services will include inspections and tests, and sections related thereto including reports, but do not include contract enforcement activities performed directly by Architect. Quality control services include those inspections and tests and related actions performed by independent agencies and governing actions performed by independent agencies and governing authorities, as well as directly by Contractor.
- C. Inspections, tests, and related actions specified in this Section and elsewhere in Contract Documents are not intended to limit contractor's quality control procedures that facilitate compliance with requirements of Contract Documents.
- D. Requirements for quality control services by Contractor, as requested or to be requested by Architect, Owner, governing authorities, or other authorized entities are not limited by provisions of this Section.
- E. Contractors shall review and become familiar with the requirements of Tests and Inspections, of the General and Supplementary conditions covering the provisions for testing of the Work.
- F. Owner will employ and pay for services of an independent testing laboratory to perform specified inspection, sampling, and testing services.
- G. Inspections and testing required by laws, ordinances, rules, regulations, or orders of public authorities and General Conditions.
- H. Certification of products and mill test reports: Respective Specification Sections.
- I. Test, adjust, and balance of equipment.
- J. Inspection, sampling, and testing: Soils, asphalt, and concrete.

1.2 CONTRACTOR RESPONSIBILITIES

- A. Except where specifically indicated to be provided by another entity as identified, inspections, tests, and similar quality control services including those specified to be performed by independent agency (not directly by contractor) are the Owner's responsibility, and costs thereof are not to be included in contract sum.
  - 1. The Owner will engage and pay for the services of an independent agency to perform inspections and tests through the Contractor.
- B. Retest Responsibility: Where results of required inspection, test, or similar service are

unsatisfactory (do not indicate compliance of related work with requirements of Contract Documents), retests are responsibility of contractor; except, first retest is responsible party if retest results are satisfactory. Retesting of work revised or replaced by contractor is contractor's responsibility, where required tests were performed on original work.

- C. Responsibility for Associated Services: Contractor is required to cooperate with independent agencies performing required inspections, tests, and similar services. Provide auxiliary services as reasonably requested, including access to work, the taking of samples or assistance with the taking of samples, delivery of samples to test laboratories, and security and protection for samples and test equipment at Project site.
- D. Coordination: Coordinate and sequence activities so as to accommodate required services with minimum delay of work and without the need for removal/replacement of work to accommodate inspections and tests. Scheduling of times for inspections, tests, taking of samples, and similar activities is contractor's responsibility.
  - 1. Schedule a testing and inspection Coordination Meeting with the Architect, Owner, and designated testing agencies, to review and establish the procedures by which tests and inspections shall be scheduled.
- E. Test procedures to be used shall be submitted for approval of the Architect where other than those specified are recommended by the testing agency.
- F. Cooperate with laboratory personnel to provide access to Work and to manufacturer's operations.
- G. Assist laboratory personnel in obtaining samples at the site.
- H. Notify laboratory sufficiently in advance of operations to allow for his assignment of personnel and scheduling of tests.
- I. Should the Contractors fail to schedule laboratory services or fail to cancel laboratory services, if the need arises, all additional cost shall be borne by the Contractors.
- J. Employ, and pay for, services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required when initial tests indicate work does not comply with Contract Documents.
  - 1. Separate laboratory shall be approved by the Owner and the Architect.

### 1.3 QUALIFICATION OF LABORATORY

- A. Shall meet "Recommended Requirements of Independent Laboratory Qualifications," published by American Council of Independent Laboratories. For concrete and steel the laboratory shall comply with the basic requirements of ASTM E 329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction."
- B. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection; with memorandum of remedies of deficiencies reported by inspection.

- C. Testing equipment shall be calibrated at maximum 12 month intervals by devices of accuracy traceable to either:
  - 1. National Bureau of Standards.
  - 2. Accepted values of natural physical constants.
  - 3. Submit copy of certificate of calibration, made by accredited calibration agency.

#### 1.4 SUBMITTALS

- A. Submit 3 copies of test reports directly to the Architect from the approved testing services, with one copy to the Contractor.
- B. Submit qualifications documentation specified.

#### 1.5 LABORATORY DUTIES, LIMITATIONS OF AUTHORITY

- A. Provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling, and testing of materials and methods of construction.
  - 1. Comply with specified standards; ASTM, other recognized authorities and as specified.
  - 2. Ascertain compliance with requirements of Contract Documents.
- C. Promptly notify Architect and Contractor of irregularities or deficiencies of Work which are observed during performance of services.
- D. Promptly submit copies of reports of inspections and tests to the Architect, including the following information, as applicable:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Testing laboratory name and address.
  - 4. Name and signature of inspector.
  - 5. Date of inspection or sampling.
  - 6. Record of temperature and weather.
  - 7. Date of test.
  - 8. Identification of product and specification.
  - 9. Location in project.
  - 10. Type of inspection or test.
  - 11. Observations regarding compliance with Contract Documents.
- E. Perform additional services as required by Owner on a unit cost, as submitted.
- F. Laboratory is not authorized to:
  - 1. Release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Approve or accept portion of Work.
3. Perform duties of the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 REPAIR AND PROTECTION

- A. Upon completion of inspection, testing, sample-taking, and similar services performed on Work, repair damaged Work and restore substrates and finishes to eliminate deficiencies, including defects in visual qualities of exposed finishes.
  1. Except as otherwise indicated, comply with requirements of Section 01045, Cutting and Patching.
  2. Protect Work exposed by or for service activities and protect repaired Work.
    - a. Repair and protection is Contractor's responsibility, regardless of assignment or responsibility for inspection, testing, or similar service.
    - b. Work disturbed or altered after completion of testing, sample taking and similar service shall be reinspected or retested by the same testing agency with the cost borne by the Contractor.

END OF SECTION 01400



PART 1 – GENERAL

1.1 SUMMARY

- A. This Section specifies requirements for temporary services and facilities, in addition to and not a limitation of that required by General Conditions.
- B. Temporary construction and support facilities required include but are not limited to:
  - 1. Field offices and storage sheds.
  - 2. Sanitary facilities, including drinking water.
  - 3. Temporary Project identification signs and bulletin boards.
  - 4. Waste disposal services.
  - 5. Construction aids and miscellaneous services and facilities.
  - 6. Telephone service.
  - 7. Electric service.
- C. Temporary facilities shall be installed with minimal disturbance to the environment.

1.2 SUBMITTALS

- A. Implementation and Termination Schedule: Submit a schedule indicating implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work.

1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:
  - 1. Building Code requirements.
  - 2. Health and safety regulations.
  - 3. Utility company regulations.
  - 4. Police, Fire Department and Rescue Squad rules.
  - 5. Environmental protection regulations.
- B. Standards: Comply with NFPA 1-2000: 29.1 for safeguards during building construction and 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
  - 1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
  - 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

- D. Construction sign shall be designed to meet wind-loading requirements for the 2004 Florida Building Code with the 2006 Annual Interim Code Amendment (Final), 2005 and 2007 Supplements.

- 1. Refer to Structural Drawings for wind velocity.

#### 1.4 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.
- C. Do not interfere with normal use of roads in vicinity of Project site except as authorized by authorities having jurisdiction.

#### 1.5 SPECIAL PRECAUTIONS AND REQUIREMENTS

- A. Do not interfere with normal use of existing active utility services, except as absolutely necessary to execute required work involving such services, and then only after proper arrangements have been made through the proper authority.
  - 1. Notification of proposed interruption of service must be made 48 hours in advance with the Owner.

### PART 2 – PRODUCTS

#### 2.1 MATERIALS

- A. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended.
- B. Lumber and Plywood: Comply with requirements in Section 06100, Rough Carpentry.
  - 1. For signs and directory boards, provide ¾ inch thick, exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes required for sign size indicated.
- C. Paint: Comply with requirements of Section 09900, Painting.
  - 1. For sign panels and applying graphics, provide exterior grade alkyd gloss enamel over exterior primer.
- D. Water: Provide potable water approved by local health authorities.

## 2.2 EQUIPMENT

- A. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Water Hoses: Provide ¾ inch heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- C. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
- D. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- E. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air- conditioned units on foundations adequate for normal loading.
- F. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- G. First Aid Supplies: Comply with governing regulations.

## 2.3 CONSTRUCTION PLANT

- A. Provide cranes, hoists, and other lifting devices; scaffolding, staging, platforms, runways, and ladders; temporary flooring as required for the proper execution of Work.
  - 1. Scaffolding and ladders must meet OSHA requirements.
  - 2. No aluminum ladders are permitted.
- B. Provide equipment with proper guys, bracing, guards, railing, and other safety devices as required by governing authority and safety standards.
- C. Provide suitable means of travel between floor levels of building, including exterior grade levels and to all roof levels until permanent stair systems are installed.

### PART 3 – EXECUTION

#### 3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

#### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: The Owner will provide water, gas and electrical energy only as they exist at the Site prior to the start of construction. The Contractor will be responsible to provide and pay for connections to, extensions from and means of using these utilities. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
  - 1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.
  - 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
- B. Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use. Contractor is required to provide water service if the Utility Co. cannot immediately provide.
  - 1. Sterilization: Sterilize temporary water piping prior to use.
- C. Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
  - 1. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
- D. Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station.
  - 1. At each telephone, post a list of important telephone numbers.
  - 2. Provide separate line for facsimile machine.

### 3.3 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
  - 1. Maintain temporary construction and support facilities until final completion.
  - 2. Provide non-combustible construction for offices, shops and sheds located within 30 feet of any building line. Comply with requirements of NFPA 241, Chapter 4.
- B. Field Offices: Provide insulated, air conditioned, weathertight temporary offices of sufficient size to accommodate the Project. Trailers shall have built-in restroom facilities. Keep the office clean and orderly for use for small progress meetings. Furnish and equip offices as follows:
  - 1. Furnish with a desk and chairs, four 4-drawer legal size file cabinets, two 8-ft. long folding tables, plan table and metal plan rack and a 6-shelf bookcase.
  - 2. Furnish with a minimum of 6-ft. length of built-in counter space with 6-lf of wall cabinets.
  - 3. Equip with a water cooler with combination hot water, and private toilet complete with water closet, lavatory and mirror-medicine cabinet unit.
  - 4. Equip with a plain paper copier and facsimile machine on separate phone line, with appropriate supplies for the duration of the project. Provide equipment that is being maintained through a regular authorized service/maintenance program specifically for equipment installed.
  - 5. Phone lines for phone and facsimile machine are part of Base Bid.
- C. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site.
- D. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
  - 1. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.
  - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
  - 3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.
  - 4. Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.
    - a. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F.
- E. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division 2. Where feasible, utilize the same facilities. Maintain the site, excavations and construction free of water.

- F. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
- G. Project Identification and Temporary Signs: Prepare project identification sign, and other signs of sizes indicated. Install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood or steel. Do not permit installation of unauthorized signs.
  - 1. Project Identification Signs: Provide a project sign constructed of plywood panels; 4 ft. by 8 ft. size, unless otherwise indicated. Engage an experienced sign painter to apply graphics. Comply with details indicated, or if not indicated, as directed by Owner.
  - 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
  - 3. See attached Drawings at end of this section for details.
- H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

### 3.4 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
  - 2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.

END OF SECTION 01500

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions.
- B. Proposed substitution requests outside of specified manufacturers and products shall have a redeeming monetary value for the Owner. Architect and Owner will not review proposed substitutions requests without a credit value.

1.2 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions." The following are not considered substitutions:
  - 1. Revisions to Contract Documents requested by the Owner or Architect.
  - 2. Specified options of products and construction methods included in Contract Documents.
  - 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.3 SUBMITTALS

- A. Substitution Request Submittal: Request for product substitution shall be submitted to the Architect no later than fourteen (14) days before bid due date.
  - 1. Substitutions after the bid date may be considered and accepted but will be reviewed on a case-by-case basis.
- B. Request for Substitution Form: Submit substitution requests to the Architect (through a bona fide bidder) on the Request for Substitution form as provided in the Project Manual.
- C. Substitutions shall include product data, samples and shop drawings as required to evaluate the proposed product. Submittals shall also include specified product (some additional engineering may be required with specific materials) with a line-by-line comparison of the products.

PART 2 – PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: Contractor's substitution request will be received and considered when one or

more of the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.

1. Extensive revisions to Contract Documents are not required.
  2. Proposed changes are in keeping with the general intent of Contract Documents.
  3. The request is timely, fully documented and properly submitted.
  4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
  5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
  6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
  8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the bidder/contractor certifies that the substitution will overcome the incompatibility.
  9. The specified product or method of construction cannot be coordinated with other materials, and where the bidder/contractor demonstrates and certifies that the proposed substitution can be coordinated.
  10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the bidder/contractor demonstrates and certifies that the proposed substitution provide the required warranty.
- C. Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01631



**SUBSTITUTION REQUEST FORM**

Request for product substitution shall be submitted to the Architect no later than fourteen (14) days prior to bid due date. Requests received after this time will not be considered.

Project: Poinciana High School Auditorium Date: \_\_\_\_\_

We hereby submit, under transmittal letter of \_\_\_\_\_, for your review, request for Product Substitution of the \_\_\_\_\_ in lieu of specified material for the above Project.

<u>Section</u>	<u>Article</u>	<u>Specified Material</u>
_____	_____	_____

Attached is complete technical data of the Product Substitution Request, highlighted or underlined to specifically indicate system and/or products proposed for use, including laboratory test, as necessary, in duplicate.

Included is complete information on changes to the Construction Documents that are or would be required by this proposed Product Substitution Request for its proper installation into the Work.

A. The Contractor, under whose transmittal this information is sent, has reviewed the Product Substitution Request and agrees it is applicable to this project in the location described and agrees to warrant/guarantee the use of the Product Substitution in the same manner he would the Specified Product.

Yes \_\_\_\_\_ NO \_\_\_\_\_ If not, Explain: \_\_\_\_\_

B. Does the Product Substitution Request affect dimensions shown on the Drawings in ANY way? If so, how? *(Describe as completely as possible)*

\_\_\_\_\_  
\_\_\_\_\_

C. Does the undersigned have the approval of the Manufacturer/Supplier to pay for any changes to the building design, including engineering and detailing joints, caused by the requested Product Substitution? If so, to what extent? *(Describe as completely as possible)*

\_\_\_\_\_  
\_\_\_\_\_

D. What effect does the Product Substitution acceptance have on other trades?

None \_\_\_\_\_ Don't Know \_\_\_\_\_ As follows: \_\_\_\_\_

\_\_\_\_\_

E. Differences between proposed Product Substitution and the Specified Product? Be Specific. (ASTM No., Size, Gage, Material, Color Availability, Construction, Etc.). *Attach additional sheet if required.*

\_\_\_\_\_

\_\_\_\_\_

F. Manufacturer's guarantees and warranties of the Product Substitution and the Specified Item are:

Same \_\_\_\_\_ Different \_\_\_\_\_ Explain: \_\_\_\_\_

\_\_\_\_\_

G. What is the cost differential of the Product Substitution in comparison to the Specified Product?

Same Price as Specified Product \_\_\_\_\_ Less Expensive by \$ \_\_\_\_\_

More Expensive by \$ \_\_\_\_\_

The undersigned (Contractor) states that the function, appearance, and quality of the Product Substitution are equivalent or superior to the Specified Item. In addition, the Contractor assumes all responsibility for all impacts and/or delays the review and evaluation of the proposed substitute product may cause. The approval of the product in no way relieves the Contractor of its responsibility to conform with the requirements of the Contract documents. Approved substitutions will be listed in the Addenda. Approval by any other manner will not be acceptable.

Submitted By:

For Use By Architect:

\_\_\_\_\_  
Signature

Received Too Late: \_\_\_\_\_

\_\_\_\_\_  
Firm

Not Accepted: \_\_\_\_\_

\_\_\_\_\_  
Date

Approved As Noted: \_\_\_\_\_

For Bidding Only, Final Approval Subject  
to Submittal Data in Accordance With  
Requirements of Specifications: \_\_\_\_\_

By: \_\_\_\_\_

END OF SECTION 01635

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes provisions and requirements for the following:
  - 1. Closeout Procedures.
  - 2. Final Cleaning.
  - 3. Adjusting.
  - 4. Project Record Documents
  - 5. Operation and Maintenance Data.
  - 6. Warranties.
  - 7. Spare Parts and Maintenance Materials.

1.2 RELATED SECTIONS

- A. Section 01500, Temporary Facilities: Progress cleaning.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect's inspection.
- B. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.
- C. Owner will continue to occupy Project for the purpose of conducting business, under provisions stated in Certificate of Substantial Completion.
- D. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of account giving total adjusted Contract Sum, previous payments, and sum remaining due.
- E. Architect will issue a final change order reflecting approved adjustments to Contract Sum not previously made by Change Order.
- F. Substantial completion will not be granted until ALL clearances are granted by the respective agencies; i.e., domestic water, sanitary sewer, stormwater, and so forth.

1.4 FINAL CLEANING

- A. Execute final cleaning before final inspection.
- B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surface, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to a sanitary condition.

- D. Replace filters and strainers in all mechanical equipment and systems.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

#### 1.5 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.
- B. Complete all deficiencies outlined in the HVAC Testing and Balancing Report.

#### 1.6 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following Record Documents; record actual revisions to the Work:
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and all other Modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternate utilized.
  - 3. Changes made by Addenda and Modifications.
- E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish floor datum.
  - 2. Measured horizontal and vertical location of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original Contract Drawings.
  - 6. All Addenda revisions.
  - 7. All systems point to point drawings.
  - 8. All mechanical control drawings.

- F. Submissions: Submit two (2) complete sets of final Record Documents to the Architect for review for completeness. Final documents shall include, but are not necessarily limited to, the following:
1. Record Drawings on CAD disks formatted and complying with the latest (current) version of AutoCAD. Base disks shall be provided by the Architect and Consultants.
  2. Mylars with all construction changes, additions and deletions.
  3. Project Manual with all construction changes, additions and deletions.

1.7 OPERATIONS AND MAINTENANCE DATA:

- A. Submit two (2) complete sets before final inspection, bound in 8 ½ x 11 inch text pages, three D side ring capacity expansion binders with durable covers.
- B. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS" with name and title of Project.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below with clearly titled and printed reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume with each product or system description identified.
- E. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Engineer, Contractor, Subcontractors, and major equipment suppliers.
- F. Part 2: Operation and maintenance instructions arranged by system and subdivided by Specification Section. Identify the following:
1. Significant design criteria.
  2. List of equipment.
  3. Parts list for each component.
  4. Operating instructions.
  5. Maintenance instructions for equipment and systems.
  6. Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
- G. Part 3: Project documents and certificates, including the following:
1. Shop drawings and product data.
  2. Air and water balance reports.
  3. Certificates.
  4. Photocopies of warranties.
- H. Submit one copy of completed volumes in final form at final inspection.
- I. Submit final volumes revised, within ten calendar days after final inspection.

1.8 WARRANTIES:

- A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.
- B. Submit warranties before final application of payment. Equipment put into use during the contract, i.e., phased projects the warranties shall extend to the completion of the last phase and remain in effect as specified.

1.9 SPARE PARTS AND MAINTENANCE MATERIALS:

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to Project site. Obtain receipt from delivery and forward to Architect.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01700

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents.
- B. Project Record Documents required include the following:
  - 1. Marked-up copies of Contract Drawings.
  - 2. Marked-up copies of Shop Drawings.
  - 3. Newly prepared drawings.
  - 4. Marked-up copies of Specifications, addenda, and Change Orders.
  - 5. Marked-up Product Data submittals.
  - 6. Record Samples.
  - 7. Field records for variable and concealed conditions.
  - 8. Record information on Work that is recorded only schematically.
- C. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition. Make documents and Samples available at all times for the Architect's inspections.

1.2 RECORD DRAWINGS

- A. Markup Procedure: During construction, maintain a set of blue- or black-line white prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
  - 1. Mark these Drawings to show the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
    - a. Dimensional changes to the Drawings.
    - b. Revisions to details shown on the Drawings.
    - c. Depths of foundations below the first floor.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by change order or Construction Change Directive.
    - k. Changes made following the Architect's written orders.
    - l. Details not on original Contract Drawings.
  - 2. Mark record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.

3. Mark record sets with red erasable colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
  4. Mark important additional information that was either shown schematically or omitted from original Drawings.
  5. Note Construction Change Directive numbers, alternate numbers, change-order numbers, and similar identification.
- B. Responsibility for Markup: The individual or entity who obtained record data, whether the individual or entity is the Installer, subcontractor, or similar entity, shall prepare the markup on Record Drawings.
1. Accurately record information in an understandable drawing technique.
  2. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
- C. Preparation of Transparencies: Immediately before inspecting Certification of Substantial Completion, review completed marked-up Record Drawings with the Architect. When authorized, prepare a full set of corrected transparencies of Contract Drawings and Shop Drawings, but only after Architect has received original "**PROJECT RECORD DRAWINGS**" before Substantial Completion from Construciton Manager. Just before transmitting original "**PROJECT RECORD DRAWINGS**" to the Architect, reproduce one copy from the originals for the Owner's review. Upon receipt of the original "**PROJECT RECORD DRAWINGS**" from the General Contractor, Architect will update all mark-ups noted by General Contractor on CAD and transmit copy of Electronic disk to Owner. Architect will transmit copy of electronic CAD disks to General Contractor who shall provide one full set of transparencies (Mylars) from the CAD disks to the Owner with copy of Owner transmittal to the Architect. General Contractor shall return the CAD disks to the Architect upon completion of reproduction as specified herein. The General Contractor shall provide three Bond copies of the "**PROJECT RECORD DRAWINGS**" to the Owner with copy of transmittal to the Architect.
1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each drawing; include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each drawing.
    - a. The printed designation on each drawing "**PROJECT RECORD DRAWINGS**" shall be in "ARIAL" font and in **BOLD** type style which shall be 72 pt.
  2. Refer instances of uncertainty to the Architect for resolution.
  3. Review of Transparencies: Before copying and distributing, submit corrected transparencies and the original marked-up prints to Architect for review. When acceptable, Architect will initial and date original "**PROJECT RECORD DRAWING**". Acceptance by the Architect indicates acceptance of general scope of changes, additional information recorded, and of the quality of drafting.
    - a. Architect will return original marked-up prints and an electronic copy of CAD disk to the Contractor for organizing into sets, printing, binding, and final submittal.



- D. Copies and Distribution: After completing the preparation of transparency Record Drawings, print two blue- or black-line prints of each drawing as specified in Paragraph C above. Organize the copies into manageable sets. Bind each set with durable-paper cover sheets. Include appropriate identification, including titles, dates, and other information on the cover sheets.
1. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
    - a. General Contractor shall retain the original marked up set for all warranty work performed during warranty period.
  2. Organize record transparencies into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps. Mark the end cap of each container with suitable identification.
  3. Submit the transparencies, and 3 copy sets to the Architect for the Owner's records; the Architect will retain 1 copy set.

### 1.3 RECORD SPECIFICATIONS

- A. During the construction period, maintain 3 copies of the Project Specifications, including Addenda and modifications issued, for Project Record Document purposes.
1. Mark the Specifications to indicate the actual installation where the installation varies from that indicated in Specifications and modifications issued. Note related Project record drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
    - a. In each Specification Section where products, materials, or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
    - b. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made and to document coordination with record Product Data submittals and maintenance manuals.
    - c. Note related record Product Data, where applicable. For each principal product specified, indicate whether record Product Data has been submitted in maintenance manual instead of submitted as record Product Data.
  2. Upon completion of markup, submit record Specifications to the Architect for the Owner's records.
    - a. The printed designation on the each page of the specifications shall read "**PROJECT RECORD SPECIFICATION**" in "ARIAL" font and in **BOLD** type style shall be 36 pt. Stamp the cover and each page of the specifications with a rubber stamp using a "Red" ink pad "**PROJECT RECORD SPECIFICATION.**"

#### 1.4 RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
  - 1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.
  - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 3. Note related Change Orders and markup of Record Drawings, where applicable.
  - 4. Upon completion of markup, submit a complete set of record Product Data to the Architect for the Owner's records.
  - 5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.

#### 1.5 RECORD SAMPLE SUBMITTAL

- A. Immediately before date of Substantial Completion meet with the Architect and the Owner's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Owner for record purposes. Comply with the Architect's instructions for packaging, identification marking, and delivery to the Owner's Sample storage space. Dispose of other Samples in a manner specified for disposing surplus and waste materials.

#### 1.6 MAINTENANCE MANUAL SUBMITTAL

- A. When each construction activity that requires submittal of maintenance manuals is nominally complete, but before Substantial Completion, submit maintenance manuals specified.
  - 1. Organize Operation and Maintenance Manuals into suitable sets of manageable size.
  - 2. Bind data into individual binders for each manual, properly identified on front and spine. For large manuals, provide an index sheet and thumb tabs for separate information categories.
  - 3. Provide heavy-duty, 3-ring, vinyl-covered binders, as required to contain information, sized for 8 ½ by 11 inch paper with inside pockets or pocket folders for folded sheets.
  - 4. In each maintenance manual, include information specified in individual Specification Sections and the following:
    - a. Emergency instructions.
    - b. Spare parts list.
    - c. Copies of specific warranties.
    - d. Wiring diagrams.
    - e. Recommended maintenance procedures and turn-around times.
    - f. Inspection and system-test procedures.
    - g. Copies of applicable Shop Drawings and Product Data.
    - h. Listing of required maintenance materials and services.
    - i. Names and addresses of sources of maintenance materials.

- j. Maintenance drawings and diagrams.
- k. Precautions against improper maintenance and exposure.

#### 1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately before Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Architect for the Owner's records.
  - 1. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
    - a. Field records on excavations and foundations.
    - b. Field records on underground construction and similar work.
    - c. Survey showing locations and elevations of underground lines.
    - d. Invert elevations of drainage piping.
    - e. Surveys establishing building lines and levels.
    - f. Authorized measurements utilizing unit prices or allowances.
    - g. Records of plant treatment.
    - h. Ambient and substrate condition tests.
    - i. Certifications received in lieu of labels on bulk products.
    - j. Batch mixing and bulk delivery records.
    - k. Testing and qualification of tradesmen.
    - l. Documented qualification of installation firms.
    - m. Load and performance testing.
    - n. Inspections and certifications by governing authorities.
    - o. Leakage and water-penetration tests.
    - p. Fire-resistance and flame-spread test results.
    - q. Final inspection and correction procedures.

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 - EXECUTION

##### 3.1 RECORDING

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project.

END OF SECTION 01720



PART 1 – GENERAL

1.1 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
  - 1. Refer to the Owner's Agreement for Construction Chapter 3 General Terms and Conditions for terms of the warranty for workmanship and materials.
  - 2. Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Sections of Divisions 2 through 16.
  - 3. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products.

1.2 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.3 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding; reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

- D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- E. Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

#### 1.4 SUBMITTALS

- A. Submit written warranties to the Architect before the Date Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
  - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within fifteen (15) days of completion of that designated portion of the Work.
- B. Special Warranties: When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, or supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval before final execution.
  - 1. Refer to individual Sections of Divisions 2 through 16 for specific content requirements, and particular requirements for submittal of special warranties.
- C. Form of Submittal: At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 ½ inch by 11 inch paper.
  - 1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
  - 2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the Project title or name, and the name of the Contractor.

Poinciana High School Auditorium  
The School District of Osceola County  
Poinciana, FL 34758

3. When Operation and Maintenance Manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01740





PART 1 - GENERAL REQUIREMENTS

1.1 RELATED DOCUMENTS

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

1.2 GOVERNING CLAUSE

- A. For the sake of brevity these specifications shall omit phrases such as "Contractor shall furnish and install", "unless otherwise indicated or specified", etc., but these phrases are nevertheless implied. Mention of materials and operations requires the Contractor to furnish and install such materials and perform such operations completely to the satisfaction of the Owner.

1.3 SCOPE OF WORK

- A. One company shall be responsible for the installation of all aspects of the stage equipment in the Auditorium. Work under this section shall include the furnishing of all labor, materials, tools, transportation services, supervision, etc., necessary to complete installation of new stage equipment as well as any other items as herein listed, all as described in these specifications, as illustrated on the accompanying drawings; or as directed by the Architect or his Representative. Work includes the following:

Motorized Rigging  
Dead Hung Rigging  
Stage Curtains & Tracks  
Projection Screen

1.4 SUBSTITUTIONS:

- A. Specific fabric and items of equipment are specified by trade names. It has been determined by the Owner that these are the particular items desired by the owner and established a standard of quality, equipment function and/or process. It is not the purpose nor intent of these documents to eliminate competitive bids. In order to allow proper and fair comparison of pricing, contractors are required to submit their base bid price on the specified equipment. A contractor may submit an alternate bid based on equipment different from that specified only if that Contractor has received prior approval in writing from the Owner at least 10 days prior to bid. Accompanying each request shall be a letter specifically detailing each substitution including catalog data, specifications, swatches, operative samples, technical information, drawings, performance and test data, and complete descriptive and functional information to assist in a fair evaluation. Failure to submit any substitution for prior approval or not providing sufficient data for evaluation shall require the exact item specified to be furnished. Owner's approval of a substitution for bid purposes will not relieve the contractor from the responsibility of meeting all specification criteria. If an approval of a substitution is granted, the Contractor shall be fully responsible for any and all changes (wiring, power, distribution, support structure, etc.) such substitution shall require.

1.5 DEFECTIVE OR NON-APPROVED MATERIALS

- A. Should any stage equipment be found defective, not meeting specifications, or that which has not been approved in writing by the Owner shall, upon discovery (including any time within the period of the guarantee), be replaced with the specified equipment or material at no additional cost.

1.6 GUARANTEE

- A. The Contractor shall guarantee all of the work that is performed under this contract, including all materials, and workmanship, for a period of one (1) year from the date of full acceptance of the work.
- B. Lamps for lighting fixtures shall be guaranteed against failure for thirty (30) days.
- C. Nothing in this guarantee shall cause repair or replacement by the Contractor where negligence, neglect or improper operation by the Owner has caused the failure of any equipment installed under this contract.

1.7 DISCREPANCIES

- A. All equipment shall be sized to fit properly. The exact measurements are the responsibility of the Contractor. If there are discrepancies in the specifications, the Contractor shall ask for a clarification from the Owner. If no clarification is requested, the Owner's judgment shall rule.

1.8 PRE-APPROVED STAGE EQUIPMENT CONTRACTORS

- A. One company shall be responsible for the installation of all aspects of the stage equipment as specified in this section. This shall include but not be limited to all rigging, curtains, tracks, motors and control, stage lighting fixtures, stage/house dimming, and dimming controls and miscellaneous equipment. The following companies have prior approval as STAGE EQUIPMENT CONTRACTORS:

1. Texas Scenic Company, Inc., San Antonio, Texas.
2. Candela Controls, Inc. Winter Garden, FL (407) 654-2420
3. SECOA, Inc. Minneapolis, Minnesota
4. J.R. Clancy, Inc. Syracuse, New York
5. Peter Albrecht Corp. - Greendale, WI (414) 421-6630

- B. In order to be considered as a Stage Equipment Contractor on this project, each Contractor requesting approval must submit to the Architect at least ten (10) days prior to the date of bid opening a letter expressing his intent to bid. This letter shall include a list of at least five (5) projects of similar size and scope completed by this firm within the last five (5) years. If motorized line-shaft rigging is required on this project, the letter shall indicate the number of line-shaft set provided and installed and the manufacturer of the equipment on each of the five projects. Inspection of one completed installation may be requested by the Architect/Architect's Representative prior to consideration of request to bid. Manufacturers' representatives or theatrical dealers or distributors who do not manufacture stage rigging equipment will not be considered for approval. The stage equipment contractor shall have been in business under the same name for five (5) full years preceding the date of this bid doing work similar to the type

specified. The decision of the Architect as to the capability of the Bidder to successfully complete and maintain the system, based on this pre-qualification information shall be final.

- C. Pre-Bid request letter shall include a statement that all major items of equipment shall be bid and supplied as specified, or shall contain details of all proposed substitute equipment for review by the Architect/Architect's Representative. Substitute equipment items to include specifications, parts numbers, and details of interconnection to proposed system. The decision of the Architect/Architect's Consultant as to the acceptability of substitute equipment shall be final.
- D. The Stage Equipment Contractor shall employ only fully trained stage riggers and mechanics, assisted by common laborers, for the erection of the stage equipment. The stage riggers shall be completely familiar with the type of equipment to be installed. A competent Job Superintendent shall be on the job at all times when work is in progress. He shall represent the Stage Equipment Contractor and all directions given by him shall be as binding as if given by the Stage Equipment Contractor.

#### 1.9 ACCEPTABLE EQUIPMENT MANUFACTURERS

- A. For the purposes of establishing a standard of quality desired on this project, the rigging hardware products of Texas Scenic Company of San Antonio, Texas are specified.
- B. The stage lighting dimming and control of Electronic Theatre Controls of Middleton, Wisconsin are specified.
- C. The stage lighting fixtures of Altman Stage Lighting of Yonkers, New York are specified.
- D. The followspots of Strong Entertainment Lighting of Omaha, Nebraska are specified.
- E. The electrical stage distribution hardware of SSRC, Inc. of Greer, South Carolina are specified.
- F. The fabrics of KM Fabrics of Greenville, South Carolina and Dazian's of New York City, New York are specified.
- G. The projection screen of Draper of Spiceland, Indiana is specified.
- H. All other companies must receive prior approval to bid this project. Please refer to the section regarding substitutions.

#### 1.10 DOCUMENTATION

- A. SHOP DRAWINGS: Shop drawings and equipment data sheets shall be submitted to the Owner under general provisions within 45 days after award of the contract. Failure to comply with this 45 day requirement shall be cause for disqualification of the selected Contractor and cancellation of contract without cost to the Owner, on the basis that the selected Contractor does not have the ability or intention to comply with the specifications. Approval of submitted

equipment shall be obtained prior to equipment purchasing or fabrication. If shop drawings are rejected, correct and resubmit in the manner as specified. All shop drawing information shall be submitted at the same time; no partial submittal will be accepted. Drawings shall indicate complete details, dimensions, product types and locations of all equipment, clearances required, guides, cables, sets, Contractor fabricated equipment, and all other details required to completely describe the work to be performed. Submittals drawings shall be presented at a scale of not less than 1/8" = 1'-0" for conduit plans, 1/4" for equipment layouts, 1/2" = 1'-0" for mounting details, and 1/2" = 1'-0" for plate and panel details. Each sheet to allow space for approval stamps and have the name of the project, the contractors and/or the supplier's name, address telephone number, and the date submitted. Submit the following items for Owner's approval, prior to fabrication:

1. Stage plan view
  2. Stage side section view
  3. Gridiron layout indicating all stage equipment.
  4. Electrical riser diagrams indicating the necessary control wiring for all dimming, distribution, and controls wire tag number for every connection. Show all terminal blocks with wire numbers and location.
  5. Plan and elevation views indicating all electrical hardware locations and layout
  6. Provide full dimensions for panel layouts with finishes and materials for all custom panels.
  7. Details of installation and erection, including adjoining conditions and necessary clearances.
  8. Indication by arrow and boxed caption of each variation from contract drawing and specifications, except those indicated as acceptable in specifications or on drawings
- B. FABRIC SAMPLES: Submit sample books of each fabric specified, containing standard colors available in the quality of the material specified for the Owner's selection of color and approval. More than one color may be selected. After selection, upon request, submit one square foot samples of each material in each color for final review.
- C. RECORD DRAWINGS AND DATA: Submit in accordance with General Provisions. Also within 30 days of final test and completion of the installation, submit the following to the Owner:
1. Three (3) complete sets of "as built and approved" drawings (rolled, not folded showing systems and elements as installed, including field modifications and adjustments.
  2. Three (3) sets of maintenance data including a list indicating replacement parts lists for all items of equipment, wiring diagrams, control diagrams, any and all keys for cabinets, racks, key operated switches etc. and complete operation manuals.
  3. Three (3) notarized Certificates of Flameproofing for each fabric used.
  4. Three (3) Certificates of Guarantee
- D. INSTRUCTION OF OWNER PERSONNEL: This contractor or his representative, fully knowledgeable and qualified in systems operation, shall provide eight (8) hours of instruction to the Owner-designated personnel on the use and operation of this System. Designated instruction times shall be arranged through the Owner.

- E. PERMITS: Obtain all permits necessary for the execution of any work pertaining to the installation, and conform in all trades with all applicable local codes and with the National Electric Code. Obtain all permits necessary for operation of any equipment by the Owner.
- F. CLEAN UP: It shall be the responsibility of this Contractor to remove all debris from the building or site caused by his operations to a common trash point or receptacle on the job site, as determined by the Owner.

## PART 2 - EQUIPMENT

### 2.1 THEATRICAL RIGGING EQUIPMENT

#### A. GENERAL STANDARDS

- 1. Paint as required under this section shall be the manufacturer's standard finish and color except as noted.
- 2. All equipment items shall be new and conform to applicable provisions of Underwriters' Laboratories and American Standards Association.
- 3. Where acceptable equipment items are specified by catalog number only, device shall meet all published manufacturer's specifications. Where quantities are not given, refer to drawings. Where two or more products are listed, contractor may use either, at his discretion. Equipment shall not be substituted without specific written approval by the Architect/Architect's Representative under the substitution paragraphs of these specifications.

#### B. GENERAL RIGGING STANDARDS

- 1. All pipe battens shall be fabricated from 1.5" schedule 40 pipe.
- 2. All turnbuckles, clips, tracks, chains and other items of incidental hardware shall be furnished plated or painted. Wire rope shall be galvanized. Fasteners, chain, and other miscellaneous hardware shall be either cadmium or zinc plated.
- 3. All materials used in this project shall be new, unused and of the latest design. Refurbished materials are not permitted.
- 4. In order to establish minimum standards of safety, a minimum factor of 8 shall be used for all equipment and hardware used on this project. In addition, the following factors shall be used:

Cables and fittings	8 Safety Factor
Cable bending ratio	30 times diameter
Max. fleet angle	1 ½ degrees
Steel	1/5 of yield
Bearings	Two times required load at full for 2000 hours

### 2.2 MOTORIZED LINESHAFT RIGGING REQUIREMENTS

#### A. General

- 1. Furnish and install motorized lineshaft winches to raise and lower the stage electric battens as specified herein.
- 2. Each winch shall operate at a fixed speed.

3. The batten shall travel from a low trim of 4'-0" above stage floor to approximately 2'-0" below the winch assemble.
4. Each lineshaft winch shall have drums alternately grooved for right and left hand winding to prevent the batten from traveling.
5. Drums shall be supported on each side with a flange block assembly.
6. Miscellaneous hardware such as battens, cable, etc. shall follow USITT standards and specifications.
7. Electrical installation of motor starter & control panel by division 16.

B. Winch System

1. The gear reducer shall be a double reduction worm gear or a combination right Angle helical worm gear reducer. Reducer shall have a minimum service factor of 1.0.
2. The AC brake-motor shall be 1723 RPM, horsepower as required, three phase, 60 Hz with an integral brake. The brake shall be rated for 200% of the motor torque and be sized to stop and hold the moving load within four inches. Brake shall automatically be applied in case of power failure. Motor shall have a 1.0 service factor.
3. The cable drum diameter shall be a minimum of 32 times the cable diameter. The cable drum shall be of proper length to hold all of the cable in a single layer. The cables shall be prevented from jumping out of the grooves by two 3/8 cable retainers. The drum shall hold a minimum of the cable required for travel plus three dead wraps. Drums are to be helically grooved for the appropriate sized cable and have key-slots for the easy connection of cables. The drum hub shall be keyed directly to the continuous shaft off the reducer. Chain or belt drives are not acceptable.
4. The winch frame shall be constructed of structural steel members, compactly designed to support the winch components and load in a minimum amount of space. In the frame shall be incorporated a cable keeper bar that is located next to the grooves in each drum to prevent lines from jumping grooves and slack lines form unwinding.
5. Shaft will be a steel drive sized and of material to prevent excess twisting due to load torque. Maximum twist to be 0.25 degrees per linear foot.
6. Shaft coupling to be flange type gear couplings.
7. An internal brake shall be installed to stop a runaway system at 1 ½ times the rated speed.
8. Each winch shall have an adjustable two element limit switch which stops the winch at the upper and lower extremes of travel.
9. Each winch shall have an adjustable four element limit switch which stops the winch at the upper and lower extremes of travel. Two of the elements shall be back-up or overtravel limits, wired such that the winch cannot be operated until the cause of normal limit failure is determined and repaired.

C. Motor Control Panel

1. The motor control panel shall be in a NEMA 12 enclosure.
2. Each control panel will contain all circuit breakers, contacts, overloads, transformers and control relays to operate the winches and for reversing operations.
3. Provide main circuit breaker for each panel that must interlock with the panel door. Circuit breaker must be sized to operate all motors at one time.
4. The incoming line from the circuit breaker will enter a main line contact.

5. The contact will be closed by resetting the emergency stop circuit and opened by depressing the "EMERGENCY STOP" or turning the key switch to "OFF".
6. Each winch will have a definite purpose reversing contact with mechanical and electrical interlocks.
7. The incoming lines to the contact assembly will have a circuit breaker to protect the motor.
8. Adjacent to each contact will be a 3 pole overload adjustable for motor full load current.

D. Operator Panel

1. The operator panel shall be in a NEMA 12 enclosure.
2. The face plate shall be a 1/8" anodized aluminum panel.
3. The operator panel will activate the winches and a key switch will activate the system.
4. Provide "UP" and "DOWN" buttons for hold to run operation of each winch.
5. All buttons will be engraved with purpose.
6. Provide an "EMERGENCY STOP" red mushroom type button.
7. The operator panel shall be incorporated into the stage managers panel.

E. Support Cables and Fittings

1. All support cables unless otherwise noted shall be 7 x 19 construction, galvanized aircraft cable with a breaking strength of 7000 lbs.
2. Damaged or deformed cable shall not be used.
3. Cable fittings and clips shall conform to wire rope manufacturer's recommendations as to size, number, and method of installation.
4. Clips shall be drop forged "Crosby" or "Malleable".
5. There shall be two cable clips for each lift line tie-off.
6. Pressed sleeve fittings shall be Nicopress.
7. Eyes shall be formed over wire rope thimbles of correct sizes.
8. All wire rope rigging shall be installed so as to prevent abrasion or rubbing of the wire rope against any part of the building construction or other equipment; pulleys and sheaves shall be so aligned as to provide a maximum fleet angle of two degrees; mule blocks, cable rollers, guides and sag bars shall be installed as required to provide proper alignment.

F. Trim Chains

1. Trim chains shall be 1/4" grade 30 proof coil chain 30" long with a 1/4" threaded chain connector (Quick link) on one end.
2. The threaded connector shall be rated at not less than 800 lbs. capacity and shall have the rating stamped on each unit.
3. Trim chains shall be installed on batten end of each support line.

G. Pipe Battens

1. Pipe battens shall be 1-1/2" in diameter schedule 40 pipe.
2. All battens shall be painted black to prevent rusting.
3. Where splicing is required, a pin, 18" long and the same diameter as the inside diameter as the pipe shall be used. This pin shall be held in place with no less than four (4) rivets.
4. Mark the center of each batten with a 1" wide yellow stripe
5. Paint the last 3'0" of each end of each pipe batten yellow.

- H. Motorized Rigging Sets Required: Provide four Type 1 winch sets, each set consisting of (but not limited to) the following:

Capacity	1800 lbs
Speed	20 ft/min
Batten Travel	30'
Drum Diameter	8"
Cable Size	1/4 "
Number of Drums	7
Type of Limit Switches	Overtravel

### 2.3 PROJECTION SCREEN

- A. Provide one automatic electric projection screen, 16' (H) x 20' (W), electrically operated 120 volt AC (60 Hz) 2.1 amp.
- B. Three wire quick reversal motor to be especially designed for the purpose, to be ball bearing and oiled for life, with automatic thermal overload cutout and integral interlocking gears.
- C. To have pre-set but adjustable limit switches to automatically stop screen fabric in the "up" and "down" position.
- D. Stop action to be positive to prevent coasting.
- E. Rigid metal roller at least 6" in diameter x 1/8" wall steel tube.
- F. Roller brackets to be painted white and to have double row radial ball bearings.
- G. Screen surface to be fiberglass Matte White, flame and mildew resistant. Provide black masking borders to allow screen to reach stage floor.
- H. Case to be constructed of extruded aluminum.
- I. Heavy metal brackets shall be supplied for mounting screen to cove in proscenium opening.
- J. To be complete with 3 position control switch in box with cover plate.
- K. Recessed installation requires access to motor.
- L. Screen to be listed by Underwriters' Laboratories and CSA.
- M. Screen to be the "Paragon" by Draper of Spiceland, Indiana.

### 2.4 STAGE CURTAINS

#### A. FABRICS

1. Stage Curtains: Provide 25 ounce Memorable Velour and 16 ounce Princess Velour (54" width) as manufactured by KM Fabrics, Greenville,



South Carolina. 25 ounce Lyceum Velour from Dazian's, New York, New York, is an acceptable substitute. Color to be selected by Owner.

2. Sky Cyclorama: 24'6" seamless flameproofed white muslin as supplied by Frankel and Associates of New York, New York or Rose Brand of New York, New York.

**B. FLAMEPROOFING**

1. Fabrics used in fabrication of draperies shall be chemically flameproof with a formula approved Bureau of Standards U.S. Department of Commerce, and finished fabric, after treatment, shall pass such tests as are required by the Fire Marshall of the local Fire Dept. and Owner.
2. A certificate for each type and color of cloth used shall be furnished to the Owner when request for final payment is made.
3. Certificate shall state name of Stage Equipment Contractor, name of firm doing flameproofing treatment, date of treatment, date re-treatment will be required, method of treatment, and the certificate shall be affixed the signature of an officer or authorized representative of the firm furnishing the draperies.
4. The information on certificate shall be notarized by a Notary Public in the State of Texas.

**C. FABRICATION OF STANDARD STAGE DRAPERIES**

1. Sew fabrics with box-pleats to 3-1/2" wide heavy-duty upholstery jute webbing, pleats spaced 12" on centers, unless otherwise specified. Use mercerized cotton thread, minimum weight #16, color to match cloth shall be full length and shall be without splices for entire length of the curtain.
2. Properly join panels smooth and free of puckering at seams, hems, and turn backs.
3. Where completed curtains are to be operated on a traveler track, equip each pleat with a 2" plated harness snaphook mounted to curtain by means of a strap of web-beltting to curtain by riveting with not less than 2 tubular rivets per snaphook. Web-beltting straps shall pass over front and back sides of pleats, and rivets shall go completely through the web-beltting, jute webbing, and all thickness of curtain fabric. Canvas straps, leather straps, grommets and s-hooks, cotter key hooks, etc., shall not be acceptable.
4. Where completed curtains are to be tied to a pipe batten, each pleat shall be equipped with a 30" long #4 braided nylon tie line through a No. 2, or larger brass grommet, each to be on 12" centers located in the box pleats at the webbing.
5. Bottom hems of all curtains shall be 5" and shall be equipped with a separate canvas pocket sewn inside bottom hems in such manner as to have the bottom of the canvas pocket at least 1-1/2" above bottom of curtain hem. Load canvas pocket with #6 galvanized pump chain, secured to prevent bunching and shifting within the pocket.
6. Off-stage vertical hems and center-facing turn backs of the front curtain and mid-stage shall be one-half width (27") of material faced back and no sewn hem shall be permitted within these hems. Vertical hems of all masking borders, travelers, and cyclorama curtains shall be 6".
7. Finish curtains properly in the best manner and method of the industry, and after hanging, thoroughly brush to remove dust, visible dirt, loose threads, loose fabric lint, etc. Wrinkles shall be allowed to fall out naturally.

8. Fullness desired for each panel of curtains is indicated by the number of widths specified for each item. Any number of widths less than the number specified will result in re-fabrication of curtains.

D. FABRICATION OF SKY DROP CURTAIN

1. Across the top of each unit the fabric shall sewn flat to a 3-1/2" webbing double stitched with #16 mercerize cotton thread.
2. Provide No. 2 brass grommet 12" on center across webbing. In each grommet provide a 30" long #4 braided nylon tie.
3. Sew a 6" bottom hem. In the bottom hem, sew in a canvas pipe pocket large enough to accommodate a 1" pipe. Provide bottom 3/4" rigid conduit in 10' sections with threaded couplings for joints.
4. Side hems shall be 3" wide double folded, double stitched hems.

2.5 CURTAIN TRAVELER TRACKS

- A. Tracks shall be by H&H Specialties of South El Monte, California. Manufacturer's recommendations on installation of all tracks and related hardware shall be followed. Automatic Devices Inc. of Allentown, PA shall be considered equal.
- B. Track for the Front Curtain shall be H&H Model #400 Steel Track in two (2) 30' sections, complete with all necessary accessories including #416 neoprene tired carriers, #418 master carriers, #433 6" double end pulley, #434 6" single end pulley, 1/8" rubber bumpers, rear fold guides and #438 floor pulley. Use only pipe brackets to secure tracks to battens.
- C. Track for the Mid-Stage Curtain shall be the same as specified for the Front Curtain.
- D. Track for the Rear Curtain shall be the same as specified for the Front Curtain.
- E. Track for the Legs #1, #2, and #3 and tab curtains shall be H&H Model #428 walk along track in six (6) - 12' long sections for the legs and two (2) 26' long walk-a-long sections complete with all necessary hardware.

2.6 STAGE CURTAIN SCHEDULE:

Curtain	Fabric	Size	Widths Req'd.	Installation
Valance	25 oz. Velour	1 panel 53'w x 6'h	19 full widths	On pipe batten
Front Curtain	25 oz. Velour	2 panels 30'w x 20'h	24 full widths (12 per panel)	On specified track
Legs #1	16 oz. Velour	2 panels 11'w x 22'h	8 full widths (4 per panel)	On specified track
Border #1	16 oz. Velour	56'w x 7'h	20 full widths	On pipe batten
Legs #2	16 oz. Velour	2 panels 11'w x 22'h	8 full widths (4 per panel)	On specified track
Border #2	16 oz. Velour	56'w x 7'h	20 full widths	On pipe batten
Mid Stage Traveler	16 oz. Velour	2 panels 30'w x 22'h	24 full widths (11 per panel)	On specified track

Legs #3	16 oz. Velour	2 panels 11'w x 22'h	8 full widths (4 per panel)	On specified track
Border #3	16 oz. Velour	56'w x 7'h	20 full widths	On pipe batten
Rear Curtain	16 oz. Velour	2 panels 30'w x 22'h	24 full widths (11 per panel)	On specified track
Side Tabs	16 oz. Velour	4 panels 8'w x 23'h	8 full widths (4 per panel)	On specified track
Cyclorama	Seamless Muslin	56'w x 22'h	Seamless	On specified track

PART 3 - INSTALLATION

3.1 GENERAL

- A. Verify that job conditions are ready to receive work of this section. Notify Architect of any existing condition, which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.
- B. Verify that field measurements are as shown on shop drawings.
- C. Verify that mechanical, electrical, and other items affecting work of this section are in place and ready to receive the work.

3.2 INSTALLATION

- A. Install using skilled workmen in accordance with manufacturer's printed instructions and recommendations.
- B. Install work in accordance highest industry standards. Handle materials to avoid dents and other damages.
- C. Set and secure materials and components rigid, plumb, and square.

END OF SECTION 11060



PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Electrical Contractor under Division 16 shall furnish all conduits, wire, connectors, hardware and other incidental items necessary for the complete and proper installation of the lighting control system. The electrical contractor shall make all high voltage terminations. The electrical contractor shall place all dimmer racks, distribution equipment and control stations back boxes.
- B. The System Integrator, as part of the work of this section, shall provide, and test a complete lighting control system as specified herein for areas indicated on the drawings and circuit schedules.
- C. The system integrator shall provide the control, dimming and theatrical fixtures for this project to the electrical contractor.
- D. The system integrator shall review all drawings for quantities of product and type.
- E. Provide all site integration of control, dimming, theatrical fixtures and distribution. The system integrator shall:
  - 1. Provide implementation of the architect and engineers design.
  - 2. Hang and focus of all theatrical fixtures for the system.
  - 3. Provide a complete training of the staff on the lighting system. Allow for two days of training on site.
  - 4. Provide drawing and manuals for all control and dimming system in this scope.
  - 5. Interface with the electrical contractor and the general contractor to insure a complete and working system.
  - 6. Provide system turn-on and all low voltage terminations.
  - 7. Provide and install all low voltage wire. Conduit provided by Electrical Contractor.
  - 8. Install all low voltage control stations, terminate wire and mount low voltage stations to back box provided by electrical contractor.

1.02 SYSTEM DESCRIPTION

- A. The system shall be designed for the control of architectural and theatrical lighting and shall consist of factory pre-wired dimming and processing rack enclosures containing dimmers, power supplies, breakers, terminals and/or control electronics. The system shall include all dimming, control, distribution and theatrical fixtures from the system integrator to the electrical contractor to provide a complete working integrated system.
- B. System shall work in conjunction with specified low-voltage control stations.

1.03 SUBMITTALS

- A. Manufacturer and system integrator shall provide 10 sets of full system submittals. Submittals shall include:

1. Full system riser diagram(s) illustrating interconnection of system components, wiring requirements, back box sizes and any special installation considerations.
2. Full set of printed technical data sheets.
3. Detailed set of dimmer schedules.
4. Detailed set of circuit and control schedules, including a complete list of all deviations from specifications.

#### 1.04 QUALITY ASSURANCE

- A. Manufacturer shall be one who has been continuously engaged in the manufacturer of lighting control equipment for a minimum of ten years. All dimmer and cabinet fabrication must take place in a U.S. manufacturing plant.
- B. Proposed equipment shall be UL and C-UL listed, and/or CE marked (where applicable) and bears the appropriate labels. Any component or device that is not UL listed and labeled shall not be acceptable and shall disqualify bidder.

#### 1.05 ACCEPTABLE MANUFACTURERS AND INTERGRATORS

- A. All Integrators must submit for pre approval 10 working days prior to bid of this project. All requests for consideration of approval must be accompanied with a detailed list of all projects of similar size with contacts and phone numbers for each project. A complete riser, bill of material and manufacturer of equipment to be supplied must accompany the request.
- B. Alternative manufacturers must submit a full pre-approval package ten days prior to bid date to the consultant/engineer. Package shall include a complete bill of material, cut sheets and riser drawing. Omission of any of these components shall disqualify bidder.
- C. The base bid shall be ETC with an adder or deduct to the base bid for alternate bids.
- D. The dimming and control equipment herein specified shall be manufactured by:

Electronic Theatre Controls  
3031 Pleasant View Road  
Middleton, WI 53562  
Phone: 800-688-4116  
Fax 608-836-1736

- E. The distribution equipment herein specified shall be manufactured by:

SSRC  
11 Freedom Court  
Greer, SC 29650  
Phone: 864-848-9770  
Fax: 864-848-3746

## PART 2 – PRODUCTS

### 2.01 STAGE DIMMING AND CONTROL SYSTEM

- A. Electrical requirements of the Stage Equipment Contractor: The Stage Equipment Contractor shall be responsible for providing to the electrical contractor all stage lighting and dimming hardware as specifically detailed in these specifications. This shall include:
1. Furnishing all equipment specified.
  2. Hanging of connector strips on specified stage rigging hardware.
  3. Set-up of the control console.
  4. Demonstration of equipment to owner's representatives.
  5. Lamping & Hanging all stage lighting fixtures.
  6. All low voltage lighting control terminations.
- B. The Stage Equipment Contractor shall not be responsible for the following work; to be performed by the electrical contractor:
1. Any conduit
  2. Any wiring
  3. Power requirements and termination of same in dimmer rack
  4. Any load wiring, fixtures, or termination at fixtures for house lighting or emergency lighting
  5. Mounting of plugboxes, floor pockets, back boxes and gridiron junction boxes (locations to be coordinated with stage equipment contractor)
- C. FACTORY CHECK-OUT: This contract shall also include the services of a qualified engineer regularly employed by the manufacturer of the system who shall check the installation and ensure its proper operation. No part of the system shall be energized before being so checked and the installation approved. Failure to observe this provision shall 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. This engineer shall be made promptly available on the job site within fourteen (14) days after the manufacturer has received written notice.

### 2.02 DIMMER RACKS

- A. The installation rack shall be the Sensor as manufactured by Electronic Theatre Controls, Inc., or equal. The fully digital dimmer rack shall consist of up to 48 dimmer module spaces. Sensor rack systems shall be UL Listed and CSA Approved, and shall be so labeled when delivered to job site.
- B. The dimmer rack shall be provided with wired spaces for all circuits. Dimmers shall be provided for all base circuits and blank modules provided for all expansion circuits. Provide base circuits indicated in bill of materials.
- C. The dimmer racks shall house all dimmer modules, control electronics, and branch circuit breakers. Provide module and breaker quantities as indicated below. System shall have the performance features that follow.
1. Rack shall be UL Listed and labeled.
  2. Rack shall employ dead front construction of code gage steel.

3. Each rack must have a hinged locking door.
4. Each rack must have an electrostatic air filter.
5. Ventilation shall be by a low-noise fan activated by DMX level data.
6. In the event of an over-temperature situation, each dimmer shall be shut down independently as required. Systems that shut the entire rack down upon over-temp will not be accepted.
7. Each 48-module dimmer rack shall be provided with a keypad and LCD display for rack configuration, backup and fault indication.
8. Each rack shall maintain active scene for a user-programmable period after loss of DMX-512 signal from console.
9. Standard control format shall be USITT DMX-512. Dimmer rack CEM must accept two independent DMX signals concurrently in a highest-takes-precedence manner for each dimmer.
10. Rack shall store a minimum of thirty-two user-programmable back-up looks which may be activated in case of loss of control signal.
11. Each dimmer must include discrete "boost" feature to allow over-voltage output to compensate for voltage drop in branch wiring and allow a true 120 volts at the fixture lamp or "trim" maximum voltage output to lengthen lamp life.
12. Each rack shall include a beacon which shall flash to indicate failures.

### 2.03 DIMMER MODULES

- A. Dimmer modules shall be plug-in type. No more than two dimmers per module will be accepted.
- B. Modules shall be assembled of aluminum or steel. Dimmer modules with housings manufactured of plastic or a flammable material will not be accepted.
- C. Each dimmer module shall contain fully magnetic circuit breakers(s), solid state switching module(s), choke(s) and connectors.
- D. Each dimmer must have the discreet 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.
- E. 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.
- F. Dimmer modules shall include toroidal filters to reduce lamp filament sing and limit the radio frequency interference on line and load conductors. The current rise-time shall be not 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.
- G. Power efficiency shall be at least 97% at full load.
- H. Dimmer shall accept hot-patching of an incandescent load up to the full capacity of the dimmer.
- I. 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 shall 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 shall employ a scheme for compensation for harmonic distortion of the power line for any variation in load.

- J. Response to control shall be less than 25 milliseconds.

#### 2.04 DIMMER FEEDBACK SYSTEM

- A. Rack shall be provided with a feedback network to provide rack performance data to the control console. The network shall provide operational information, which shall be displayed on the rack-mounted LCD display and on the control console color monitor. A hand-held remote does not meet this requirement.
- B. System shall annunciate DMX port errors at the rack and control console.
- C. System shall annunciate backup cue errors at the rack and control console..
- D. System shall annunciate individual phase voltages and power frequency at the rack and control console.
- E. System shall annunciate control link address and recorded error log status indicators at the rack and control console.
- F. System shall annunciate panic status at the rack and control console.
- G. System shall annunciate airflow obstruction errors at the rack and control console.
- H. System shall monitor cabinet temperature and annunciate over-temperature at the rack and control console.

#### 2.05 CONTROL ELECTRONICS MODULE

- A. General:
  - 1. The dimmer rack electronics shall be contained in one plug-in Control Electronics Module (CEM+). Each CEM+ shall plug into a dimming cabinet, with no discrete wire connections. A simple User interface shall be provided for system configuration, testing and diagnostics. There shall only be one model for all rack types.
- B. Electronics:
  - 1. The CEM+ shall be provided with an Ethernet control signal input. This input shall be fully configurable with a range of patching and priority programming capabilities.
  - 2. Two optically isolated DMX512 inputs shall also be provided, allowing overlapping or separation of any control level. 2,500V of optical isolation shall be provided between the DMX512 inputs and the CEM+. This shall protect the DMX512 inputs from a failed control module and the CEM+ from failed DMX512 inputs. Systems that do not have optical isolation on a prewired factory plug-in device shall not be acceptable.
  - 3. The CEM+ shall be completely digital, without employing any digital-to-analog demultiplexing schemes or analog ramping circuits.

- a. In the event of data loss each rack shall maintain the last level for a user-programmable time of zero to five minutes or indefinitely, or may be programmed to fade to and play an emergency preset. Systems that do not offer this feature shall not be acceptable.
4. The CEM+ shall respond to control changes in less than 25 milliseconds. Dimmer outputs shall exhibit no oscillating or hunting for levels. Dimmers set to the same level shall output within  $\pm 1V$  of each other, regardless of phase or electronic module control.
5. Dimmer output shall be regulated for incoming line voltages. The regulation shall adjust for both RMS voltage changes and deformations in the incoming AC waveform. The CEM+ shall monitor and adjust each dimmer's output to maintain a constant power to the load. Regulation shall maintain the desired output voltage  $\pm 1V$  for the entire operating range (90-140V AC) with the exception that the maximum output will be no greater than the line voltage minus dimmer insulation loss. The regulation shall compensate for dips and anomalies in the AC waveform on a dimmer-by-dimmer basis. There shall be no interaction between dimmers in the system or any other equipment. The output shall be nominally regulated to 120V, but shall be field adjustable on a dimmer-by-dimmer basis to allow for varying cable length.
6. The entire response to incoming line changes shall take no more than 25 milliseconds. Dimming systems that do not respond to line fluctuations and do not contain wave deformation detection shall not be acceptable.
7. The CEM+ shall contain diagnostic routines to allow the user to test and troubleshoot the system. The CEM+ shall contain a Test/Bypass switch to turn all dimmers on to full for testing. This switch shall bypass all electronics and shall force the fan on.
8. A system-wide panic circuit shall be provided. Any dimmer in any rack may be assigned to the panic circuit.
9. The CEM+ shall be able to record up to 128 backup looks. Backup looks shall be programmable by recording current dimmer levels (as set by the console), by entering dimmer levels on the CEM+ directly, or a combination of both methods. When a backup look is active, the DMX512 inputs shall be ignored in the default priority mode.
10. All system functions may be activated by the CEM+'s user interface and shall not require any remote unit. Systems that do not offer this feature shall not be acceptable.
11. The CEM+ shall be able to configure dimmers for ETC Dimmer Doubling, which allows a single dimmer to set two different levels on one dimmer circuit by splitting the AC power into positive and negative halves.

C. User Interface:

1. A backlit 6-button keypad and 2-line-by-20-character backlit LCD shall be provided for system configuration, testing and diagnostics. The backlit design of the panel controls shall provide for ease of use in dark environments.
  - a. The six buttons shall be Accept, Back, Plus, Minus, Home and Test.
2. The front panel shall have four status LED indicators: a blue LED for power status and three green LEDs for Network, DMX A, and DMX B status.
3. A reset switch shall also be located on the front of the unit.
4. Menu functions:
  - a. DMXA/B or EDMX data may be assigned sequentially from a starting control channel (base addressing) or patched per control channel to any dimmer via the user interface.
  - b. The dimmer curve shall be capable of being set on a per-channel basis. The default curve shall be the IES modified square law. Additional curves include: Square Law, Linear, and Sensor v2.0. The CEM+ shall also have the capability of

storing up to three custom curves and shall have an adjustable Preheat, all assignable on a per dimmer basis.

- c. The dimmer mode shall also be capable of being set on a per-channel basis. Modes shall include: Normal, Dimmer Doubled, Switched (unregulated on/off with adjustable threshold), or Fluorescent with adjustable threshold.
  - d. DMX Loss behavior can be set to Hold Last look, Wait and Fade, or Fade to Preset.
  - e. Up to 128 presets may be programmed, recording any level, whether set in direct level menu or by a Data input. Presets shall be activated in the default fade time of 2 seconds.
  - f. The direct level menu shall provide the ability to set a dimmer or groups of dimmers to a level.
  - g. The CEM+ shall be capable of monitoring and displaying [LCD] incoming line voltage for all three phases. With installed current sensors the same display shall show amperage on each phase. This display shall not timeout.
  - h. English, French, German and Spanish language support shall be built in.
5. The CEM+ shall contain the following user displays:
- a. Status display to show rack identification and errors. Error Messages shall include, but not be limited to, the following:
    - 1) Dimmer has shut down due to over temperature
    - 2) DMX port A or B has an error or has failed
    - 3) Phase A, B or C is below 90 volts
    - 4) Phase A, B or C is above 140 volts
    - 5) Rack has shut down due to air flow loss
    - 6) Ambient temperature is below 0°C/32°F
    - 7) Ambient temperature is above 40°C/104°F
  - b. Rack has shut down - ambient temperature exceeds 46°C/115°F
  - c. The ability to program and activate system-wide backup looks from face panel or web User Interface.
  - d. About display shall allow monitoring of system, rack or dimmer status.
    - 1) About System shall provide information about Panic circuits, Preset looks, and System name.
    - 2) About Network shall provide IP address, gateway and net mask.
    - 3) About Rack General shall provide information about rack name, ambient temperature, air filters and rack type.
    - 4) About Rack Power shall provide information about power type, rack voltages, current per phase (only with current transformers), under voltage warnings.
    - 5) About Rack Data shall provide status for DMXA, DMXB, EDMX and Network activity.
    - 6) About Dimmer shall provide information about dimmer type, location, output level, control source, scale voltage, mode and curve.
  - e. Setup display shall allow but not be limited to, configuring of rack addresses, dimmer firing mode, and scale voltage values.

D. Dimmer Status Network:

1. The Dimmer Status network shall provide remote monitoring, programming and backup functions for the system through any Sensor-compatible console, PC, or hand-held

remote device. System information shall also be displayed on any system interface including the CEM+ and the devices listed above. Systems that do not provide both types of user interface shall not be acceptable.

2. Dimmer Status network shall provide an integral link to connect all racks in the system for rack-to-rack communication. Information for all configuration and backup looks shall be stored in all CEM+'s to allow swapping of CEM+'s throughout the system. Systems not storing all configuration data and backup looks for each dimmer in all control modules shall not be acceptable.
3. A technician shall be able to program all parameters onsite, using a laptop personal computer. These parameters shall include, but not be limited to, defining rack type, module type, scale voltage for each dimmer, firing mode, curve, dimmer numbering and DMX512 port assignments. Systems requiring factory programming shall not be acceptable.

E. Advanced Features:

1. Sensor's Advanced Features (AF) option shall add an additional sensor in the individual dimmer modules. The AF option shall allow monitoring of current and output voltage on a dimmer-by-dimmer basis and provide information on lamp burnouts, dimmer status, and input voltages.
2. The CEM+ shall allow the user to record the loads of all AF dimmers in the system. The CEM+ shall, during operation, test each AF dimmer, determine its load, and compare it to the recorded load. Any change from recorded loads greater than five percent shall display an error on the CEM+ and any monitoring device on the ETCLink network.

F. Physical:

1. Dimmer control electronics shall be contained in one plug-in Control Electronics Module, housed in a formed steel body with an injection-molded face panel.
2. An airflow sensor shall be provided. In the event of inadequate airflow, the affected rack shall shut down until the error is corrected.
3. If the ambient room temperature drops below 0°C/32°F or rises above 40°C/104°F, a warning shall appear on the dimmer rack LCD. If the temperature rises above 46°C/115 °F, the rack shall shut down until the condition is corrected.
4. Dimmer control electronics module shall operate at up to 120/208V, three phase, four wire + ground, 47 to 63 Hz. The CEM+ shall automatically compensate for frequency variations during operation.

## 2.06 CONTROL CONSOLE

A. General

- B. The lighting control console shall be a microprocessor-based system specifically designed to provide complete control of stage, studio, and entertainment lighting systems. The console shall be the Ion as manufactured by Electronic Theatre Controls, Inc., or equal.
- C. The control system shall be Net3 and ETCNet 2 native, with both protocols output simultaneously over the network. The system shall also be able to control third party ACN devices directly. The system shall provide control of 1000 outputs/channels, 1500 outputs/channels or 2000 outputs/channels.
- D. A maximum of 5,000 cues, 1000 groups, 1000 presets, 4 x 1000 palettes (Intensity, Focus, Color and Beam), 1000 effects, 1000 macros and 99 curves may be contained in non-

- volatile electronic memory and stored to an onboard hard disk or to any USB storage device.
- E. The console may be placed in Tracking or Cue Only mode by the user as a system default and overridden on individual record actions as required.
  - F. A Master Playback fader pair and dedicated Grand Master/Blackout shall be provided.
  - G. Up to six USB fader wings may be connected to the console, for a maximum of 240 submasters, with six pages of control. USB fader wings may be rigidly connected to the main console to provide a "single connected unit" with no external cables required. The wings also may be connected via USB cables and used "on the side."
  - H. A high-resolution level wheel shall be provided to control intensity for selected channels and scrolling within selected displays. Four page-able high-resolution encoders shall be provided for control of other non-intensity parameters. Non-intensity parameters shall be controllable via the encoders or keypad controls, without need of an external pointing device.
  - I. Rotary encoders for non-intensity parameters shall be labeled by means of an integral LCD display mounted above or below the encoders on the main console. The display shall show the currently loaded functions of the encoders based on the current selections. Systems using encoders with no LCD labeling shall not be acceptable.
  - J. Control and programming features for automated fixtures shall also include: a standard library of fixture profiles, the ability to edit existing profiles and create new profiles, patch displays including channel and output addressing, 16-bit fade resolution, color characterization allowing color mixing and storing in Hue and Saturation or native device values.
  - K. System information, including playback status, live output and blind values for all record targets shall be displayed on a maximum of two external high resolution DVI/SVGA monitors, which may also be touch-screens. Only one display shall be required for operation.
  - L. The system shall direct user input through on-screen dynamic prompts and integral LEDs on console keys indicating current operating mode. A context sensitive on-line Help and electronic user manual feature shall explain and provide an example of the operation of each feature of the system.
  - M. An optional, fully-functioning, detachable alphanumeric keyboard shall be provided. The keyboard shall allow labeling of channels, cues, presets, groups, palettes, effects, macros, curves and the show.
  - N. A row of softkeys shall be provided, which change function based on the selection and context of the console. These softkeys shall be labeled via an adjacent LCD display that shows their current functions at all times. Systems using softkeys with no LCD display shall not be acceptable.
  - O. Console software upgrades shall be made by the user via a USB port; changing internal components shall not be required.

- P. The console operating software shall be loaded into program execution memory from the internal hard drive when the console is powered. In the event of an uncontrolled shutdown, the console shall return to its last output state when power is restored.
- Q. Show data may be created and modified on a personal computer, using an offline editing application.
- R. A PC running a client software application shall be able to connect to a control system via the network and view or modify current show data in an independent display environment. Additional devices on the network shall also be able to act as clients to the main console.
- S. Synchronized backup shall be provided via another full console on the network or by use of a remote processor unit. The backup unit (either full console or rack mounted Remote Processor Unit (RPU)) shall maintain synchronized playback with the master and shall take over control of the lighting system upon loss of communication with the master. Use of two RPUs to service and backup system output is also supported. Systems that do not offer this kind of instant backup from multiple sources shall not be acceptable.
- T. A maximum of four users may access and interact with show data simultaneously. Each user shall have an individual workspace.
- U. The system shall allow remote control from external devices as follows: Client software running on a PC connected to the network, A remote video interface with keyboard, A purpose-built wireless remote focus unit (Radio Focus Remote). Universal fader wings may be attached to any of these devices for local fader control Systems without these remote control devices shall not be acceptable.
- V. The system shall support a Telephone remote control that allows basic functions to be controlled from a standard wireless phone producing touch tone signals. This allows the use of a standard telephone for a low cost remote control. Systems that do not allow this function shall not be acceptable.
- W. The system shall support up to 32 individual Time Code Event lists.
- X. Physical
- Y. All operator controls and console electronics for a standard system shall be housed in a single desktop console, not to exceed 19" wide, 19" deep, 5.5" high, weighing 20 pounds. Consoles that will not fit in a 19" rack shall not be acceptable.
- Z. Console power shall be 95 – 240V AC at 50 or 60Hz, supplied via a detachable power cord.

## 2.07 GENERAL NETWORK

### A. General:

1. The network shall provide data distribution over a TCP/IP network. Data shall be layer 3 routable over the Ethernet network. Systems using proprietary formats or formats other than TCP/IP or non-layer 3 routable networks shall not be accepted.
2. Connections shall be made between consoles, face panels, architectural processors, computers and nodes over standard Ethernet distribution systems using 10/100BaseT wiring and/or 10/100BaseFL. All installations shall conform to established Ethernet

wiring practice and installation shall be performed by contractors qualified to do this type of work. All wiring shall be tested at Category 5 for full bandwidth operation to the appropriate IEEE standard.

3. The Lighting Control system must be supplied by a single manufacturer and must have seamless integration over Ethernet between the Entertainment and Architectural lighting control.

B. Capacities:

1. The network shall provide DMX routing and patching and prioritization for up to 32,767 DMX addresses and DMX data may be input or output from any port on any DMX node in the system. DMX input, routing and output shall be specifically supported on the system from multiple sources and locations up to the maximum number of nodes supported by the Ethernet topology.
2. The network shall support multiple consoles, computers, file servers, printers, and architectural processors with discrete command lines and control. The network shall support multiple venues/systems on the same network.
3. Network configuration shall be via Network Configuration Editor (NCE) software. The software shall permit complete user flexibility allowing the system operator to patch DMX data over Ethernet DMX (EDMX), assign node labels for easy identification, assign RFUs to specific systems in multi-system networks, assign DMX offsets and provide DMX port prioritization. Each node shall have a specific IP address provided automatically by the software. The user may edit this IP address. Systems that do not support simple Windows configuration or systems that do not allow complete reconfiguration of the above mentioned features over Ethernet shall not be acceptable.
4. All configuration data for each network device shall be held at the device and system operation shall not require continuous on line operation of the network configuration software.
5. Architectural and Entertainment systems connected to the same network shall be capable of arbitrating control over EDMX data. The system shall be capable of alternating control of individual dimmer data between architectural and entertainment systems without intervention by the user. The user shall dictate the conditions under which system shall automatically take control and the network shall allow user override of the user selected defaults. Systems which require direct user intervention to allocate control of dimmers between architectural and entertainment lighting systems shall not be allowed.
6. The network shall allow multiple DMX inputs assigned to the same EDMX range to be set at different priorities. This shall allow the user to assign high or low priority to each DMX input port in the network on a port by port basis. The network shall require a valid DMX signal present at the input to initiate prioritization. Systems that do not allow for prioritization shall not be allowed.

C. Operational Features:

1. The video monitor outputs at any video node shall be able to monitor the video output of any console connected to the network.
2. Each DMX Node shall control up to 2048 DMX addresses, within the confines of up to 64 DMX (32,767 EDMX address) "universes". The specific DMX data input or output by the Node shall be freely configurable by the user. Duplicate outputs of DMX lines (DMX splitter) and discrete outputs shall be fully supported.
3. Any number of DMX universes may be configured with any length up to 512 addresses as long as the total does not exceed 32,767. Any range of DMX addresses may be selected for each. Multiple sources may be combined and a priority may be assigned to each source. Each DMX line may have its own start address and offset for ease of use.

4. DMX ports shall be configurable for either input or output. Multiple DMX signal routing patches and multiple facilities shall be specifically supported and limited only by the file storage capacity of the computer with Network Configuration Editor software installed.
5. File transmission, synchronization and access to File Servers using Microsoft NT server software shall be supported.
6. All Network configuration information shall be available as a system printout.

## 2.08 DMX ETHERNET NodeS – Two port

### A. General:

1. The DMX Ethernet node shall be a microprocessor-based unit specifically designed to permit DMX512 data to be encoded, routed and decoded over Ethernet. The unit shall be an ETCNet 2 DMX Node – Two Port as provided by ETC, Inc.
2. Connections shall be made between DMX Nodes, consoles, architectural systems, and PCs over standard Ethernet distribution systems using 10/100BaseT and/or 10/100BaseFL.
3. Each DMX Node shall incorporate two 5-pin XLR type connectors. The two DMX ports shall be software-configurable for either input or output. DMX inputs shall be fully opto-isolated from the node electronics and from each other.
4. Each DMX Node shall incorporate a backlit graphic LCD display for identification (soft-labeling) and status reporting. Labeling shall be user configurable using ETCNet 2 Network Configuration Editor (NCE)
5. Each DMX Node shall control up to 1024 DMX addresses, within the confines of up to 64 DMX universes. The specific DMX data input or output by the Node shall be freely configurable by the user. Duplicate outputs of DMX lines (DMX splitter) and discrete outputs shall be fully supported.
6. Power for the node shall be provided either over the Cat5 cable, complying with IEEE 802.3af, or via a power supply capable of an operating range of 10-28vDC.
7. The unit shall be UL & cUL listed and CE marked.

## 2.09 RADIO FOCUS REMOTE

### A. General:

1. The Net3 Radio Focus Remote (RFR) shall be a wireless remote control device that allows access to a variety of system functions. The hand-held transmitter unit shall provide access to frequently used commands for dimmer and channel checks as well as extended functions of the console via softkeys. The receiver unit shall plug directly into the console via USB or may connect to the lighting system via Ethernet.
2. The RFR shall be compatible with the ETC Eos and Congo lighting control systems and their associated consoles, Remote Processor Units (RPUs) and lighting playback controllers.
3. The system shall support multiple units on one receiver as well multiple systems operating separately in the same area.
4. The system equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

### B. Handheld Device or Transmitter:

1. The transmitter unit shall have a slide switch (on/off), 24 keys for console commands, two rotary encoders with built-in switches and one backlit display. The unit shall also



have a programmable "sleep" feature that helps to conserve battery life when the switch is left in the "on" position.

2. The keys of the transmitter unit shall be illuminated. The keys will be brightly lit while keys are pressed and the unit is transmitting. After the key is released, the keys will remain dimly lit for a period of time before the unit sleeps.
3. The transmitter shall have one dedicated command for each key on the unit with the exception of the six soft keys. Dedicated commands shall be displayed within each key. Softkey functions shall be accessed via a "More SK/Mode" key and shall be indicated within the built-in display.
4. Functionality of the unit shall be determined by the control system it is connected to. Eos systems shall provide Eos commands, and Congo systems shall provide Congo commands.
5. The transmitter unit shall be provided with rechargeable nickel metal hydride (NimH) batteries for power. These batteries should provide approximately two days of normal usage before requiring recharging.
6. The transmitter shall be a rugged steel unit, 2.7"(68mm) wide, 6.6"(168mm) high and 0.8"(20mm) deep, excluding the fixed helical antenna. The unit shall weigh 14 oz (400g), including antenna. The unit shall come complete with a hanging point for a wrist strap or lanyard.
7. The Radio Frequency Output for the transmitter shall be 2.410 GHz with 11 additional HF: channels available (2.410GHz - 2.465 GHz). 99 Network IDs available per channel.
8. The working range of the radio signal shall be 300' (90m) in an indoor environment and 650' (200m) in an outdoor, free field environment.

C. Receiver Unit:

1. The receiver unit shall be provided with a 6.6' (2m) USB cable. The receiver may also be plugged into an available powered Ethernet port elsewhere in the system, however the maximum distance (cable length including cable inside the wall) from the power source shall be 330' (100m).
2. The receiver unit shall be powered directly by the USB connection or by a Power-over-Ethernet connection.
3. A signal LED shall illuminate when the receiver is receiving radio signal from the transmitter.
4. The receiver shall be housed in a unit 2.8" (71mm) wide, 4.4" (112mm) high and 0.7" (45mm) deep, and shall weight 13 oz. (380g) including antenna.

## 2.10 REMOTE PLUG-IN STATIONS

- A. The Remote Plug-in Stations shall consist of the appropriate connectors required for the system in use. These stations shall be available with DMX input & remote focus unit.
- B. The following standard components shall be available for Remote Plug-in Stations:
  1. RJ45 connectors for Network connections - Twisted Pair
- C. Custom combinations and custom control connections shall be available.
- D. Station faceplates shall be .80" aluminum, finished in fine texture, scratch-resistant black powder coat. Silk screened graphics shall be white.

- E. The station panel shall mount into an industry standard back box, depending on size and quantity of connectors. A terminal block shall be supplied for contractor terminations.

## 2.11 CONTROL ENCLOSURES

- A. The control enclosure shall be the Unison ERn Series Control Enclosure as manufactured by Electronic Theatre Controls, Inc., or equal.
- B. The Unison Control Enclosure (ERn) shall be a surface mounted enclosure constructed of 18 gauge formed steel panels with a hinged, lockable full-height door containing an integral electrostatic air filter. The enclosure door shall have an opening to allow limited access to the control module face panel.
- C. Control Enclosures shall be sized to accept one or two Control Processors, including options and accessories.
- D. All enclosure components shall be properly treated and finished.
- E. Exterior surfaces shall be finished in fine textured, scratch resistant, powder based epoxy paint.
- F. Top, bottom, and side knockouts shall facilitate conduit entry.
- G. Enclosure shall also be available in a 19" rack mounted (RM) version.
- H. Enclosures shall contain an integral electrostatic air filter.
- I. Enclosures shall be convection cooled without the use of fans.
- J. Control Enclosures shall be available in 100, 120, 230 and 240 volt, single-phase configurations.
- K. Control enclosures shall be completely pre-wired by the manufacturer. The contractor shall provide input and control wiring.
- L. All control wire connections shall be terminated via factory provided connectors.
- M. External Processing enclosures shall be designed to support the wire terminations for AC (single phase), Echelon link power, 24Vdc, 2x configurable DMX512A (In or Out), RS232 Serial In/Out, Unshielded Twisted Pair (UTP) Category 5, 4x Contact Closure In, and 4x Contact Closure Out.

## 2.12 CONTROL PROCESSOR MODULES

- A. The Architectural Control Processor shall be the Unison Paradigm P-ACP Series Control Processor as manufactured by Electronic Theatre Controls, Inc., or equal.
- B. The Architectural Control Processor (ACP) assembly shall be designed for use in DRd Series Dimming Enclosures and ERn Series Control Enclosures.
- C. The processor shall utilize microprocessor based, solid state technology to provide multi-scene lighting and building control.

- D. ACP shall support functions such as station programming, macro sequencing, electronic lockout, room combine and astronomical time clock events. ACP station processor shall allow configuration of the control system via the menus. See software section for additional system details.
- E. When used in a dimming enclosure, the ACP shall allow access to dimming control menus including the status screen, dimming configuration screen, backup menu, test menu and configuration menu.
- F. One ACP shall be rated to drive 1024 channels of control, 1024 zones, 64 rooms, 512 presets, 62 button or button/fader stations and 6 Touchscreen Stations
- G. ACP module electronics shall be convection cooled.
- H. The ACP shall provide front-panel RJ45 jack, Secure Digital (SD) card slot, and Universal Serial Bus (USB) Port for configuration and data exchange.
- I. Architectural Lighting System configuration and program information shall be stored in flash memory, which does not require battery backup.
- J. The ACP shall be contained in a plug-in assembly and require no discrete wiring connections; all wiring shall be terminated into Dimming or Control Enclosure.
- K. The ACP shall support the following communications:
  - 1. Echelon LinkPower
  - 2. 10/100BaseTX, auto MDI/MDIX, 802.3af compliant Ethernet networking with TCP/IP, ESTA BSR E1.17 Advanced Control Networks (ACN) and ESTA BSR E1.31 (sACN) Protocols
  - 3. EIA-232 serial protocol
  - 4. ESTA DMX512A, configurable as input or output ports
  - 5. Dry contact closure inputs
  - 6. Dry contact closure outputs, rated at 1A@30VDC

## 2.13 STATIONS

- A. The Lighting Control Stations shall be the Unison Heritage UH Series Control Stations as manufactured by Electronic Theatre Controls, Inc., or equal.
- B. Mechanical
- C. Unison Heritage Button and Button/Fader Stations shall operate using up to sixteen programmable faders and twelve programmable buttons.
- D. All button/fader stations shall be available with white, cream, ivory, gray or black faceplates, fader knobs, and buttons.
  - 1. Manufacturer's standard colors shall conform to the RAL CLASSIC Standard.
- E. Stations shall have indicators lights at each button or fader.
  - 1. Indicators shall be comprised of red, green and blue LED's

- 2. Indicator color and state (steady On, Blink, Off) shall be configured in software, and shall operate relative to the button or fader it is associated with.
- F. All faceplates shall be designed for flush or surface mounting.
- G. Station faceplates shall be constructed of ABS plastic and shall use no visible means of attachment.
- H. Station faceplates shall be indelibly marked for each button or fader function.
- I. The manufacturer shall supply back boxes for flush mounted half gang stations and for all surface mounted stations.
- J. Functional
- K. The Unison Paradigm Control System shall be designed to allow control of lighting and associated systems via Button, Button/Fader, and Interface or Astronomical time clock controls. System shall allow the programming of presets, sequences, macros and time clock events.
- L. Station Button, Button/Fader, and Interface) control components shall be designed to operate standard default or custom system functions. Components shall operate default functions unless re-assigned via LightDesigner, the Windows-based configuration program.
- M. Stations (Button and Button/Fader) shall allow programming of station and component electronic lockout levels via LightDesigner.
- N. Electrical
- O. Unison control station wiring shall be an Echelon® Link power network.
  - 1. Link power shall utilize low-voltage Class II unshielded twisted pair, type Belden 8471 or equivalent, and one #14 ESD drain wire (when not installed in grounded metal conduit).
  - 2. Touchscreen and Interface stations shall also require (2) #16 AWG stranded wires for 24Vdc operating power. 24Vdc wiring shall be topology free.
  - 3. Network wiring may be bus, loop, home run, star or any combination of these.
  - 4. Network insulation displacement connectors shall be provided with all stations.

2.14 MATERIALS

ITEM	QTY.	DESCRIPTION
1.	1	SR48 Dimmer Rack with locking door
2.	48	Dimmer and Relay Modules as specified on drawings
3.	1	CEM+ 96 Electronics Module
4.	1	Rack Buss Kit with Amp-Traps
5.	1	Unison External Processing Rack in 19" equipment rack
6.	1	ACP – Paradigm Architectural Control Processor and Station Control Module
7.	1	LINKSYS/SRW224P 24-port 10/100 + 2-Port Gigabit Switch with POE and WebView
8.	1	24 Port Ethernet Patch Panel
9.	1	UICI
10.	1	UPS Power ware

- |     |   |   |
|-----|---|---|
| 11. | 2 | Unison Paradigm Fader Stations  |
| 12. | 3 | Unison Heritage 1 button Entry Stations   |
| 13. | 1 | Ion 1000 channel Control Console with 2 - 17" flat panel monitor and dust cover |
| 14. | 1 | Radio Remote Focus Unit with 50' Control Cable                                  |
| 15. | 2 | 25' NET Control Cable   |
| 16. | 8 | ECPB-NET Plug-in stations   |
| 17. | 2 | Portable 2 Port Nodes   |

2.15 DISTRIBUTION (provided by SSRC)

A. Connector Strip – BAL Series:

1. This assembly shall consist of an extruded aluminum wireway, 3.375" x 4.75' in cross section, and in the lengths specified containing terminal strips for feed conduit and wire extending to receptacles (flush mount or pigtail), as specified.
2. Connector strip housing shall be fabricated of .125" extruded aluminum alloy #6063-T5, formed into a raceway with internal corner gussets for strength and rigidity. Cover sections shall be interlocking and formed of the same aluminum alloy. Housing shall be inherently rustproof.
3. Connector strip shall have an electrostatic paint finish in black, with outlets identified by 2" high die-cut circuit identification numbers on the vertical surface of the strip.
4. The strip shall contain 125 degrees C XLP wiring of the proper sizes and quantities to connect the individual outlets to the terminal blocks in circuits of capacity as specified.
5. The terminal blocks shall be molded barrier type with screw lugs suitable for connecting multi-conductor feed cable or incoming wire. These shall be located in an extended terminal box of appropriate length if the strip contains more than thirty 20 AMP circuits.
6. Units available with 20, 30, 50, 60 and 100 Amp, 2-pole, 3-wire devices in either flush mount or pigtail.
7. Strips shall be supplied with .125" thick by 1.5" steel C-channel mounting brackets. Brackets shall be suitable for single or double pipe battens, as specified, and shall extend above and below the strip. Brackets shall be 60" on centers. U-bolts shall be supplied to grip up to 2" O.D. standard steel pipe.
8. The entire assembly shall be listed and labeled by Underwriters Laboratories.

B. Surface Mount Outlet Box – RM Series:

1. This assembly shall consist of an extruded aluminum enclosure, 3.375" x 4.75' in cross section, containing terminal strips for feed conduit and wire extending to receptacles (flush mount or pigtail), as specified.
2. Housing shall be fabricated of .125" extruded aluminum alloy #6063-T5. Cover sections shall be interlocking, and formed of the same aluminum alloy. Housing shall be inherently rustproof.
3. The box shall be completely prewired at the factory, with ground lugs installed.
4. The entire assembly shall be listed and labeled by Underwriters Laboratories.

2.16 Provide the following:

4 – BAL-54-12-L520PT – Electrics to include GIJB, appropriate SO cable, appropriate kellums and cable cradles

10 – PM-3-L520PT – FOH

2.17 ELLIPSOIDAL SPOTLIGHTS

A. General:

1. The instrument shall be a Source Four ellipsoidal spotlight as manufactured by Electronic Theatre Controls, Inc.

B. Physical:

1. The unit shall be constructed of rugged, die cast aluminum, free of burrs and pits, finished in black, high temperature epoxy paint. Tools shall not be required for either lamp alignment or cleaning the reflector or lens
2. The following shall be provided:
  - a. Insulated rear handle
  - b. Interchangeable lens tubes for different field angles with Teflon guides for smooth tube movement
  - c. Rugged 3/16" x 1-1/4" steel yoke with two mounting positions allowing 300°+ rotation of the fixture within the yoke
  - d. Positive locking, hand operated yoke clutch
  - e. Slot with sliding cover for motorized pattern devices or optional iris

C. Optical:

1. 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.
2. The unit shall provide, but not be limited to:
  - a. Molded borosilicate reflector with multiple dichroic layers
  - b. 95% of visible light shall be reflected while 90% of infrared light as heat shall be transmitted through the reflector
  - c. Low gate and beam temperature
  - d. Sharp imaging through a three plane shutter design
  - e. Projector-quality, high contrast aspheric lens, with an anti-reflective coating to increase transmission

D. Performance:

1. The unit shall be precision engineered to use an HPL lamp to deliver an even, intense field with cosine distribution.
2. The unit shall provide, but not be limited to:
  - a. 5, 10, 19, 26, 36, and 50 degree field angles
  - b. Projector-quality pattern imaging
  - c. Sharp shutter cuts without halation
  - d. Shutter warping and burnout in normal use shall be unacceptable
  - e. Adjustable hard and soft beam edges
3. The unit shall be capable of utilizing ETC Dimmer Doubling technology
4. The unit shall be UL and cUL listed and so labeled.

E. Lamp:

1. The high efficiency lamp shall be an HPL lamp, which shall consist of 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.

2.18 PAR SPOTLIGHT (with Enhanced Aluminum Reflector)

A. General:

1. The instrument shall be a Source Four Par spotlight as manufactured by Electronic Theatre Controls, Inc.

B. Lamp:

1. The instrument shall utilize an HPL lamp, which shall consist of a compact tungsten filament contained in a krypton-filled quartz envelope.
2. The lamp shall mount axially within the reflector and shall be prefocused within the reflector.
3. The lamp base shall have an integral die cast aluminum heat sink that reduces seal temperature and ensures proper lamp alignment.
4. The lamp socket shall be ATP 220 nickel gold plated.
5. All versions of the instrument shall use only one lamp type, the HPL lamp. Fixtures that require the purchasing of multiple lamp types to achieve different field angles shall not be acceptable.

C. Physical:

1. The spotlights are constructed of rugged, die cast aluminum, free of burrs and pits, finished in black, high temperature epoxy paint. Tools shall not be required for cleaning the reflector or lens

D. Lenses:

1. It shall be possible to change field type of the spotlight through interchangeable lenses. No tools shall be necessary for lens changing. 360° Beam rotation shall be possible while the unit is active. No tools shall be necessary for lens rotation. Fixtures which require user to touch the lamp or lamp socket to orientate the beam shall not be acceptable.
  - a. Interchangeable lens sets shall consist of very narrow spot, narrow spot, medium flood, and wide flood. Lenses shall be heat resistant, borosilicate glass.
  - b. Beam orientation of MFL and WFL lenses shall be possible through rotation of lenses in a rotatable collar housed in the front of the unit. Collar shall be a high temperature heat resistant rotating collar with finger holds for precise movement.

E. Optical:

1. The optical train shall combine a compact filament lamp with modified parabolic and multifaceted reflector. Reflector efficiency shall be a minimum of 93%. Reflector shall be cast into a heat sink assembly. Reflector finish shall be an enhanced aluminum deposition. Reflectors of pressed aluminum sheet construction shall not be acceptable.

2.19 Provide the following:

1. SOURCE FOUR FIXTURES

7 426C	Source Four 26° Ellipsoidal(s) with C clamp - color frame – GTL conn.
7 450C	Source Four 50° Ellipsoidal(s) with C clamp - color frame – GTL conn.
7 436C	Source Four 36° Ellipsoidal(s) with C clamp - color frame – GTL conn.
31 PAR-EA-C	Source Four PAR EA with C clamp - color frame - 4 lenses – GTL conn.
8 FARCYC-3	Altman 3 Circuit Far Cyc with lamp C clamp - color frame - GTL conn.
1 FOLLOWSPOT	Lycian SUPER CLUBSPOT #1206 with 1000W FLE lamp, stand and GTL

Provide safety cable for each fixture

PART 3 - EXECUTION

3.01 INSTALLATION

- A. It shall be the responsibility of the Electrical Contractor to receive and store the necessary materials and equipment for installation of the dimmer system. It is the intent of these specifications and plans to include everything required for proper and complete installation and operation of the dimming system, even though every item may not be specifically mentioned. The contractor shall deliver on a timely basis to other trades any equipment that must be installed during construction.
- B. The electrical contractor and system integrator shall be responsible for field measurements and coordinating physical size of all equipment with the architectural requirements of the spaces into which they are to be installed.
- C. The electrical contractor shall install all lighting control and dimming equipment in accordance with manufacturer's approved shop drawings.
- D. All branch load circuits shall be live tested before connecting the loads to the dimmer system load terminals.

3.02 MANUFACTURER'S SERVICES

- A. Upon completion of the installation, including testing of load circuits, the contractor shall notify the dimming system manufacturer that the system is available for formal checkout.
- B. Notification shall be provided in writing, two weeks prior to the time factory-trained personnel are needed on the job site.



- C. No power is to be applied to the dimming system unless specifically authorized by written instructions from the manufacturer.
- D. The purchaser shall be liable for any return visits by the factory engineer as a result of incomplete or incorrect wiring.
- E. Upon completion of the formal check-out, the factory engineer shall demonstrate operation and maintenance of the system to the owner's representatives. Training shall not exceed four working hours. Additional training shall be available upon request.

3.03 WARRANTY

- A. Manufacturer shall warrant products under normal use and service to be free from defects in materials and workmanship for a period of two years from date of delivery.
- B. Warranty shall cover repair or replacement of such parts determined defective upon inspection.
- C. Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse or misuse. Warranty does not cover any accessories or parts not supplied by the manufacturer.
- D. Warranty shall not cover any labor expended or materials used to repair any equipment without manufacturer's prior written authorization.

END OF SECTION 16555



PART 1 - GENERAL

1.1 GENERAL

- A. Applicable provisions of applicable sections of Division 16, "General Conditions," "Supplementary General Conditions," "General Requirements," and Division One, govern work under this Section.
- B. The work described herein and on the drawings consists of all labor, materials, equipment, and services necessary and required to provide and test an automatic fire detection and alarm system. Any material not specifically mentioned in this specification or not shown on the drawings but required for proper performance and operation shall be provided.
- C. The drawings and specifications herein comply to the best of the engineer's knowledge with all applicable codes at the time of design. However, it is this contractor's responsibility to coordinate/verify (prior to bid) the requirements of the authority having jurisdiction over this project and bring any discrepancies to the engineer's attention at least seven (7) days prior to bid. No changes in contract cost will be acceptable, after the bid, for work and/or equipment required to comply with the authority having jurisdiction.
- D. The Contractor is advised that circuit routing for this system is not necessarily shown on the project drawings. The contractor shall provide and install all raceways, wiring and cabling required for a complete and fully functional system as intended by these specifications. All wiring and/or cabling shall be in conduit. Contractor shall provide and install a properly sized, flush mounted outlet box for every device. Contractor shall size and route raceways to accommodate the proper installation of the system cabling. T-Tapped cabling shall not be acceptable. In locations where raceway and/or conduit is not accessible after completion of the project, conduit shall be routed from device to device or fire rated access panels shall be installed to provide access to junction and pull boxes. Routing of raceway from device to device shall only be acceptable where the wiring scheme of the system, as recommended by the manufacturer, requires cable to pass from device to device. Contractor shall properly terminate each device according to the manufacturer's recommendations. Provide and install firestopping where penetrations are made through rated walls and floors.
- E. This Specification describes a fully addressable fire alarm system with voice evacuation announcement capabilities to be connected to the existing campus system.
  - 1. Refer to Drawings for specific connection and operation requirements between new and existing systems.
  - 2. Contractor shall provide necessary hardware and software programming for existing system as necessary to accomplish operation as set forth in contract documents.
- F. The Contractor shall provide and install the Fire Alarm system (including all equipment, wiring, etc.) in accordance with the Manufacturer's recommendations.
  - 1. Installation of devices shall be in accordance with the Manufacturer's requirements as well as the requirements of the Contract Documents. Recommendations by the Manufacturer for the proper installation of the Fire Alarm system and its equipment shall not preclude the requirement for the Contractor to comply with the requirements of the Contract Documents.

2. Termination of Fire Alarm circuits shall be in accordance with the Manufacturer's recommendations, applicable requirements of the National Electric Code (NFPA 70), ADA, other applicable Codes and the Contract Documents.
3. The Fire Alarm Installer shall be responsible for ensuring that prior to bidding the project the Electrical Contractor understands the raceway requirements for the project. Claims by the Contractor after award of the project in regard to additional raceway required either by the Fire Alarm System Manufacturer's recommendations for proper installation of the system and its associated equipment, or for compliance with the requirements of the Contract Documents, shall not be allowed.
4. The Contractor shall note that the drawings show Fire Alarm Remote Panels (FARP) in various locations. FARP's are intended to be equipment (remote control panels, power supplies, addressable modules, power, grounding, and any other equipment or materials) necessary for a remote extension of the Fire Alarm System. FARP's shall be connected to the campus FACP via a Signal Line Circuit (SLC) and other circuits specifically recommended by the Fire Alarm manufacturer and required to meet the intent of the project documents. An individual FARP shall provide the necessary circuitry (Notification Appliance Circuits (NAC), Initiating Device Circuits (IDC), DC power circuits required by various devices, etc.) to the Fire Alarm devices within its coverage area. The FARP shall provide interconnection services between the device circuits in its area of coverage and the FACP just as if those device circuits were directly connected to the FACP.

## 1.2 DESCRIPTION

- A. The Contractor shall furnish and install a complete Addressable Analog Fire Detection System. The system shall include but not be limited to:
  1. Main Fire Alarm Control Panel (FACP) including all required power supplies
  2. Fire Alarm Annunciator Panel (FAAP)
  3. Manual Pull Stations
  4. Smoke Detectors
  5. Duct Detectors
  6. Heat Detectors
  7. Combination Audible/Visual devices (indoor and outdoor weatherproof as indicated on the drawings)
  8. Visual devices (indoor and outdoor weatherproof as indicated on the drawings)
  9. Two (2) remote fire alarm control panels (annunciator)
  10. Remote power supplies (Remote power supplies shall be in a UL Listed assembly and be provided by the same manufacturer as the Fire Alarm Control Panel (FACP)).
  11. Modem for remote service capabilities.
  12. "Areas of Rescue Assistance" Equipment (Areas of Rescue Assistance Equipment shall be provided and installed by the Fire Alarm System Installer).
  13. Surge Suppression
  14. Programming.
  15. Grounding
  16. Firestopping
  17. Wire and cable labeling.
  18. Electrical power required to comply with all functions and operations called for in this section of the specifications. Contractor shall provide and install all 120 VAC circuits as required.
  19. Conduit, wire, wire fittings, terminal cabinets with plywood and terminal strips, and all accessories required to provide a complete operating system.

- B. The contractor shall furnish and install all equipment (raceways, wire/cable, circuit breakers, modules, relays, etc.) necessary, and as required by applicable code, to accomplish incidental functions of the fire alarm system including but not limited to the following:
  - 1. Elevator recall, control, and/or shutdown.
  - 2. Monitoring of Sprinkler System and/or Fire Protection System Flow and Tamper switches.
  - 3. Monitoring of Sprinkler System and/or Fire Protection System Valve Supervisory switches.
  - 4. Monitoring of Post Indicator Valve (PIV) switches.
  - 5. HVAC system control and/or shutdown.
  - 6. Ventilation system (supply fans, exhaust fans, fan terminal boxes, etc.) control and/or shutdown.
  - 7. Smoke Control system control and/or shutdown.
  - 8. Fire suppression and or extinguishing systems.
  - 9. Monitoring of kitchen hood fire suppression systems
  - 10. Control of fire and/or smoke doors, dampers, shutters, etc.
  - 11. Control of door hold open devices.
  - 12. Connection to telephone tie lines, UL Listed dialer, etc. required for monitoring of the fire alarm system.
- C. The system shall operate as a non-coded, continuous ringing system which will sound all audible devices and activate all visual devices until it is manually silenced.
- D. The system shall be wired as a Class A system for all circuits.
- E. The system is to be a complete analog addressable system.
- F. All portions of fire alarm system shall be installed in conduit. Conduit and boxes to be installed by electrical contractor.
- G. The fire alarm system shall not share a raceway, junction box, enclosure, manhole or device with any other system.
- H. Contractor to advise owner of requirements for monitoring the fire alarm system by owner's monitoring company and provide all electrical required for remote monitoring including tie to security cabinet.
- I. Provide and install wiring, equipment, etc. for connection to devices furnished under other divisions of the work.
- J. Although they may not be indicated on the Fire Alarm system diagram and/or drawings, all required control and interlock wiring between the Fire Alarm system and building equipment shall be provided hereunder. Controls are required to/for/from:
  - 1. Fire/smoke air and duct detectors
  - 2. Supply/Return fans, Exhaust fans, and/or Fan Terminal Boxes (FTB)
  - 3. Automatic fire extinguishing systems
  - 4. Sprinkler system components
  - 5. Sound and Intercom bypass/override mechanisms.
- K. Provide wiring for Post Indicator Valve Alarms, in each instance in which these are provided under work of Other Trades, connected to Fire Alarm System.

- L. Provide and install all relays (electric-electric, electric-pneumatic, and/or pneumatic-electric) as required for a complete and operational fire alarm system, complying with all applicable codes and all requirements, and coordinated with all divisions of these specifications.
- M. Provide terminal cabinets sized to house terminal strips and surge suppression equipment.
- N. Surge Suppression:
  - 1. The contractor shall have equipment installed on the AC voltage supply and other lines taking care to arrest damaging electrical transient and spikes which can cause damage to the microprocessor components of the system. Central office telephone lines shall have equipment installed to arrest high voltages from electrical and/or lightning from entering the system and causing damage.
  - 2. Provide and install all materials, labor and auxiliaries required to furnish and install complete surge suppression for the protection of building fire alarm system from the effects of induced transient voltage surge and lightning discharge as indicated on drawings or specified in this section.
  - 3. Provide surge suppression equipment at the following locations:
    - a) On each conductor pair and cable sheath entering or leaving a building.
    - b) On each conductor associated with fire protection (sprinkler) system fire alarm connections.
    - c) On any and all telephone lines.
    - d) In other locations where equipment sensitivity to surges and transients requires additional protection beyond that inherent to the design of the equipment. Where equipment being protected has internal surge suppression equipment, the surge protection equipment herein specified is required to be installed in addition to internal equipment protection.

### 1.3 STANDARDS, CODES, REFERENCES, AND REGULATORY REQUIREMENTS

- A. Reference Section 16014.
- B. The equipment and installation shall comply with the current or applicable provisions of the following standards:
  - 1. ANSI S3.41 American National Standard Audible Emergency Evacuation Signal
  - 2. National Fire Protection Association Standards:
    - a) NFPA 70 National Electric Code (including but not limited to Article 760, Fire Alarm Systems, Article 770 and Article 800)
    - b) NFPA 72 National Fire Alarm Code
    - c) NFPA 101 Code For Safety to Life from Fire in Buildings and Structures
    - d) NFPA 90A Installation of Air Conditioning and Ventilating Systems
  - 3. Underwriters Laboratories Inc. The system and all components shall be listed by Underwriters Laboratories Inc. for use in fire protective signaling system under the following standards as applicable:
    - a) UL 864 (Category UOJZ) APOU Control Units for Fire Protective Signaling Systems. All Control Equipment shall be listed under UL category UOJZ.

- b) UL 268 Smoke Detectors for Fire Protective Signaling Systems
  - c) UL 268A Smoke Detectors for Duct Applications
  - d) UL 521 Heat Detectors for Fire Protective Signaling Systems
  - e) UL 228 Door Holders for Fire Protective Signaling Systems
  - f) UL 464 Audible Signaling Appliances
  - g) UL 1638 Visual Signaling Appliances
  - h) UL 1481 Power Supplies for Fire Protective Signaling Systems
  - i) UL 1480 Speakers
  - j) UL 1424 Cables
  - k) UL 1971 Signaling Devices for the Hearing Impaired
  - l) U.L. 1449-1996 (including revisions) - Standard for Safety, Transient Voltage Surge Suppressors.
  - m) U.L. 497, U.L. 497A, U.L. 497B.
4. All fire alarm equipment, including accessories to the system and including all wires and cable unless otherwise noted, shall be listed by the Underwriters' Laboratories product directory called Fire Protection Equipment and/or the Electrical Construction Materials List.
  5. Each item of the fire alarm system shall be listed and classified by UL and FM as suitable for purpose specified and indicated.
  6. The system controls shall be UL listed for Power Limited Applications per NEC 760. All circuits must be marked in accordance with NEC article 760.
  7. All equipment supplied as part of the Fire Alarm System shall be provided by a single manufacturer and shall comprise a complete U.L. Listed Fire Alarm System.
  8. IEEE: The fire alarm system includes solid state electronic components. Therefore, the equipment manufacturer shall provide certification that all such equipment is internally protected from, or can withstand, power line surge voltages and currents as specified in Table 1, Location Category A High Exposure of ANSI/IEEE Standard C62.41-1980 (formerly IEEE Standard 587).
- C. The equipment and installation shall comply with the current or applicable provisions of the following codes and laws:
1. Americans with Disabilities Act (ADA): The fire alarm system shall comply with ADA, Public Law 101-336, 1990. The system shall comply with ADA Accessibility Guidelines (ADAAG).
  2. Federal Register - Rules and Regulations - Non-discrimination on the basis of Disability by Public Accommodations and in Commercial Facilities.
  3. ASME/ANSI A17.1 - 1997 Elevator Code. (For Standard Building Code Projects)
  4. ASME/ANSI A17.1 - 1997 Elevator Code. (For SREF Projects)
  5. Local and State Building Codes.
    - a) Standard Building Code: Latest adopted edition.
    - b) Florida Administrative Code. All applicable chapters including but not limited to:
      1. Chapter 6A Rules, including but not limited to:
        - (a) Ch 6A-3 Fire Prevention - General Provisions.
        - (b) Ch 6A-46 Fire Protection System Contractors and Systems.
        - (c) Ch 6A-47 Uniform Fire Safety Standards for Elevators.
        - (d) Ch 6A-48 Fire Safety Standards for the Fire Alarm Systems.
      2. Florida Administrative Code 6A-2/SREF (Schools)

- c) Florida Department of Insurance:
  - 1. Insurance Code: The fire alarm system and installation thereof shall comply with the State of Florida Department of Insurance rules. The requirements of the Florida State Department of Insurance shall be as promulgated by the Division of State Fire Marshal.
  - 2. Fire Alarm Rules: The fire alarm system and installation thereof shall comply with the Fire Safety Rules promulgated by the Florida State Fire Marshal.
- d) Department of Community Affairs Florida Board of Building Codes and Standards - Florida Accessibility Code For Building Construction, January 1994 Edition.
- e) Authority Having Jurisdiction:
  - 1. General: The system shall comply with all applicable Codes, Ordinances and Standards as interpreted and enforced by the local authority having jurisdiction.
  - 2. State of Florida: Division of State Fire Marshal.

D. Surge Suppression:

- 1. Equipment Certification: When available by any one manufacturer, all surge suppression equipment shall be listed by Underwriters' Laboratories, shall bear the U.L. seal and be marked in accordance with referenced standard. Such surge suppression equipment shall be U.L. listed and labeled for intended use.
- 2. Comply with all standards and guides as listed under "References" above.

#### 1.4 RELATED SECTIONS

- A. All applicable sections of Division 0, Division 1, and Division 16.
- B. Applicable sections of these specifications with regard to, but not limited to:
  - 1. Doors
  - 2. Exhaust hoods
  - 3. Elevators
  - 4. Standpipe and fire hose systems
  - 5. Sprinkler systems
  - 6. Ductwork accessories: smoke dampers (if applicable).
- C. Section 16797 - Intrusion Detection System

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum ten (10) years experience and with service facilities within 50 miles of Project.
- B. Installer:
  - 1. Company specializing in installing the products specified in this section with minimum ten (10) years experience.



2. The Installer shall be currently licensed by the Electrical Contractors' Licensing Board as a Certified Alarm System Contractor I (EF).
  3. The installing Contractor shall be a direct sales division of, or the authorized and designated distributor for, a fire alarm system manufacturer.
  4. Installing Contractor shall maintain a local staff of specialists, including a Fire Alarm Planning Superintendent, for planning, installation, and service.
  5. The installing Contractor shall maintain an office within fifty (50) miles of the project with capability to provide emergency service 7-days-a-week, 24 hour days. The installing Contractor shall have been actively engaged in the business of selling, installing and servicing fire alarm systems for at least ten (10) consecutive years going back from date of bid.
- C. Surge Suppression:
1. All surge suppression devices shall be manufactured by a company normally engaged in the design, development, and manufacture of such devices for electronics/communications systems equipment.
  2. The surge suppressor manufacturer shall offer technical assistance through support by a factory representative and local stocking distributor.
  3. Verify proper clearances, space, etc. is available for surge suppressor.
- D. Coordination/Project Conditions:
1. Verify proper grounding is in place.
  2. In installations where the electrical contractor does not provide a counterpoise system in conjunction with the underground raceway system, the fire alarm contractor shall provide a coupling conductor within the fire alarm underground raceway system to run along side fire alarm conductors. Coupling conductors shall be sized according to applicable codes and standards.
- E. To establish the type and operating characteristics of the fire alarm system, the equipment specified herein is used as a guide in determining the functions of the fire alarm system. Other equipment will be considered for approval provided the following is submitted in writing by the system installer to the engineer (See Section 16010 on Substitutions):
1. Contractor qualifications (as listed above).
  2. Complete lists, descriptions and drawings of materials to be used.
  3. A complete drawing showing conduit, conduit sizes, backboxes, number of wires and wire sizes.
  4. A complete riser diagram of Fire Alarm System.
- F. Acceptable Manufacturers:
1. Basis of Design:
    - a) Notifier AFC-600
  2. Acceptable Substitution:
    - a) FCI
    - b) EST
    - c) Gamewell Identiflex 630

## 1.6 SUBMITTALS

- A. Submit in accordance with Sections 16010 and 16012.
- B. In addition to requirements of 16010 and 16012, the contractor shall submit:
  - 1. Narrative of operation of System as provided. (Submittal will not be reviewed by the A/E without this narrative.)
  - 2. Manufacturer's data on all products, including but not limited to:
    - a) Catalog cut sheets.
    - b) Roughing-in diagrams.
    - c) Installation instructions. Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.
    - d) Operation and maintenance manuals.
    - e) Typical wiring diagrams and risers.
    - f) The contractor shall submit test reports, manufacturers' specifications and any other information necessary to determine compliance with material and equipment specifications described herein.
  - 3. Submit floor plans to locate all devices. Wiring diagrams shall include wire and raceway sizes, fire alarm control panels, riser wiring and associated raceway sizes, wiring details, connections and terminal identification. All devices shall be identified by the same applied identification symbol as shown on the contract documents.
  - 4. Submit all load calculations and cable/wire sizing for each branch of the individual fire alarm field circuits. Wire sizing calculations to prove maximum three percent (3%) voltage drop at all AC voltages and maximum eight percent (8%) voltage drop at all DC voltages.
  - 5. Battery sizing calculations.
  - 6. Submit a detailed step by step testing procedure for a component by component system functional checkout and test.
  - 7. Point to point wiring diagrams and block diagrams of system to be installed. Point to point wiring diagrams may be submitted at time of operation and maintenance manuals in lieu of in submittal brochure. Block diagrams shall be required with SUBMITTALS.
  - 8. Riser diagrams and floor plans showing conduit runs and number of wires. All devices shall be identified by the same applied identification symbol as shown on the drawings.
  - 9. Surge Suppression:
    - a) Surge protective data for 120 volt power source, power circuit, outside signaling circuit, and exterior incoming circuits from other buildings (if any), and outgoing circuits to other buildings (if any).
    - b) Submit Product Data for each type of suppressor:
      - 1. Dimensions.
      - 2. Means of mounting.
      - 3. Compliance with U.L. Standards referenced.
      - 4. Compliance with IEEE Standards referenced.
      - 5. Design type (Hybrid, MOV).
      - 6. Size of wire leads.
      - 7. Warrantee.
      - 8. Performance data showing compliance with performance as specified herein.

9. Complete schematic data on each suppressor type indicating component values, part number, conductor sizes, etc.
  10. Manufacturer's certified test data on each suppressor type.
  11. Test data from an independent test laboratory.
- 
10. Name, qualifications, etc. of company providing and installing system.
  11. Qualifications of installer. Submit proof installer meets specified requirements.
  12. Proof of U.L. Listing. Indicate the U.L. listing, the U.L. classification, and NEC insulation type used for each type of wire to be used in installation of fire alarm and communications system.
  13. Manufacturer's drawings showing all dimensions (height, width, and depth) for all cabinets used to house system components. Provide catalog pages, mounting details and specification sheets for all fire alarm system components and rough-in boxes.
  14. Submit Florida Registered Firm certificate number.
  15. Submit Florida Fire Alarm Contractor's license number.
  16. Submit Fire Alarm Technician(s) Manufacturer's certification.
  17. Detailed drawing of the Fire Alarm Control Panels layout indicating the exact arrangement of all zones, including expansion zones.
  18. Coordination Drawing: Coordination CAD drawing of building Fire Alarm Panel and equipment layout as shown on drawings, with all panel and rack footprints, using actual manufacturer's dimensions, indicating proper clearances.
  19. All drawings required herein shall be on AutoCAD Release 12 or higher.
  20. Where required by Authority Having Jurisdiction submit signed and sealed documents as required by Authority Having Jurisdiction. Where Authority Having Jurisdiction requires shop drawings to be signed and sealed by a Registered Engineer, Contractor is required to submit same and include in his bid all costs associated with having a Registered Engineer other than the design Engineer of Record perform signing and sealing.

#### 1.7 PROJECT RECORD DOCUMENTS

- A. Submit in accordance with Sections 16010 and 16098.
- B. In addition to the requirements of 16010 and 16098, the contractor shall submit:
  1. Updated and revised contract documents to record actual locations (as-installed) of all equipment, devices, initiating devices, signaling appliances, and end-of-line devices.
  2. Record actual type, size, and routing of cables installed.
  3. Record all cable identifications.
  4. Drawings required herein are in addition to those required under "OPERATION AND MAINTENANCE DATA".
  5. All drawings required herein to be on AutoCAD Release 12 or higher.

#### 1.8 OPERATION AND MAINTENANCE DATA

- A. Submit in accordance with Sections 01770, 16010 and 16098.
- B. In addition to the requirements of Sections 01770, 16010 and 16098, the contractor's O & M Manuals shall include:

1. A complete as-installed equipment list, listed by room, with manufacturers' names, model numbers, serial numbers, and quantities of each item.
  2. A complete and correct system schematic, showing detailed connections for all parts of the system, including wire numbers, terminal block numbers and layouts, and other designations and codings (point-to-point wiring diagrams). System performance measurements shall be documented as noted elsewhere in this specification.
  3. Riser diagrams showing as-installed conduit with pull boxes, outlet boxes, physical cable layouts, part numbers of cable types used, and number of circuits in each conduit.
  4. Repair parts list for each and every major equipment item furnished.
  5. Service manuals for each and every major equipment item furnished.
  6. Manufacturer's warranties and operating instructions for each and every equipment item furnished. Include a copy of the certificate of warranty, signed by both parties.
  7. Technical Systems Operations Manual, custom-written by the Contractor, for the purpose of instructing the Owner's operating personnel in the detailed step-by-step operation of the system and preventive maintenance procedures. This manual shall include descriptions of the system components and their relationship to system function. This manual shall be bound separately and labeled appropriately.
  8. Surge Suppression:
    - a) O & M data to include:
      1. All accepted shop drawings, product data, and/or cutsheets.
      2. Installation, connection, and maintenance information on each type of surge suppression.
      3. Procedure and/or time table for recommended periodic inspection of devices to determine continued usefulness.
  9. Complete equipment layouts showing locations of all mounted equipment items.
  10. CAD floor plans, prepared at a scale of not less than 1/16" = 1'-0" showing detectors, audio-visual locations and orientation, and all other related device locations.
  11. The Contractor/Installer shall videotape the entire training session(s), and submit the video tape with the Operational Manual.
- C. Drawings required herein are in addition to those required under "PROJECT RECORD DOCUMENTS".
1. All drawings required herein shall be on AutoCAD Release 12 or higher.

## 1.9 WARRANTY

- A. The contractor shall warrant the equipment to be new and free from defects in material and workmanship, and will, within one year from date of acceptance by owner, repair or replace any equipment found to be defective.
1. No charges shall be made by the installer for any labor, equipment, or transportation during this period to maintain functions.
  2. Respond to trouble call within twenty-four (24) hours after receipt of such a call.
- B. The contractor shall guarantee all wiring and raceways to be free from inherent mechanical or electrical defects for one (1) year from date of final acceptance of the system.

C. Surge Suppression:

1. All surge suppression devices shall be warranted to be free from defects in materials and workmanship for a period of five (5) years.
2. Any suppressor which shows evidence of failure or incorrect operation during the warranty period shall be repaired or replaced by the manufacturer and installer at no cost to the owner.
3. Equipment that is damaged by surges during warrantee period shall be replaced at no expense to Owner.

1.10 MAINTENANCE SERVICE

A. Furnish service and maintenance of fire alarm system for one (1) year from date of Substantial Completion.

1. No charge shall be made by the installer and/or contractor for any labor, equipment, or transportation during this period to maintain functions.
2. Respond to trouble call within twenty-four (24) hours after receipt of such call.

1.11 EXTRA MATERIALS

- A. Provide six (6) keys of each type.
- B. Provide three (3) of each type of automatic smoke detector without base.
- C. Provide three (3) of each type of surge suppression device.

1.12 PROGRAMMING

- A. Contractor shall provide all programming (one (1) original copy on disk or CD ROM of the programming software as provided by the manufacturer) EPROM burners, specialty hardware (excluding generic computer), all access codes and copyrighted software needed for adding, deleting and changing devices in the program, for the Owner's use.

1.13 OWNER'S INSTRUCTION

- A. Provide instruction to the Owner's designated personnel upon completion of the system installation. Instruction shall include a functional training session on fire alarm control panel operation and instruction on peripheral device operation, including what are normal indications and alarm indications of each type of new/added device. Videotape all training sessions and deliver (4) copies of tapes to Owner (for use in future training).
- B. Contractor shall include in his bid all expenses to send two (2) Osceola County School Board representatives to the "End-User Certification Factory Training Course," at the manufacturer's factory. The course shall be specifically designed to allow OCSB representatives the skills they need to successfully design, input, and modify, a database that will control the Fire Alarm System. The course shall also provide the skills to install, service and maintain the Fire Alarm System; Factory training for OCSB Representative shall be completed prior to substantial

completion of the project. Training shall provide instructions, licensed software, access codes, documentation program material, non-assignable and non-exclusive license for in-house Use of the licensed software, and any other requirement to allow OCSB the capability to add, delete or change devices in the program for the Fire Alarm/Detection system.

#### 1.14 SYSTEM OPERATION

- A. System operation shall meet the operation requirements of all codes and regulatory requirements.
- B. Upon activation of the Fire Alarm System by a manual station, smoke detector, or any other new or existing automatic device the following shall take place:
  - 1. Energize all alarm signaling devices.
  - 2. Sound all audible alarms and flash visual signals throughout the campus.
  - 3. Alert local fire department or proprietary system, if required by Authority Having Jurisdiction.
  - 4. Cause alarm to be displayed on the annunciator section of the control panel.
  - 5. Cause alarm to be displayed on two (2) remote annunciators.
  - 6. Close all doors or fire shutters, held open by automatic release devices throughout the facility, or by zone.
  - 7. Shut down all air handlers, exhaust fans supplying or exhausting air, and fan terminal boxes (FTB).
  - 8. Shut all fire and/or smoke dampers in ducts associated with the air handling units and exhaust fans which are shut down.
  - 9. Transmit signals to the building elevator control panel to initiate return to the main floor or alternate floor.
  - 10. Transmit signals to the building automation system to tell system that the fire alarm system has taken control of respective mechanical system.
- C. System operation shall meet the operation requirements of all codes and regulatory requirements.
- D. System supervisory faults, such as shorts, opens, and grounds in conductors, operating power failure, or faults within supervised devices, shall place the system in the trouble mode, which causes the following system operations:
  - 1. Visual and audible trouble signal indicated by zone at the fire alarm control panel.
  - 2. Visual and audible trouble signal indicated at remote annunciator panel.
  - 3. Trouble signal transmitted to central station.
  - 4. Manual acknowledgement function at fire alarm control panel shall silence audible trouble signal; visual signal shall be displayed until initiating failure or circuit trouble is cleared.
- E. Alarm Reset: The system shall remain in the alarm mode until manually reset with a key accessible reset function. The system shall reset only if the initiating circuits are cleared.
- F. Lamp Test: manual lamp test function causes alarm indication at each lamp on the fire alarm control panel and the remote annunciator.
- G. When the fire alarm system is activated as a drill, all incidental functions shall be exercised including notification of the fire department.

- H. Where required by codes or authority having jurisdiction:
  - 1. When system is silenced by silence switch in control panel, audible alarm is to silence but visual alarm devices are to continue to operate.
- I. The fire sprinkler valve tamper switch, when closed, shall annunciate a supervision signal at the fire alarm control panel and annunciator panels, if any. This supervision signal shall not cause a general alarm.
- J. Operation of auxiliary contacts in control panel to shut all smoke dampers in ducts associated with air handling units and exhaust fans which are shut down. (These shall not be controlled from detector unit contacts.)

## PART 2 - PRODUCTS

### 2.1 GENERAL EQUIPMENT AND MATERIAL REQUIREMENTS

- A. All equipment shall be new and unused. All components and systems shall be designed for uninterrupted duty. All equipment, materials, accessories, devices, and other facilities covered by this specification or noted on the contract drawings shall be the best suited for the intended use and shall be provided by a single manufacturer.

### 2.2 RACEWAYS

- A. General:
  - 1. All raceways (conduit, wireways, pullboxes, outlet boxes, etc.) shall comply with applicable requirements of sections within Division 16 of these specifications.
  - 2. All raceways (conduit, wireways, pull boxes, outlet boxes, etc.) shall comply with all requirements of the manufacturer of the fire alarm system.
- B. Conduit: Comply with Section 16111 except as noted below:
  - 1. Pull Cords: Install pull cords in all raceway runs that are installed without cable.
  - 2. Size: Minimum size shall be 3/4" conduit.
- C. Boxes:
  - 1. All outlet boxes, junction boxes, pull boxes, etc. shall comply with applicable section of these specifications.
  - 2. Boxes shall be sized as required by the fire alarm system manufacturer and NEC for cables and/or device installed.

### 2.3 TERMINATION CABINETS

- A. Terminal cabinets are to comply with applicable sections of these specifications.

## 2.4 "SYSTEMS" AND "LOCAL" GROUND BUS

- A. Bus to comply with applicable sections of these specifications.

## 2.5 FIRE ALARM CONTROL PANEL (FACP)

### A. General:

1. The fire alarm control panel shall be of dead front construction and be modular in design. The control panel shall be capable of future expansion and shall provide active signal initiating as noted on drawings (or as herein) specified with zones as noted on drawings (or as herein specified). The control panel shall provide provisions for future expansion. The fire alarm control panel shall be semi-flush mounted (unless otherwise noted on drawings) and located as shown on the drawings.

### B. System Capability:

1. Communication with addressable devices: The system must provide communication with all initiating and control devices individually. All of these devices are to be individually annunciated at the control panel. Annunciation shall include "Alarm", "Trouble", "Open", "Short", "Ground", "Device Fail" or "Incorrect Device" conditions for each point.
2. All addressable devices are to have the capability of being disabled or enabled individually.
3. Each Signal Line Circuit (SLC) two-wire loop shall be capable of addressing a minimum of ninety-nine (99) addressable devices and ninety-eight (98) monitor or control modules.
4. Identification of Addressable Devices: Each addressable device must be uniquely identified by an address code entered on each device at time of installation. The use of jumpers to set address will not be acceptable due to the potential of vibration and poor contact.
5. Wiring Type, Distances, Survivability and Configurations: The system must allow up to 2,500 feet wire length to the furthest addressable device. Style 4 Signaling Line Circuit (as defined by NFPA-72) communications will be provided.
6. The system shall be capable of addressable devices and conventional devices within the same system.
7. All system circuits shall be inherently power limited per NEC 760.
8. The system shall be capable of communication with a minimum of fifteen (15) remote module locations.

### C. Master Controller:

1. The master controller shall be an integral part of the control panel and be microprocessor-based.
2. The master controller shall store all programming in non-volatile memory.
3. The master controller shall have an event log capable of storing a minimum of two hundred fifty-five (255) events in non-volatile memory.
4. The master controller shall include an eighty (80) character Liquid Crystal Display.
5. The master controller shall include, as a minimum, switches to accomplish Alarm/Trouble Acknowledge, Alarm Silence, Trouble Silence and System Reset.
6. The master controller shall include, as a minimum, LED's to indicate System Alarm, System Trouble, Supervisory Alarm and System Silence.
7. The master controller shall support connection of serial remote annunciators.



8. The master controller shall provide a minimum of two (2) notification appliance circuits (Class A).
  9. The master controller shall be capable of being expanded as necessary to accommodate all required modules.
- D. Notification Appliance Circuits:
1. The Notification Appliance Circuits Module shall provide fully supervised Class A indicating circuits. These circuits shall supervise and power polarity reversing loops containing up to 1.75 amperes of 24 Volt notification devices.
  2. The module shall be provided with plugable contact wiring terminal strips for ease of installation and service. The terminal strips shall be UL listed for 12 AWG wiring.
- E. Control panel shall include all equipment required to alert fire department and/or owner's monitoring service.
- F. Power Supply:
1. The power supply for the panel and all fire alarm peripheral shall be integral to the control panel. The power supply shall provide all control panel and peripheral power needs as well as 3.0 amperes of unregulated 24 VDC power for external audio-visual devices. The audio-visual power may be increased as needed by adding additional modular expansion power suppliers. All power supplies shall be designed to meet UL and NFPA requirements for power-limited operation on all external signaling lines, including initiating circuits and indicating circuits.
  2. All power supplies shall be provided by the same manufacturer as the fire alarm control panel (FACP). Power supplies provided by manufacturers other than the manufacturer of the fire alarm control panel (FACP) shall not be acceptable.
  3. Circuit breakers or other over-current protection on all power outputs.
  4. Input power shall be 120 VAC, 60 Hz. The power supply shall provide internal batteries and charger. Internal battery capacity shall be as required.
  5. The battery pack shall provide maximum normal operating and supervisory power for:
    - a) 60 hours per NFPA 72.
    - b) Provide low maintenance gel cell type batteries with sufficient ampere-hour rating to meet the above NFPA Standard and to operate all alarm signals for a duration of 5 minutes at the end of the required period of time.
- G. Wall Mount Equipment Enclosure:
1. The control panel, and all associated equipment, shall be housed in an enclosure designed for mounting directly to a wall or vertical surface. The back box and door shall be constructed of 16 gauge steel with provisions for electrical conduit connections into the sides and top. The door shall provide a key lock and shall include a glass or other transparent opening for viewing of all indicators.
  2. The enclosure(s) shall be of sufficient size to house all equipment required for this project. All equipment shall be mounted in the enclosure(s) as designed by the manufacturer. Provide enclosures in quantities as required to provide a complete, UL Listed Fire Alarm system.

## 2.6 REMOTE ANNUNCIATOR

- A. The Fire Alarm Annunciator Panel (FAAP) shall be a serial annunciator panel and must be capable of being mounted in a remote location.
- B. The annunciator shall be modular using low current circuitry. The annunciator shall be capable of operating on nominal 24 Vdc and be battery backed up.
- C. The annunciator modules shall be capable of activating local or remote LED's, relays or graphic panels.
- D. The remote annunciator at the front door shall not have full functionality due to student accessibility. See Drawings.
- E. All switches shall be a point in the system and be capable of controlling any system output or functions. All LED's and outputs shall be capable of being controlled by any change of state in the system or as a result of a time control, sequence or logic function. The LED's and switches shall be able to be clearly marked by the end user.
- F. The modular components of the annunciator shall be mounted in a recessed cabinet with hinged door and a lexan window with keylock.

## 2.7 MANUAL STATION (NON-BREAK GLASS)

- A. Manual fire alarm station shall be non-code, non break glass type providing noncoded signals and operating with a double action motion. Upon actuation, they shall not be restorable to normal except by use of a key. The key shall also allow stations to be tested nondestructively. The stations shall be constructed of Lexan or metal, with operating directions provided on the cover in highlighted, embossed lettering. The words "FIRE ALARM" shall appear on the door in embossed letters one-half inch high or larger. Mount at 48" above finished floor to top and in accordance with NFPA and handicap standards. Manual stations shall be U.L. listed. Unit shall be equipped with an addressable interface module. Stations constructed of plastic will not be acceptable.

## 2.8 PHOTOELECTRIC SMOKE DETECTOR

- A. The contractor shall furnish and install Analog addressable photoelectric smoke detectors, as called for on drawings. The combination detector head and twist-lock base shall be UL-listed compatible with a UL-listed fire alarm panel.
- B. The smoke detector shall have a flashing, status-indicating LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady and at full brilliance. The detector may be reset by actuating the control panel reset switch.
- C. The sensitivity of the detector shall be monitored without removal of the detector head. Metering test points shall be accessible on the exterior of the detector head. Field adjustment of the sensitivity shall be possible when conditions require a change.
- D. The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawings. The locking feature shall be field removable when not required.

- E. It shall be possible to perform a functional test of the detector without the need of generating smoke. The test method must simulate effects of products of combustion in the chamber to ensure testing of all detector circuits.
- F. To facilitate installation, the detector shall be nonpolarized. By using a furnished wire jumper, it shall be possible to check circuit loop continuity prior to installing the detector head.
- G. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. A gated alarm output shall be used for additional detector stability.

## 2.9 DUCT MOUNTED SMOKE DETECTOR

- A. The Duct Mounted Smoke Detector for the fire and smoke detection system shall be a high velocity rated Analog addressable series smoke detector intended for use with ventilation and conditioning ducts.
- B. The detector shall provide detection of combustion gases and smoke in air conditioning ducts in compliance with NFPA 90A. The detector shall be UL-listed specifically for the use in air handling systems.
- C. The detector shall operate at air velocities ranging from 300 feet per minute to 4000 feet per minute without requiring compensation for operation at specific air velocities. Sampling tubes of proper length shall be provided and installed to match duct width at the installed location.
- D. Whether shown on drawings or not, a remote alarm indicator/test station shall be provided for each duct mounted smoke detector to annunciate smoke detector operation remotely. Mount unit in ceiling or wall near respective remote smoke detectors (in an occupied space).

## 2.10 HEAT DETECTORS

- A. The contractor shall furnish and install Analog addressable heat detectors, as called for on drawings. The combination detector head and twist-lock base shall be UL-listed compatible with a UL-listed fire alarm panel.
- B. The heat detector shall have a flashing, status-indicating LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady and at full brilliance. The detector may be reset by actuating the control panel reset switch.
- C. Fixed temperature automatic heat detectors shall be rated at 135°F. The fixed temperature element shall use dual thermistor technology. Detectors shall have a smooth ceiling rating of 625 square feet and 2 Form 'A' contacts with rating of 3 amps at 6 to 125 volts A.C. and 1 amp at 6 to 28 volts D.C.
- D. Detectors shall be installed in accordance with appropriate articles of National Fire Protection Association and the spacing rating assigned by the Underwriters' Laboratories and located as shown on the drawings. Automatic heat detectors shall be Underwriter's Laboratories and Factory Mutual approved.
- E. Where indicated on the drawings the contractor shall provide heat detectors rated, by the manufacturer, as explosion proof. If not an integral part of the heat detector assembly, the

addressable module shall be located outside the area protected by the explosion proof heat detector (but interior to the building) in an accessible area. If the addressable module is located above a gypboard ceiling the contractor shall provide a fire rated access panel.

#### 2.11 ADDRESSABLE MODULE

- A. Analog addressable device shall be furnished as required to monitor fire alarm or supervisory initiating devices or control auxiliary functions. Each module shall contain address switches to assign a unique input point for programming or control by the system.

#### 2.12 RELAYS

- A. Relays required for control (i.e. Air Handler shutdown, Supply Fan shutdown, Exhaust Fan shutdown, Fan Terminal Box shutdown, Door Lock release, Fire Shutter release, Smoke Damper closure, Fire Damper closure, Smoke/Fire Damper closure, or any other interface required by these specifications or applicable codes) shall be U.L. Listed relays suitable for use in Fire Alarm systems.
- B. Per NFPA, relays used for control of other systems shall be located within three feet (3') of the device to be controlled.
- C. Relays shall be analog addressable devices powered and controlled from the fire alarm system. Each relay shall contain address switches to assign a unique input point for programming or control by the system.
- D. Each relay shall provide at least one set of Form "C" dry relay contacts.

#### 2.13 AUDIBLE NOTIFICATION DEVICES

- A. Audible notification devices shall be wall mounted at each location designated on the drawings and/or as specified herein.
- B. The audible notification device shall include screw terminals for in-out field wiring. The device shall surface mount to a standard 4" sq. x 2 -1/8" backbox.
- C. The audible notification devices shall be U.L. listed for fire protective service and shall provide 24 VDC inputs and sound output of not less than 75 dBA at 10 feet, or more than 120 dBA at the minimum hearing distance from the audible appliance.
  - 1. The audible notification device shall compliant with ANSI S3.41 for signal character conformance.
- D. Audible notification devices located on the exterior of a building, or in a damp or wet location, shall be a weatherproof version and rated, by the manufacturer, for use in wet locations.

## 2.14 AUDIBLE/VISUAL NOTIFICATION DEVICES

- A. Audible/visual notification devices shall be wall mounted at each location designated on the drawings and/or as specified herein.
- B. The audible/visual notification device shall include screw terminals for in-out field wiring. The device shall surface mount to a standard 4" sq. x 2 -1/8" backbox.
- C. The audible portion of the audible/visual notification devices shall be U.L. listed for fire protective service and shall provide 24 VDC inputs and sound output of not less than 75 dBA at 10 feet, or more than 120 dBA at the minimum hearing distance from the audible appliance.
  - 1. The audible portion of the audible/visual notification device shall comply with ANSI S3.41 for signal character conformance.
- D. The audible portion of audible/visual notification devices located on the exterior of a building, or in a damp or wet location, shall be a weatherproof version and rated, by the manufacturer, for use in wet locations.
- E. The visual portion of the audible/visual notification devices shall comply with the Americans with Disabilities Act which includes the following:
  - 1. The lamp shall be a xenon strobe type or equivalent.
  - 2. The color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
  - 3. The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.
  - 4. The intensity shall be a minimum of 75 candela. Field selectable devices may be utilized provided the device is set at 75 candela or higher and the setting of the device selector switch is visible when the device is installed.
  - 5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.
  - 6. Fire alarm system strobes within same room shall flash in synchronization as required by NFPA.

## 2.15 VISUAL NOTIFICATION DEVICES

- A. Visual notification devices shall be wall mounted at each location designated on the drawings and/or as specified herein. Visual notification devices shall be of the flashing type in compliance with Americans with Disabilities Act.
- B. The visual notification devices shall comply with the Americans with Disabilities Act which includes the following:
  - 1. The lamp shall be a xenon strobe type or equivalent.
  - 2. The color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
  - 3. The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.
  - 4. The intensity shall be a minimum of 75 candela. The use of visual devices rated at 15/75 or 110 candela shall not be acceptable. Field selectable devices may be utilized provided

the device is set at 75 candela or higher and the setting of the device selector switch is visible when the device is installed.

5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.
6. Fire alarm system strobes within same room shall flash in synchronization as required by NFPA.

#### 2.16 ELEVATOR WARNING LIGHT WITH FLASHER

- A. Provide complete, indicating light with flasher per F.A.C. 4A-47. Install label as required.

#### 2.17 WEATHERPROOF COVER (FOR AUDIBLE AND/OR VISUAL DEVICES)

- A. Constructed of clear polycarbonate.
- B. For flush or surface mount devices.
- C. Provide slotted version for audible/visual devices.
  1. Maximum of 5 dB loss.
  2. Provide with brass weep hole.
- D. Provide unslotted version for visual only devices.
  1. Maximum of 3 candela light intensity loss up to 110 candela light source.
  2. Provide without weep hole.
- E. Provide with weather gasket.
- F. Spacers for additional depth as required.
- G. Provide with tamper proof screws.
- H. Design criteria:
  1. Safety Technology International, Inc. #1220 (audible/visual) or #1221 (visual) series.

#### 2.18 PULL STATION SECURITY COVER

- A. Provide where pull station devices are required to be protected as indicated on the drawings.
- B. Shall be UL Listed.
- C. Constructed of clear polycarbonate.
- D. Provide with battery operated warning horn.
- E. For flush or surface mount devices.
- F. Provide with weather gasket.

- G. Spacers for additional depth as required.
- H. Provide with tamper proof screws.
- I. Design criteria:
  - 1. Safety Technology International, Inc. #1100 Series.

## 2.19 DOOR HOLDERS

- A. Electromagnetic door holder/releases shall be installed on each door as detailed on the drawings and/or as specified herein. Holder/releases shall consist of wall mounted and floor mounted electromagnets and a door mounted armature with an adjustable contact plate. Electromagnets shall have a force of attraction of 24 pounds when energized and less than 3 pounds residual power disconnected. Armature contact plates shall have a horizontal adjustment of 25 degrees. The holding force of holder/releases shall be totally electromagnetic and without the use of mechanical linkage or other moving parts, and they shall normally be energized, and a release accomplished, by interrupting the circuit. Electromagnetic holder/releases shall be controlled by either automatic or manual alarm. Operating voltage shall be 24 volt DC.

## 2.20 SURGE SUPPRESSION

- A. Non-Addressable Initiation Devices:
  - 1. Plug-in replacement modular design with associated female wiring connector.
  - 2. U.L. 497B listed and labeled.
  - 3. Multi-stage hybrid protection circuit.
  - 4. Fail short/fail safe.
  - 5. Surge Capacity: 10KA with 8 x 20  $\mu$ s waveform, 500A per line with 10 x 700  $\mu$ s waveform.
  - 6. Clamp Voltage: 150% of circuit peak operating voltage with 100 amp 10 x 700  $\mu$ s waveform.
  - 7. Maximum Continuous Operating Voltage: 125% of peak operating voltage, minimum.
  - 8. Capacitance: 1500 pf.
  - 9. Manufacturer:
    - a) EDCO #PC642C series with #PCBIB base.
- B. Addressable Initiation Devices and Data Loops:
  - 1. Plug-in replacement modular design with associated female wiring connector.
  - 2. U.L. 497B listed and labeled.
  - 3. Multi-stage hybrid protection circuit.
  - 4. Fail short/fail safe.
  - 5. Surge Capacity: 10KA with 8 x 20  $\mu$ s waveform, 500A per line with 10 x 700  $\mu$ s waveform.
  - 6. Clamp Voltage: 150% of circuit peak operating voltage with 100 amp 10 x 700  $\mu$ s waveform.
  - 7. Maximum Continuous Operating Voltage: 125% of peak operating voltage, minimum.
  - 8. Capacitance: 50 pf.

9. Manufacturer:
  - a) EDCO #PC642C-LC series with #PCBIB base.
  
- C. Horn, Strobe, Control Power (Low Voltage):
  1. Plug-in replacement modular design with associated female wiring connector.
  2. U.L. 497B listed and labeled.
  3. Multi-stage hybrid protection circuit.
  4. Fail short/fail safe.
  5. Surge Capacity: 5KA with 8 x 20  $\mu$ s waveform.
  6. Clamp Voltage: 150% of circuit peak operating voltage with 100 amp 10 x 700  $\mu$ s waveform.
  7. Maximum Continuous Operating Voltage: 125% of peak operating voltage, minimum.
  8. Series Resistance: 0.2 ohms total per pair.
  9. Manufacturer:
    - a) EDCO #P164 series (1 pair); #P264 series (2 pair), each with #SD12-PC base.
  
- D. Power Circuit (120 volt):
  1. U.L. 1449 listed.
  2. 15 amp, 120V rated.
  3. Suppressors shall be tested per IEEE, C62.41-1991 for Categories A and B.
  4. Normal mode (L-N), and common mode (L+N-G) protection.
  5. Internal fusing.
  6. Hybrid design.
  7. Indicators for normal operation and failure indication.
  8. Enclosure:
    - a) Fire retardant high impact, phenolic or plastic housing or metal enclosure.
  
  9. Clamping voltage U.L. 1449, Line to Neutral, Category B Impulse At (3KA, 8 x 20  $\mu$ s): 385V @ 120V.
  10. Maximum Surge Capacity: 20,000 amps.
  11. Maximum Continuous Operating Voltage: 115% of line voltage.
  12. Provide hardwire connection or add 15 amp receptacle device to hardwired devices to match equipment being protected and maintain U.L. listing.
  13. Provide additional 15 amp in-line fusing as required to comply with U.L. and the N.E.C. when connected to a 20 amp, 120V circuit.
  14. Manufacturers:
    - a) Leviton #51020-WM (hardwired).
    - b) EDCO #HSP-121BL2.
  
- E. Telephone Line Circuits:
  1. Must be U.L. 497 listed and labeled for primary protection.
  2. Multi-stage hybrid protection circuit.
  3. Plug-in replaceable modular design or individually mounted units.
  4. Fail short/fail safe.
  5. Surge capacity: 500 amp with 10 x 700 $\mu$ s waveform.



6. Clamp voltage: 150% of circuit peak operating voltage with 100 amp 10 x 700µs waveform.
7. Maximum continuous operating voltage: 125% of peak operating voltage, minimum.
8. Manufacturers:

a) EDCO #COHP(FS).

F. Terminations:

1. Provide terminals sized for circuits required on project.
2. Where surge suppression modules are for mounting on 'M' block assembly, provide M block assembly complete with grounding system that mates with surge suppression equipment.

G. Terminal Cabinets:

1. Provide terminal cabinets for all terminations and surge suppression equipment including 120VAC power surge suppressor as required in Section 16691. Size terminal cabinets as required to facilitate installation of terminations and surge suppression in a neat and workmanlike manner.
2. Terminal cabinet to meet specifications in Section 16160 unless specifically manufactured for use.
3. Manufacturers:

a) Interior:

1. Square "D"
2. Hoffman
3. BUD

b) Exterior:

1. Hoffman
2. BUD
3. Carlon

## 2.21 CABLE

- A. Contractor shall provide and install cable as required by the manufacturer, as specified elsewhere in these specifications, and to provide a complete, fully operational, UL Listed Fire Alarm system.
- B. Fire alarm system cables installed in interior, exterior and/or underground raceways shall comply with the applicable sections of N.E.C. Articles 760, 770 and 800.
- C. Zip and zip type cables (e.g. West Penn 970, 971, 972, 974 or similarly constructed cables from other manufacturers) shall not be acceptable.

## 2.22 WATERFLOW DETECTOR

- A. Waterflow switch to be supplied and installed by the mechanical contractor and wired in to Fire Alarm System by systems contractor. Zone as shown on zone schedule.

## 2.23 SPRINKLER SUPERVISORY SWITCHES

- A. Supervisory Switch to be supplied and installed by mechanical contractor and wired in to Fire Alarm System by systems contractor. Zone as shown on zone schedule.

## PART 3- EXECUTION

### 3.1 INSTALLATION

- A. The contractor is advised that circuit routing for this system is not necessarily shown on the project drawings. The contractor shall provide and install all raceways, wiring and cabling required for a complete and fully functional system as intended by these specifications. All wiring and/or cabling shall be in conduit. Contractor shall provide and install a properly sized, flush mounted outlet box for every device. Contractor shall size and route raceways to accommodate the proper installation of the system cabling. T-Tapped cabling shall not be acceptable. In locations where raceway and/or conduit is not accessible after completion of the project, conduit shall be routed from device to device or fire rated access panels shall be installed to provide access to junction and pull boxes. Routing of raceway from device to device shall only be acceptable where the wiring scheme of the system, as recommended by the manufacturer, requires cable to pass from device to device. Contractor shall properly terminate each device according to the manufacturer's recommendations. Provide and install firestopping where penetrations are made through rated walls and floors.
- B. Locate, install, and test fire alarm and detection systems in accordance with the equipment manufacturer's written instructions, and the latest editions of the National Electric Code, the National Electrical Contractor's Association publication "Standard of Installation" and all applicable codes and standards referenced in this specification.
- C. Provide all work required for a complete system including complete system testing and checkout. All components shall be properly mounted and wired. The installation of this system shall comply with the directions and recommendations of authorized factory representatives.
- D. Provide wiring, cabling, raceways, and electrical boxes in accordance with manufacturer's written instructions.
- E. Components shall be electrically "burned-in" by operating the component at full power for a period as recommended by the manufacturer.
- F. Installation shall be done in a neat workmanlike fashion by a firm regularly engaged in Fire Alarm Installation and Service.
- G. The installation and inspection of all fire detection and fire alarm devices and systems shall be performed by, or under the direct on-site supervision of, a licensed fire alarm technician or a fire alarm planning superintendent who shall certify the work upon completion of the activity. The certifying licensee shall be present for the final test prior to certification.

- H. As-built plans and wiring diagrams shall bear the signature and license number of the licensed fire alarm planning superintendent, the date of installation and the name, address, and certificate-of-registration number of the registered firm.
- I. All components shall be completely wired. System shall be fully operable when main power service has failed and the Emergency Standby Generator has assumed emergency system loads. This shall require that any devices which required 120 volt power shall receive supply from an emergency 120 volt source.
- J. Installation of detectors:
  - 1. All ceiling mounted detectors shall be installed in accordance with the requirements of NFPA 72.
  - 2. All concealed detectors shall be provided with a remote indicating lamp and test switch installed in an occupied space (corridor, etc.) on wall or on the ceiling grid indicating the type of detector and the zone to which it is connected. Label shall be red with white lettering.
  - 3. Duct detectors shall be installed in accordance with NFPA 90A. All brackets and hardware shall be provided as required to install detector housing in correct position. All detector housings shall be sealed as required to prevent air leakage between duct and housing. Sampling tubes of proper length shall be provided and installed to match duct width at the installed location.

### 3.2 RACEWAYS AND BOXES

- A. Provide dedicated raceway with applicable boxes for all fire alarm wiring in accordance with applicable sections of these specifications.
- B. All initiating, indicating and auxiliary control devices shall be mounted on UL listed outlet boxes.
- C. Provide supporting devices per Section 16190.
- D. Identify raceways and boxes per Section 16195.

### 3.3 WIRE/CABLE

- A. Conductor: 98% conductivity, stranded copper. Stranded conductors shall have a compression lug installed at every end. Wrapping twisted strands at terminal block screw is not acceptable. As an acceptable equivalent, stranded conductors without crimp-on lugs may be terminated into terminal strips of box-lug connectors. Solid copper is not acceptable.
- B. Insulation: A type accepted by NEC for the application. Individual conductors shall be type THHN/THWN. All cable shall be U.L. listed for fire-protective signaling application. Communication, Class 3 or Multi-Purpose cables shall not be substituted for FP cable types.
- C. Size: All conductors shall be sized as prescribed by the system manufacturer, with following minimums:
  - 1. Multiplex Signaling Line Circuit: AWG #14, shielded twisted pair cable.
  - 2. Notification Circuits, Devices: AWG #14, THHN/THWN conductors.

3. Initiating Circuits, Hard-Wired Devices: AWG #14, THHN/THWN conductors.
  4. Initiating Circuits, Addressable Devices: AWG #14, shielded twisted pair cable.
  5. Provide larger conductors where required to maintain voltage drop or signal strength within acceptable limits.
- D. The above wire sizes shall be increased to size as required to comply with authority having jurisdiction or as required for voltage drop, load, etc.
- E. Color Coded:
1. Permanent wire materials shall be used to identify all splices and terminations for each circuit at all junction boxes, outlet boxes, and terminations.
- F. U.L.:
1. General: Fire-protective signaling cable shall be U.L. listed as non-power limited or power limited as needed to match the output of the fire alarm equipment.
  2. Power Limited: Fire protective signaling circuits classified as power limited shall use cable listed under U.L. Category HNIR, "POWER LIMITED FIRE-PROTECTIVE SIGNALING CABLE". All such circuits shall be durably marked where plainly visible at terminations to indicate that it is a power-limited fire protective signaling circuit. Refer to paragraph titled "Fire Resistance of Cables" for additional requirements.
  3. Fire Resistance of Cables: Power-limited fire-protective signaling circuit cables shall be U.L. listed as described in NEC 760. All such cable shall bear a cable marking that includes a Type designation as given in NEC 760. Provide Type FPL.
- G. Connections of Installation Wiring:
1. Connections to Equipment: In accordance with NFPA for monitoring integrity and with the equipment manufacturer's instructions.
  2. Connections of installation wiring to alarm initiating devices and alarm indicating appliances shall be monitored for integrity.
  3. Interconnecting means shall be arranged so that a single break or single ground fault will not cause an alarm signal.
  4. Apply a compression lug, similar to T&B Sta-Kon Terminal, to all stranded conductors at terminations or use box-lug terminal strips.
  5. There shall be no wire splices. All wiring shall be continuous, uncut between devices and terminal blocks.
- H. Rated Enclosures:
1. All vertical fire alarm wiring traversing more than one level shall be routed in rated enclosures. In addition, all horizontal wiring serving devices located on floors other than where wiring originates shall be routed in 2-inch concrete encasement, suitable rated building construction, or 2-hour wrap application enclosure accepted by local authority having jurisdiction.

### 3.4 MANUAL PULL STATIONS

- A. Install at 48 inches to top above finished floor.

- B. All manual stations shall be in unobstructed locations.
- C. Install to comply with NFPA, ADA, and all handicap/accessibility code requirements.
- D. Provide, install, and connect additional pull stations (from that shown on drawings) as required to comply with above requirements.

### 3.5 AUDIBLE SIGNAL DEVICES, VISUAL SIGNAL DEVICES OR COMBINATION AUDIBLE/VISUAL SIGNAL DEVICES

- A. Shall comply with NFPA, the Americans with Disabilities Act and other applicable handicap/accessibility codes including but not limited to the following:
  - 1. Wall mounted devices shall have their bottom edge at heights above the finished floor of not less than 80 inches and no greater than 96 inches.
  - 2. In general, no place in any room or space required to have a visual signal appliance shall be more than 50 ft. (15 m) from the signal (in the horizontal plane). In large rooms and spaces exceeding 100 ft. (30 m) across, without obstructions 6 ft. (2 m) above the finished floor, such as auditoriums, devices may be placed around the perimeter, spaced a maximum 100 ft. (30 m) apart, in lieu of suspending appliances from the ceiling. Placement of visual devices shall not be less than the requirements as specified by NFPA 72.
  - 3. No place in common corridors or hallways in which visual alarm signaling appliances are required shall be more than 50 ft. (15 m) from the signal. Placement of visual devices shall not be less than the requirements as specified by NFPA 72.

### 3.6 END-OF-LINE DEVICE

- A. Mount end-of-line device box with last device or separate box adjacent to last device in circuit.

### 3.7 AUXILIARY CONTROL RELAYS

- A. An auxiliary fire alarm relay used to control an emergency control device, e.g. motor controller for HVAC system fan or elevator controller shall be located within 3 ft. of the emergency control device.
- B. The installation wiring between the system panel and the auxiliary fire alarm relay shall be monitored for integrity.
- C. Auxiliary control relays shall be listed for use with fire alarm systems.

### 3.8 SPRINKLER FLOW SWITCHES

- A. Coordinate the electrical and operating characteristics of the flow switches with the fire alarm panel.
- B. Run conduit and wiring to the flow switches, and connect them so as to provide an operable supervised sprinkler alarm system per NFPA standards, and state and local codes.

- C. Provide all electrical including zones as required by authority having jurisdiction and codes.

### 3.9 SPRINKLER VALVE SUPERVISORY SWITCHES

- A. Coordinate the electrical and operating characteristics of the supervisory switches with the fire alarm panel.
- B. Run conduit and wiring to the supervisory switches, and connect them so as to provide an operable supervised sprinkler alarm system per NFPA standards, and state and local codes.
- C. Provide all electrical including zones as required by authority having jurisdiction and codes.

### 3.10 DOOR HOLD-OPEN POWER SYSTEMS

- A. General: Provide 24V-dc low voltage power to all building doors with openers, hold-open devices or closers. Low voltage power supplies for door hardware shall be furnished separately from the fire alarm system. The fire alarm system shall only provide the unlocking or release control signals and auxiliary control relays at power supplies, in order to reduce power draw on fire alarm system power supplies and batteries.
- B. Low Voltage Power: Provide a low voltage transformer on each floor having doors with electric hardware. Transformer shall be 120-24V ac, sized as required to handle load served. Mount in a NEMA 1 enclosure above accessible corridor ceiling outside the first door closest to fire alarm riser. Provide transformer primary fusing to comply with N.E.C. Provide a 24V ac-24V dc rectifier on the secondary side of the transformer. Provide dedicated branch circuit from closest 120V normal power panel. Provide necessary interposing auxiliary control relay(s) to accept unlocking/release and restore signals from the fire alarm system.
- C. Wiring: Electric hardware shall be connected for fail-safe operation. Upon loss of normal power, hold-open doors shall release for closure. Restoration of hardware power shall be automatic after the fire alarm system unlock control is reset. Provide all wiring necessary to connect transformer. Provide all low voltage wiring to connect electric locks. Extend wiring down hinge side of stair door jam through hinge plate into door and through door to electric lock mechanism.
- D. Mount outlet box for electric door holder to withstand 80 pounds (36.4 kg) pulling force.

### 3.11 ELEVATORS

- A. Operation of elevators under fire or other emergency conditions - elevators having a travel distance of 25 feet or more shall conform to the requirements of ANSI A17.1, Safety Code for Elevators and Escalators, Rule 211.3, 1997 Edition, as incorporated herein by reference.
- B. When an automatic sprinkler system is required to be installed throughout a building for complete fire protection coverage, the provisions of ANSI A17.1, Rule 102.2 (1997), which is incorporated herein by reference, shall be applicable. When an automatic sprinkler system is required to be installed, the automatic sprinkler system shall be a pre-action sprinkler system and the pre-action sprinkler shall be installed in the elevator machine room and elevator hoistway. An accepted fixed temperature (135 degrees F.) heat detector shall be installed in

the elevator machine room, elevator pit, and elevator hoistway as an integral part of the pre-action sprinkler system to automatically disconnect the main power supply to the affected elevator(s) prior to the application of water. The main power supply shall not be self-resetting. The activation of sprinklers outside of the hoistway or machine room shall not disconnect the main power supply. The sprinkler head located in the elevator machine room and elevator hoistway shall have an activation temperature greater than the accepted fixed temperature heat detector.

- C. In addition to the requirements of ANSI A17.1, Rule 211.3(b) (1997), an accepted smoke detector(s) shall be installed in the elevator hoistway, and the machine room meeting the requirements of Rule 4A-47.008. The activation of the smoke detector(s) in the machine room or the elevator hoistway shall cause a suitable warning light to flash. The light is to be located adjacent to the "phase one" recall switch required by ANSI A17.1 Rule 211.3(a) (1997) or elevator hall button. The warning light shall be red, and a minimum diameter of 1/8 inch. A sign shall be incorporated with or adjacent to the light and contain the following wording "DO NOT USE ELEVATOR". The minimum size for the letters on the sign shall be 1/8 inch. Provide supervised fire alarm system wiring and power to elevator warning lights. Lights shall function per elevator bank. Provide and install light at first floor and alternate floor as directed by authority having jurisdiction.
- D. Provide detectors with auxiliary relay complete with tie into elevator controller as required by all codes, or provide separate zone.

### 3.12 CABLE IDENTIFICATION

- A. Provide and install permanent cable markers on all cables/wire lines, telephone lines, etc. at terminal strips, terminal cabinets and at main equipment.

### 3.13 TELEPHONE TIE

- A. Provide new conduit/wire from FACP and terminal cabinet to main telephone board. Connect as directed by owner/telephone company. Provide and install dialer with surge suppression on telephone line as per the direction of the Authority Having Jurisdiction.

### 3.14 SURGE PROTECTION

- A. General:
  - 1. Provide, install and connect new surge suppression equipment as specified herein, including protection of equipment power source, cable/wire entering or leaving building housing, main fire alarm system equipment, ground lugs, #6 copper ground wire in 3/4" c. to existing main building service ground.
  - 2. Extreme care shall be taken by contractor to assure a properly surge protected system.
  - 3. Surge protection equipment must be selected by contractor to match the equipment being protected including wire sizes, operating volts, amps, and circuit impedance.
  - 4. Installation of surge protection equipment and it's grounding must be per manufacturer's recommendations to assure short and proper ground paths.

B. Equipment Selection:

1. Contractor to coordinate with suppliers and installers of all equipment being protected and provide surge suppression equipment which meets these specifications on respective equipment, wires, etc.

C. Equipment Installation:

1. Install surge suppression equipment per manufacturers recommendation at each wire terminal as noted under Part 1.
2. Install surge suppression equipment terminal cabinets, etc. as required to facilitate installation of surge protection equipment and terminal points. Increase size of terminal cabinets (from that shown on drawings) to size required to facilitate installation of surge suppression equipment and terminal blocks.
3. Locate surge suppression equipment in terminal cabinet nearest main equipment cabinet (FACP).
4. Coordinate with Section 16691 contractor to assure that surge suppression for 120VAC power circuit and surge suppression required by this section are all installed in same terminal cabinet and bonded together.

D. Ground Installation:

1. Ground Bus Connections:

- a) Provide "local" ground bus in each terminal cabinet housing surge protection equipment (with lugs, etc. as required).
- b) Bond "local" ground bus to terminal cabinet with minimum #6 copper wire.
- c) Connect terminal cabinet "local" ground bus to "systems" ground bus installed per 16170 with minimum #6 copper insulated wire (unless otherwise noted) in conduit.
- d) Note that "systems" ground bar is also to be used for power transformation ground (480V to 208V) where applicable.

2. Surge suppression equipment grounding:

- a) Connect each surge suppressor to local ground bus in terminal cabinet with wire sized as recommended by manufacturer. Where "M" block type terminations/surge suppressors are used, bond ground rail to local ground bar with wire as recommended by manufacturer.
- b) Coordinate with Section 16691 contractor to assure that 120VAC power source/supply surge suppressor is also grounded to same local ground bus as surge suppressors provided in this section for same system (i.e. fire alarm, intercom, television, etc.).

3. Conductors:

- a) Conductors shall meet requirements of Section 16123. Minimum size to be #12 THWN.
- b) Bends in excess of 90 degrees in any grounding conductor shall not be permitted. A radius of 6 inches or greater shall be maintained on all bends.
- c) Do not bundle unprotected conductors with protected conductors.
- d) Conductors shall be kept as short as possible.
- e) Conductors shall be secured at 12" intervals with an accepted copper clamp.



- f) Grounding conductors shall be properly connected to the building service ground by accepted clamps.

4. Grounding Connectors:

- a) Connectors, splicers, and other fittings used to interconnect grounding conductors, bond to equipment or grounding bars, shall be accepted by NEC or U.L. for the purpose.
- b) All connectors and fittings shall be of the Nicopress crimp or compression set screw type.
- c) Special treatment to fittings, lugs, or other connectors of dissimilar material shall be applied to prevent electro-galvanic action.

5. Telephone Circuits:

- a) Systems utilizing telephone company pairs as a transmission medium shall be provided with a suppressor conforming to device in Part 2 of this specification.
- b) Suppressors shall be installed at each point where interface is made to telephone company pairs.
- c) In cases where a modem or other device is used to interface with the telephone circuit the following procedure shall apply:
  - 1. Where the modem or coupling device is furnished by the telephone company the suppressors shall be installed on the system side of the modem or coupling device.
  - 2. Where the modem or coupling device is furnished by the system contractor, the suppressor shall be installed on the telephone line side of the modem or coupling device.

3.15 CONDUIT/BOX IDENTIFICATION

- A. Contractor shall identify fire alarm conduit and boxes with red paint in exposed locations. Identify conduit in concealed locations with 4" mark of red paint every 4'-0" O.C.

3.16 DEMONSTRATION

- A. When system is complete it shall be demonstrated to Owner's Representative who shall be given complete instructions, spare parts, manuals and maintenance information.

3.17 SYSTEM TESTING

- A. Prior to certification of the fire alarm system the contractor shall accomplish a complete test of the fire alarm system in accordance with NFPA 72, Test Methods.
- B. Perform a complete, functional, component by component test of the entire fire alarm and detection system. Provide a detailed step by step testing procedure which is unique to this project, reflecting the type of system and the number and location of all components.
- C. Demonstrate the proper operation of each component as follows:

1. Photoelectric, and duct smoke detectors: activate the detector with a "false smoke" product which has been specifically formulated for testing smoke detection systems.
  2. Heat detectors: activate the detector by utilizing the detector check button.
  3. Pull Stations: activate the station by operating the station in its normal mode.
  4. Audible and Visual Alarms: verify proper operation when the system is put into the alarm mode.
  5. Sprinkler Flow Switches: open the sprinkler system's inspection test valve. Verify that the flow switch sends an alarm signal within the allowed time corresponding to the switch's time delay setting.
  6. Fire Alarm Panels: functionally check-out and test the panel per the manufacturer's written instructions. Demonstrate the proper operation of each modular component. Demonstrate automatic power change to batteries and back to building power upon a drop in voltage below the voltage threshold as specified by the panel manufacturer.
- D. Demonstrate the supervisory function at each device loop circuit, and at all single component wiring runs such as for the sprinkler valve supervisory switches.

### 3.18 CERTIFICATION

- A. After completion of the installation of the system, the licensee shall complete a NFPA Inspection and Testing form. The Inspection and Testing form format shall be as indicated in NFPA 72, Inspection and Testing Form. When an Inspection and Testing form has been completed, legible copies shall be distributed as directed by the Authority Having Jurisdiction.
- B. After an installation has been complete, affix a Fire Alarm Tag to the control panel. The Fire Alarm Tag is in addition to the Inspection and Testing form. Protect the Fire Alarm Tag from vandalism by applying pressure sensitive label; do not use a "tie-on" tag. It shall be as required in the Fire Safety Rules.

### 3.19 FINAL DRAWINGS

- A. As-built drawings shall be given to the Owner's representative, at time of instruction, in addition to those to be supplied as general requirements of the job.

### 3.20 AUTHORITY HAVING JURISDICTION

- A. The drawings and specifications herein comply to the best of the engineer's knowledge with all applicable codes at time of design. However, it is this contractor's responsibility to coordinate/verify (prior to bid) the requirements of the authority having jurisdiction over this project and bring any discrepancies to the engineer's attention at least 7 days prior to bid. No changes in contract cost will be acceptable after the bid for work/equipment required to comply with the authority having jurisdiction.

END OF SECTION 16721