



**CLARK**  
Construction Company

3535 Moores River Drive • PO Box 40087 • Lansing, MI 48901  
517.372.0940 fax: 517.372.0668

February 26, 2016

## **ADDENDUM NO. 2**

**PROJECT:** Birmingham Public Schools 2015 Bond Program, Summer 2016

**DESCRIPTION:** New secured entrances at 8 schools, locker replacement, Unit Ventilator replacement, new scoreboards, tennis courts and dugouts (Refer to Construction Documents for complete scope of work).

**BID PACKAGE RELEASE NUMBER:** 1

**CLARK PROJECT NO:** 15-2700

**BID PROPOSAL DUE DATE/TIME:** 2:00 pm, Thursday, March 3, 2016

---

The following clarifications and/or Changes made to the Contract Documents are hereby made part of the Contract Documents.

The general character of the Work clarified or revised by this Addendum shall be the same as required by the complete set of Contract Documents. All incidentals required in connection with the Work of this Addendum shall be included in the Scope of Work even though not specifically specified.

All bidders shall be held responsible to review the Addendum and to include in its Bid Proposal all Work reasonably inferred to be included in its Scope of Work.

**Acknowledge receipt of this Addendum in the space provided on the Bid Proposal Form.**

---

**A. Architect/Engineer Documentation:**

1. Addendum No. 2 Write-Up from TMP dated 2/26/16

**B. Bidding and Contract Requirement Modifications:**

1. Bid Category No. 06A SECURED ENTRIES:
  - a. Exclude mechanical demolition.
  - b. Exclude the \$7,500 from school breakdown (include \$7,500 in total base bid).
  - c. Exclude removal of existing epoxy flooring at Seaholm and Groves.
  - d. Include locker removal at Covington.
  - e. Exclude floor prep.
  - f. Exclude demolition of glass for Alternate A1.
  
2. Bid Category No. 06B MISCELLANEOUS STRUCTURES PACKAGE:
  - a. Include all relocation of items necessary for the work at the front entrance slab at Covington.
  
3. Bid Category No. 08 ENTRANCES AND STOREFRONTS, WINDOWS, CURTAIN WALL, GLASS AND GLAZING
  - a. Include HSS column in base bid (Shown on Beverly Drawing A0.1B).
  
4. Bid Category No. 09 TILE
  - a. Include selective demolition spec section 024119.
  
5. Bid Category No. 32 TENNIS COURTS
  - a. Alternate No. AT-1 Experiential Learning Equipment- Please contact the following design firms specializing in Experiential Course design and construction:
    - Experiential Systems, Inc. (Lansing, IL)
    - Absolutely Experiential, Inc. (Pittsfield, MA)
  - b. Alternate No. AT-2 is for Groves High School.
  - c. Include specification section 116828 Tennis Practice Board.

**C. Alternate A1**

- a. For alternate A1 provide a unit price to install security glass based on a quantity of 3000 sq. ft. this unit price should include removal of existing glass and prep necessary to install new. The 3000 sq. ft. of security glass includes various sizes at entry ways. This work is to be included Bid Cat. 08 ENTRANCES AND STOREFRONTS, WINDOWS, CURTAIN WALL, GLASS AND GLAZING.

**D. Milestone Schedule**

- a. Locker rooms at the natatorium at Groves and Seaholm needs to be completed by August 5<sup>th</sup>
- b. Tennis courts at Groves and Seaholm need to be completed by August 5<sup>th</sup>

**E. Bid Proposal Form:** Attached to this addendum.

**F. Attendance Sheets and Pre-Bid Meeting Minutes:** Attached to this addendum.

**G. Trade Contractor Qualification Form:**

Trade Contractors being considered for award of Contract shall submit the Clark Construction Company Trade Contractor Qualification Form completely filled out as well as all documents required within the Qualification Form.

**H. Please see attached Pre-Bid RFIs 9 & 13**

END OF SECTION

SECTION 004126  
BID FORM

BIDDER'S NAME: \_\_\_\_\_

PROJECT: Birmingham Public Schools 2015 Bond Program,  
Summer 2016

CLARK PROJECT NO.: 15-2700

BID RELEASE NO.: 1

OWNER: Birmingham Public Schools

ARCHITECT: TMP Architecture

CONSTRUCTION MANAGER: Clark Construction Company  
29110 Inkster Rd, Suite 150  
Southfield, MI 48075

ATTENTION: Becky Timberlake  
TELEPHONE: 248-763-8838  
E-MAIL: rtimberlake@clarkcc.com

**1. BID**

1.1 This Bid has been prepared after our examination of the complete Drawings and Specifications, together with their related documents, and our examination of the conditions surrounding the construction of the proposed Work including the availability of materials, equipment and labor. The undersigned submits the following Bid and agrees to furnish all labor, material, equipment and service to complete the Work in accordance with the Contract Documents for:

**The following breakdown for each school is for accounting purposes only. We do not intend to award contracts per building, you must Bid the entire Bid category scope of work.**

A. **Bid Category No.:** \_\_\_\_\_ **Description:** \_\_\_\_\_

1. For the Lump Sum Base Bid of: (\$ \_\_\_\_\_)

\_\_\_\_\_ Dollars

Groves High School \$ \_\_\_\_\_

Seaholm High School \$ \_\_\_\_\_

SECTION 004126

BID FORM

Beverly Elementary School \$ \_\_\_\_\_

Pierce Elementary School \$ \_\_\_\_\_

Quarton Elementary School \$ \_\_\_\_\_

Birmingham Covington School \$ \_\_\_\_\_

Greenfield Elementary School \$ \_\_\_\_\_

Pembroke Elementary School \$ \_\_\_\_\_

Bingham Farms Elementary School \$ \_\_\_\_\_

Harlan Elementary School \$ \_\_\_\_\_

Operations Building \$ \_\_\_\_\_

Transportation Building \$ \_\_\_\_\_

B. **Bid Category No.:** \_\_\_\_\_ **Description:** \_\_\_\_\_

1. For the Lump Sum Base Bid of: (\$ \_\_\_\_\_)

\_\_\_\_\_ Dollars

Groves High School \$ \_\_\_\_\_

Seaholm High School \$ \_\_\_\_\_

Beverly Elementary School \$ \_\_\_\_\_

Pierce Elementary School \$ \_\_\_\_\_

Quarton Elementary School \$ \_\_\_\_\_

Birmingham Covington School \$ \_\_\_\_\_

SECTION 004126

BID FORM

Greenfield Elementary School \$\_\_\_\_\_

Pembroke Elementary School \$\_\_\_\_\_

Bingham Farms Elementary School \$\_\_\_\_\_

Harlan Elementary School \$\_\_\_\_\_

Operations Building \$\_\_\_\_\_

Transportation Building \$\_\_\_\_\_

1.2. All appropriate sales taxes are included in the above Lump Sum Base Bid.

**2. COMBINED BIDS**

2.1. Combined Bids of two (2) or more Bid Categories may be submitted. Separate Bids for each Bid Category included in a combined Bid are required.

A. **Bid Category Numbers:**\_\_\_\_\_

**Bid Category Descriptions:**\_\_\_\_\_

1. For the Lump Sum Base Bid of: (\$\_\_\_\_\_)

\_\_\_\_\_ Dollars

**3. ADDENDA**

3.1. The undersigned acknowledges receipt of the following Addenda and has included the cost thereof in the Lump Sum Base Bid:

No. 1, dated \_\_\_\_\_

No. 4, dated \_\_\_\_\_

No. 2, dated \_\_\_\_\_

No. 5, dated \_\_\_\_\_

No. 3, dated \_\_\_\_\_

No. 6, dated \_\_\_\_\_

**4. TRADE HOURS**

4.1. Total estimated trade hours required to perform the Work \_\_\_\_\_ Trade Hours

---

SECTION 004126

BID FORM

- 4.2. The undersigned acknowledges that the estimated trade hours provided above are for Clark Construction Company scheduling purposes only and shall not be deemed a limit to trade hours required to perform the Work and shall not be considered as a basis for claim.

**5. BID SECURITY**

- 5.1. Bid security in the amount of 5% of the Bid, shall accompany this Bid.

**6. PERFORMANCE AND LABOR AND MATERIAL PAYMENT BOND**

7. A Performance and Payment Bond is required for any Bid of \$50,000 or more. The undersigned confirms that the cost of required Bonds is included in the base bid amount.

**8. REJECTION OF BID**

- 8.1. The undersigned acknowledges the right of the Birmingham Public Schools to accept or reject in whole or in part any or all Bids and to waive any informality or irregularity in the Bid, or to award the Contract to other than the low Bidder in its sole and absolute discretion.

**9. PROJECT SCHEDULE**

- 9.1. The undersigned acknowledges that it shall meet requirements of the Project Schedule (Section 003113).

**10. EXTRA WORK**

- 10.1. The undersigned agrees that:

- A. A maximum of 15% overhead and profit will be allowed for Changes in the Work performed by the Trade Contractor.
- B. A maximum of 5% overhead and profit will be allowed for Changes in the Work for any tier Subcontractor.
- C. For changes involving both additional costs and credits to the Contract, the mark-up will be allowed on the net add only after all credits have been deducted from the additional work.

**11. ALTERNATES**

- 11.1. General

- A. Each Bidder **MUST** furnish alternate pricing for the Work of its respective Bid Category for the following alternates.
- B. Alternates shall not be included in the Lump Sum Base Bid.
- C. Alternate price shall include all cost for labor, material, equipment, service, overhead and profit including any bonds and taxes as required in the Bid Documents to complete the Work of the Bid Category.

- 11.2. List of Alternates

SECTION 004126

BID FORM

1. **Alternate AT-1:** Construct the eighth tennis courts at both Groves High School and at Seaholm High School as indicated on the drawings and in the specifications. Work generally involves the removal of existing site elements, the excavation and grading for the sites of the new courts, installation of subsurface material and surfacing as indicated, fencing, nets and other equipment as indicated. In addition, the following are to be included:

Seaholm High School: All work related to the relocation of the Experimental Learning Equipment as indicated on the drawings.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

Groves High School: Civil work relating to the reconfiguration of the parking lot as indicated on the drawings to accommodate the new court.

b. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

2. **Alternate AT-2:** Remove the existing surfaces and related sub-base material for the existing seven (7) tennis courts and to rebuild the courts as indicated on the drawings and in the specifications.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

3. **Alternate A-1:** Glazing types GL-3 and GL-12 indicated specifically as security glazing, in lieu of existing or other scheduled glazing, for Beverly, Bingham Farms, Greenfield, Harlan, Pembroke, Pierce, Quarton, and Covington Schools all as indicated on drawings and in specifications.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

4. **Alternate A-2:** Electronic access control consisting of an electric strike, proximity sensor and related wiring and accessories for a complete system, for the entrances from the secure lobby to the main office for Beverly, Bingham Farms, Greenfield, Harlan, Pembroke, Pierce, Quarton, and Covington Schools all as indicated on drawings and in specifications.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

5. **Alternate A-3:** Electronic security hardware and related accessories and wiring tied into the building's security system, for a complete installation for the following doors at the schools noted, as indicated on the drawings and in the specifications.

15097 Beverly: Doors B101A, and B107A, 15098 Bingham Farms: Doors B114A, and B116B, 15099 Greenfield: Doors D110, and D105, 15100 Harlan: Door B127, 15101 Pembroke: Doors B109, 15102 Pierce: Doors A147, and A132, 15103 Quarton: Doors C110A, 15105 Covington: Doors D114

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_



SECTION 004126

BID FORM

6. **Alternate A-4:** Provide three (3) accent colors for locker doors. For this Alternate, all locker bodies, metal bases, caps and end panels will be the same color throughout the school, selected from one of the standard colors offered by the manufacturer. Banks of lockers will have doors painted one of three accent colors selected from the manufacturer's standard range. A final layout of the color scheme will be provided to the Contractor awarded the work.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

7. **Alternate A-5:** To prepare the existing floor surface and base and to install new hard tile as indicated on drawings and in the specification, at the following schools for the following rooms:

Groves High School: Rooms C109, C110, C111, C113, C114, C115, C116, C117, C118, C119, C120, C123, C124, C125, C126, C130, and C131

Seaholm High School: Rooms B245, B246, B248, B249, B250, B251, B252, B253, B254, and B255

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

8. **Alternate A-6:** At Groves and Seaholm High School football stadium scoreboards, provide Daktronics digital video display as per Specification Section 116843, and additional supporting structure, as indicated on drawings and in specifications. Electrical infrastructure noted on the drawings will be part of the base price.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

9. **Alternate A-7:** Lock model Keyless1 by Keyless Co. in lieu of the specified combination lock for the 685 new lockers scheduled for Covington School as outlined in specification Section 105113.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

10. **Alternate A-8:** Lock model 3310 mechanical push button lock by Zyfer Co. in lieu of the specified combination lock for the 685 new lockers scheduled for Covington School as outlined in specification Section 105113.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

11. **Alternate A-9:** To revise scoreboard, scoring console, and related accessories manufacturer listed on Section 116843 – SCOREBOARD Sentence 2.1.A to Fair-Play, meeting performance criteria and features listed for the Basis of Design models.

a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_

SECTION 004126

BID FORM

12. **Alternate A-10:** To revise scoreboard, scoring console, and related accessories manufacturer listed on Section 116843 – SCOREBOARD Sentence 2.1.A to Eversan, meeting performance criteria and features listed for the Basis of Design models
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
13. **Alternate A-11:** To revise outdoor LED video display manufacturer listed in Section 116843 – SCOREBOARD, Sentence 2.1.C.2 to Fair-Play, meeting performance criteria and features listed for the Basis of Design models.
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
14. **Alternate A-12:** To revise outdoor LED video display manufacturer listed in Section 116843 – SCOREBOARD, Sentence 2.1.C.2 to Eversan, meeting performance criteria and features listed for the Basis of Design models.
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
15. **Alternate M-1:** Unit ventilators manufactured by Airedale or Change' Air, meeting the specified performance criteria, providing the specified actuators and other items noted in lieu of the unit ventilators manufactured by Trane for the unit ventilator replacement work scheduled for Pierce Elementary School.
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
16. **Alternate M-2:** Temperature control system scheduled for Pierce Elementary School manufactured by Tridium, meeting the specified performance criteria, in lieu of the specified manufacturer- Andover.
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
17. **Deduct Alternate E-1:** Electrical distribution equipment manufactured by Siemens, Square-D or Eaton, in lieu of General Electric.
- a. **Add/Deduct (Circle one)** \$ \_\_\_\_\_
18. **Alternate E-2:** Provide price to replace existing sump seals serving all conduits entering tank sumps.
1. Sump seals shall be specifically selected for use with the existing sumps including both material and sump surface shape. Sump seals shall provide a studded flange connection to create a positive and secure seal with the rubber seal in contact with the sump wall and also around the conduit. Seal to include stud fasteners with a compression ring to provide a high compression mechanical seal. Seals shall withstand a minimum of 6' of liquid head pressure.
  2. Sump seals shall be corrosion resistant. The exterior studded metal compression ring that provides the positive sealing pressure shall be encapsulated within rubber to protect it from corrosion. All studs and compression ring shall be made of 401 stainless steel and shall be

SECTION 004126

BID FORM

exposed only on the inside of the containment sump. Sump seals shall be chemical resistant. Seals shall be made of PVC Nitrile compound which has been independently tested to insure its compatibility with a wide assortment of chemicals.

- 3. Sump seals shall be installed in accordance with the manufacturer's recommendations and installation instructions. Sump seals shall be OPW or approved equal.

a. Add/Deduct (Circle one) \$ \_\_\_\_\_

12. ALLOWANCES

12.1. General

- A. Each Bidder for Bid Categories listed below, must include allowance amount in its base Bid (Refer to "Allowances" section).
- B. Allowances for specific materials (i.e., carpet, wall covering, etc.) shall cover the material cost only. All other costs including labor, overhead and profit and incidentals shall be included in the base Bid.
- C. Refer to Bid Category and Allowance Specification Sections for allowance amount to include in base Bid.

13. UNIT PRICES

13.1. GENERAL

- A. Each Bidder for Bid Categories listed below, must submit unit prices for the Work of its respective Bid Category.
- B. Unit prices shall include all overhead, profit and incidentals to furnish and install the Work.

C. UNIT PRICES

1. **Bid Category – 32 - Tennis Courts**

- a. Crushed concrete or stone
  - i. \$ \_\_\_\_\_/c.y.
- b. Four inch perforated under drain with sock
  - i. \$ \_\_\_\_\_/l.f.

2. **Bid Category – 26 - Electrical**

- a. Add access control system to additional doors.
  - i. \$ \_\_\_\_\_/ea.

SECTION 004126  
BID FORM

BIDDER'S NAME: \_\_\_\_\_

LEGAL ADDRESS: \_\_\_\_\_

ZIP CODE: \_\_\_\_\_

CONTACT NAME: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

FAX NO.: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

The Bidder declares the following legal status in submitting this Proposal: (Check one)

\_\_\_\_\_ A Corporation organized and existing under the laws  
of the State of Michigan

\_\_\_\_\_ A Partnership

\_\_\_\_\_ Other

**CONTRACT ACKNOWLEDGEMENT**

Trade Contractor hereby acknowledges acceptance of the terms of the Contract and will enter into the Contract with no modifications to the terms of the Contract.

**SIGNATURE**

Respectfully submitted:

\_\_\_\_\_  
SIGNATURE

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

Federal Employer Identification No.: \_\_\_\_\_

State License No.: \_\_\_\_\_

BIDDER'S NAME: \_\_\_\_\_

Date \_\_\_\_\_











## Birmingham Public Schools, 2015 Bond Program

### Summer 2016, Bid Pack #1

### Pre-Bid Meeting Minutes

- Bids are due to this location no later than 2:00 p.m. on March 3, 2016. Fax and emailed bids will not be accepted.
- Bids must be accompanied by a bid bond, and signed familial and Iran forms.
- Cost of performance and payment bonds must be included in the base bid.
- Friday February 26<sup>th</sup>, there will be an opportunity to visit the job sites. We will begin at Pierce Elementary at 7:30 and visit the schools in the following order:

School
Pierce
Seaholm
Groves
Bingham Farms
Greenfield
Beverly
Birmingham Covington
Quarton
Harlan
Pembroke
Transportation

- Addendum No. 1 was issued February 23, 2016
- Addendum No. 2 will be issued on February 26, 2016
- Kayleen Krahn passed out her business cards so you can register with Birmingham Public Schools Vendor List. You can register at: <http://bids.bpsecatalog.net>
- There are no wage rates on this project.
- It will be awarded as a lump-sum, not based on individual school.
- No school bond fund.





**CLARK CONSTRUCTION COMPANY  
TRADE CONTRACTOR QUALIFICATION FORM**

**PROJECT NAME:** \_\_\_\_\_ **DATE** \_\_\_\_\_

**GENERAL**

Legal name of Business: \_\_\_\_\_

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

Street

P. O. Box \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Contact Person: \_\_\_\_\_ Federal ID No.: \_\_\_\_\_

E-mail Address: \_\_\_\_\_ Duns No.: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

\_\_\_ Corporation \_\_\_ Partnership \_\_\_ Individual \_\_\_ Sole Proprietorship \_\_\_ Joint Venture \_\_\_ Other

If Incorporated, State of Incorporation: \_\_\_\_\_ Year Incorporated \_\_\_\_\_

Average number of office employees: \_\_\_\_\_ Field: \_\_\_\_\_

Is your company qualified as **MBE** \_\_\_\_\_ **WBE** \_\_\_\_\_ **DBE** \_\_\_\_\_  
(Enclose certificate) **SMALL BUSINESS** \_\_\_\_\_ **HUB ZONE** \_\_\_\_\_ **8A** \_\_\_\_\_

**SDB** \_\_\_\_\_ **WOSB** \_\_\_\_\_ **VOSB** \_\_\_\_\_

**SDVOSB** \_\_\_\_\_ **HBCU/MI** \_\_\_\_\_

Does your company have a written EEO policy? Yes \_\_\_ No \_\_\_

Does your company have a current Certificate of Awardability? Yes \_\_\_ No \_\_\_

List company officers:

Name	Title	Years with Organization

State the type(s) of work in which you specialize and regularly perform with your own personnel:

\_\_\_\_\_

Labor Relations: Union \_\_\_\_\_ Open Shop \_\_\_\_\_

**FINANCIAL**

Please submit current interim financial statement and last certified financial statement, including work in progress and contract schedule. This information will be kept strictly confidential.

Bank Reference: \_\_\_\_\_ (Telephone) \_\_\_\_\_  
(Bank Name)

Contact Person: \_\_\_\_\_  
(Contact Name)

Amount of Line of Credit: \_\_\_\_\_ Secured? Yes \_\_\_ No \_\_\_ Amount available \_\_\_\_\_

**CLARK CONSTRUCTION COMPANY  
TRADE CONTRACTOR QUALIFICATION FORM**

Is your company currently in default on any loan agreement or financial agreement with any bank, financial institution or other entity? (If yes, attach details, circumstances and prospects for resolution) YES\_\_\_\_No\_\_\_\_

**BONDING INFORMATION**

Furnish a signed statement from the surety certifying the following: If bonded – statement not required

Current Bonding Capacity of Company: Aggregate\_\_\_\_\_ Single Project\_\_\_\_\_

Amount of Work Currently Bonded\_\_\_\_\_ Bond Rate \_\_\_\_\_

Name of Bonding Company\_\_\_\_\_ Co. Rating \_\_\_\_\_

Name of Bonding Agent:\_\_\_\_\_ (Telephone) \_\_\_\_\_

Length of Time with Bonding Company \_\_\_\_\_

Have Performance or Payment Bond claims ever been made to a surety? Yes\_\_\_No\_\_\_

Has any surety company refused to bond the firm or any affiliate companies on any project? Yes\_\_\_No\_\_\_

Current capacity exists to cover the amount of this contract? Yes\_\_\_No\_\_\_

**INSURANCE**

Furnish a Certificate from your insurance carrier verifying all limits & project requirements to main office.

Experience Modification Rating (EMR) for the last three years: \_\_\_\_\_

**SAFETY**

Please attach copies of OSHA No. 300A Logs for the last three years along with your most current log to-date.

Does your company have a written Safety Program? Yes\_\_\_No\_\_\_  
If yes, provide an electronic copy or verify that a current copy is on file at Clark's Main Office.

Does your company have a Substance Abuse Program? Yes\_\_\_No\_\_\_

Does your company have a safety officer? Yes\_\_\_No\_\_\_  
If YES, provide name:\_\_\_\_\_

Does your company hold weekly craft "tool box" talk safety meetings? Yes\_\_\_No\_\_\_

Does your company provide foreman safety training? Yes\_\_\_No\_\_\_  
If YES, how often?\_\_\_\_\_

Does your company conduct safety inspections? Yes\_\_\_No\_\_\_  
If YES, how often?\_\_\_\_\_

Does your company give orientation/safety instruction to new hires? Yes\_\_\_No\_\_\_

In the past three years, has your company been cited by state or federal OSHA for any willful violations? Yes\_\_\_No\_\_\_

**CLARK CONSTRUCTION COMPANY  
TRADE CONTRACTOR QUALIFICATION FORM**

Please attach list on a separate sheet, the summary details for all violations including date, type, description and amount for the last three years

During the past three years, has your company experienced any employee fatalities? Yes \_\_\_ No \_\_\_  
If YES, please attach details of the accident on a separate sheet

**EXPERIENCE**

Attach list of recent major projects completed and work in progress, including average manpower required and anticipated duration of contract. Please include any projects completed with Clark Construction Company.

**LIST THREE (3) SUPPLIER REFERENCES**

Supplier	Project	Contact	Phone	Amount

Have you been deemed to be in default on any contract? Yes \_\_\_ No \_\_\_

Have you failed to complete any work awarded to you? Yes \_\_\_ No \_\_\_

Have you ever been adjudged bankrupt or filed a petition in bankruptcy? Yes \_\_\_ No \_\_\_

Have you filed any lawsuits or requested arbitration? Yes \_\_\_ No \_\_\_

(If you answered YES to any of the above, please attach a brief explanation)

Please attach the following documents:

- MBE/WBE/DBE Certificate (if applicable)
- Current interim Financial Statement
- Last Certified Financial Statement
- Statement of Surety or Bid Bond
- Insurance carriers EMR verification
- MIOSHA 300A Logs for the last 3 years and the most current log to-date
- Electronic Safety Manual
- OSHA violations for the last 3 years
- Completed Project List
- Work in Progress List
- Trade Contractor Qualification Form
- Schedule of Values – to be submitted at Pre-Award Meeting

As an Authorized Representative for \_\_\_\_\_  
I hereby certify that the answers to the foregoing questions, and all documents contained herein, are true and correct. I understand that submission of this information is in no way a guarantee of contract award by the Owner or Clark Construction Company and that the information is provided for review and evaluation purposes only.

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

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Above Name typed or Printed)

\_\_\_\_\_  
(Title of Authorized Representative)



Request for Information 009

Detailed, With No Comments

<b>Birmingham Public Schools</b> 31301 Evergreen, Beverly Hills Michigan 48025	<b>Project # 15-2700</b> Tel: Fax:	<b>Clark Construction Company</b>
---	---------------------------------------	-----------------------------------

<b>RFI #: 009</b>	<b>Date Created: 2/25/2016</b>
-------------------	--------------------------------

Answer Company	Answered By	Author Company	Authored By
TMP Architecture 1191 West Square Lake Rd PO Box 289 Bloomfield Hills, MI 48302	Thomas Barber	Clark Construction Company 3535 Moores River Drive Lansing, MI 48911	Ashley Roberts

<b>Co-Respondent</b>	<b>Author RFI Number</b>
----------------------	--------------------------

Subject	Discipline	Category
Access Control	Architectural	Clarification

Cc:	Company Name	Contact Name	Copies	Notes

<b>Question</b>	<b>Date Required: 3/3/2016</b>
-----------------	--------------------------------

[2/25/2016 10:47 AM Clark Construction Company - Ashley Roberts]  
 On some of the hardware sets it calls out for a proximity reader and an electronic key pad for the same door. Do you want both or a combination keypad / prox reader.

Please advise.

<b>Answer</b>	<b>Date Answered: 2/25/2016</b>
---------------	---------------------------------

[2/25/2016 1:11 PM Clark Construction Company - Ashley Roberts]  
 ARCHITECT'S RESPONSE:

Yes, where key pad and proximity reader are designated for the same door opening / leaf, a combination unit is required. Please refer to electrical drawings for locations & installation details and specification section 281300 for materials & installation information.



Request for Information 013

Detailed, With No Comments

<b>Birmingham Public Schools</b>	<b>Project # 15-2700</b>	<b>Clark Construction Company</b>
31301 Evergreen, Beverly Hills Michigan 48025	Tel: Fax:	

**RFI #: 013** **Date Created: 2/25/2016**

Answer Company	Answered By	Author Company	Authored By
TMP Architecture 1191 West Square Lake Rd PO Box 289 Bloomfield Hills, MI 48302	Thomas Barber	Clark Construction Company 3535 Moores River Drive Lansing, MI 48911	Ashley Roberts

Co-Respondent	Author RFI Number

Subject	Discipline	Category
Cabinets	Architectural	Clarification

Cc:	Company Name	Contact Name	Copies	Notes
	Clark Construction Company	Ashley Roberts	1	
	Plante & Moran	Jeff Atkins	1	
	Birmingham Public Schools	Steve King	1	

**Question** **Date Required: 3/3/2016**

[2/25/2016 1:52 PM Clark Construction Company - Ashley Roberts]  
 Quarton Elementary School (Drawing A9.1C)- Cabinets in Admin C107 (casework) are indicated as "Wenger" in casework note 21. Project specs don't list "Wenger" as an approved supplier for casework.

Please advise.

**Answer** **Date Answered: 2/25/2016**

[2/25/2016 4:11 PM Clark Construction Company - Ashley Roberts]  
 ARCHITECT'S RESPONSE

The casework numbering is based on TMI as per Casework Note 1. The note 21 is when the notes specifically call for Wenger for music instrument storage which does not apply in this case. Specification Section does not reference Wenger in Article 2.1



## *addendum*

DATE: February 26, 2016

PROJECT: Remodeling at Beverly Elementary, Bingham Farms Elementary, Greenfield Elementary, Harlan Elementary, Pembroke Elementary, Pierce Elementary, Quarton Elementary and Birmingham Covington School, Groves High School, Seaholm High School, Operations Building and Transportation Building

TMP PROJECT NOS.: 15097, 15098, 15099, 15100, 15101, 15102, 15103, 15105, 15108, 15109, 15111, and 15112

ADDENDUM NO.: Two (2)

BID PACKAGE NO.: One (1)

**ADDENDUM NO. 1 WAS PREVIOUSLY ISSUED ON FEBRUARY 23, 2016, BY THE CONSTRUCTION MANAGER.**

The Bidding Documents are modified, supplemented or augmented as follows and this Addendum is hereby made a part of the proposed Contract Documents.

The following Drawings and attachments are issued with this Addendum.

Drawing Nos.: 15097 - Beverly: E2.1B  
15098 - Bingham Farms: TS.1, A10.1B, EC1.1, E0.1B, E1.1B, E2.1B, E3.1.  
15099 - Greenfield: TS.1, A0.1C, E2.1C.  
15100 - Harlan: TS.1, AD1.1, A10.1D, EC1.1, E0.1D, E1.1D, E2.1D, E3.1.  
15101 - Pembroke: TS.1, EC1.1, E0.1B, E1.1B, E2.1B, E3.1.  
15102 - Pierce: TS.1, S-001, S-002, S-101, S-501, AD1.1, A1.1B, A1.1C, A3.2, A4.1, A4.2, A7.1, A10.1C, E0.1C, E1.1C, E2.1A, E2.1C.  
15103 - Quarton: TS.1, AD1.1, A4.1, A6.1, E2.1C.  
15105 - Birmingham Covington: TS.1, AD1.1, A1.1B, A1.1D, A9.1B, A9.1BC, A9.1C, EC1.1, E0.1D, E1.1D, E2.1D, E3.1.  
15108 - Groves: TS.1, C1.6, L1.02, A4.1  
15109 - Seaholm: TS.1, L2.02, A4.1  
15111 - Operations Building: No Drawings Issued.  
15112 - Transportation Building: No Drawings Issued.

Attachments: Specification Sections LD, 012300, 087100, 116828, 116843, and 281300.

### ITEM NO.      SPECIFICATION CHANGES

SC-1      Refer to Section LD – LIST OF DRAWINGS (reissued):

A.      Drawing numbering revised and drawings added as indicated.

SC-2      Refer to Section 012300 – ALTERNATES (reissued):

A.      Refer to paragraph 3.1 revised to modify Alternates A-6, M-1, & E-2, and to add Alternates A-9, A-10, A-11, & A-12, all as indicated.

o:\2015\15097\specs\addenda\bid package no. 1\add02\addendum.docx

- SC-3 Refer to Section 087100 – DOOR HARDWARE (reissued):
  - A. Refer to Paragraph 3.2, revised to add HW SET 28 as indicated.
- SC-4 Refer to Section 116828 TENNIS PRACTICE BOARD (new):
  - A. Added new Section.
- SC-5 Refer to Section 116843 – SCOREBOARD (reissued):
  - A. Refer to Paragraph 2.1, revised as follows:
    - 1. Revised Paragraph 2.1.A to read: “Manufacturer and Basis of Design: Daktronics.”
    - 2. Deleted Paragraphs 2.1.A.1, 2.1.A.2, and 2.1.A.3.
- SC-6 Refer to Section 281300 – ACCESS CONTROL AND VISITOR NOTIFICATION SYSTEM (reissued):
  - A. Added Paragraph 2.6.P to section.

**15097 - BEVERLY ELEMENTARY SCHOOL**

ITEM NO.      ELECTRICAL DRAWING CHANGES

- ED-1 Refer to Drawing No. E2.1B (reissued):
  - A. Refer to First Level Power and Systems Plan, revised to add notes identifying Alternate Prices A-2 and A-3 as indicated.

**15098 – BINGHAM FARMS ELEMENTARY SCHOOL**

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

- AD-1 Refer to Drawing No. TS.1 (reissued):
  - A. Refer to List of Electrical Drawings, revised as indicated.
- AD-2 Refer to Drawing A10.1B (reissued):
  - A. Refer to First Floor Finish Plan – Zone ‘B’, revised to show modified room numbers.
  - B. Refer to Title Block, revised to show modified Key Plan.

ITEM NO.      ELECTRICAL DRAWING CHANGES

- ED-2 Refer to Drawing EC1.1 (reissued):
  - A. Refer to Electrical Drawing Index, revised as indicated.

- ED-3 Refer to Drawing No. E0.1A (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'B' in lieu of Zone 'A'.
    - 2. Drawing No. revised to read "E0.1B" in lieu of "E0.1A."
  - B. Refer to First Level Electrical Demolition Plan, revised as follows:
    - 1. Plan Zone designation revised to read "Zone – 'B'" in lieu of "Zone – 'A'".
    - 2. Room numbers revised to reflect Zone 'B' designation.
- ED-4 Refer to Drawing No. E1.1A (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'B' in lieu of Zone 'A'
    - 2. Drawing No. revised to read "E1.1B" in lieu of "E1.1A."
  - B. Refer to First Level Electrical Lighting Plan, revised to read as follows:
    - 1. Plan Zone designation revised to read "Zone – 'B'" in lieu of "Zone – 'A'".
    - 2. Room numbers revised to reflect Zone 'B' designation.
- ED-5 Refer to Drawing E2.1A (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'B' in lieu of Zone 'A'.
    - 2. Drawing No. revised to read "E2.1B" in lieu of "E2.1A."
  - B. Refer to First Level Power and Systems Plan, revised to read as follows:
    - 1. Plan Zone designation revised to read "Zone – 'B'" in lieu of "Zone – 'A'".
    - 2. Room numbers revised to reflect Zone 'B' designation.
    - 3. Notes identifying Alternate Prices A-2 and A-3 added to drawing as indicated.
- ED-6 Refer to Drawing E3.1 (reissued):
- A. Refer to Detail numbering, revised as indicated.

**15099 – GREENFIELD ELEMENTARY SCHOOL**

**ITEM NO.      ARCHITECTURAL DRAWING CHANGES**

- AD-3 Refer to Drawing TS.1 (reissued):
- A. Refer to List of Electrical Drawings, revised as indicated.



AD-4 Refer to Drawing A0.1C (reissued):

- A. Refer to Demolition Keynotes, revised to delete Demolition Keynote No. 12.
- B. Refer to First Level Demolition Plan – Zone ‘C’, revised to delete Demolition keynote 12 from rooms C100, C100B, and C101.

ITEM NO.      ELECTRICAL DRAWING CHANGES

ED-7 Refer to Drawing No. E2.1C (reissued):

- A. Refer to First Level Power and Systems Plan, revised to add notes identifying Alternate Prices A-2 and A-3 as indicated.

**15100 – HARLAN ELEMENTARY SCHOOL**

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

AD-5 Refer to Drawing No TS.1 (reissued):

- A. Refer to List of Architectural Drawings, revised as indicated.
- B. Refer to List of Electrical Drawings, revised as indicated.

AD-6 Refer to Drawing AD1.1 (reissued):

- A. Refer to Door and Frame Schedule, revised as follows:
  - 1. Refer to Door Opening B131, revised to change Frame Type to “12” in lieu of “4”.
  - 2. Refer to Door Opening B131A, revised to change Frame Type to “12” in lieu of “4”.
  - 3. Refer to Door Opening D102, revised to change Frame Type to “13” in lieu of “3”.
  - 4. Refer to Door Opening D102A, revised to change Frame Type to “11” in lieu of “3”.
  - 5. Refer to Door Opening D102B, revised to change Frame Type to “11” in lieu of “3”.
  - 6. Refer to Door Opening D102C, revised to change Frame Type to “11” in lieu of “3”.

AD-7 Refer to Drawing A10.1D (reissued):

- A. Refer to First Level Finish Plan – Zone ‘D’, revised to show modified room numbers.

ITEM NO.      ELECTRICAL DRAWING CHANGES

ED-8 Refer to Drawing EC1.1 (reissued):

- A. Refer to Electrical Drawing Index, revised as indicated.

- ED-9 Refer to Drawing No. E0.1C (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'C'.
    - 2. Drawing No. revised to read "E0.1D" in lieu of "E0.1C."
  - B. Refer to First Level Electrical Demolition Plan, revised as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'C'".
    - 2. Room numbers revised to reflect Zone 'B' designation.
- ED-10 Refer to Drawing E1.1C (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'C'.
    - 2. Drawing No. revised to read "E1.1D" in lieu of "E1.1C."
  - B. Refer to First Level Electrical Lighting Plan, revised to read as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'C'".
    - 2. Room numbers revised to reflect Zone 'D' designation
- ED-11 Refer to Drawing E2.1C (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'C'.
    - 2. Drawing No. revised to read "E2.1D" in lieu of "E2.1C."
  - B. Refer to First Level Power and Systems Plan, revised to read as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'C'".
    - 2. Room numbers revised to reflect Zone 'D' designation.
    - 3. Notes identifying Alternate Prices A-2 and A-3 added to drawing as indicated.
- ED-12 Refer to Drawing E3.1 (reissued):
- A. Refer to Detail numbering, revised as indicated.

**15101 – PEMBROKE ELEMENTARY SCHOOL**

**ITEM NO.      ARCHITECTURAL DRAWING CHANGES**

- AD-8 Refer to Drawing No. TS.1 (reissued):
- A. Refer to List of Architectural Drawings, revised as indicated.
  - B. Refer to List of Mechanical Drawings, revised as indicated.
  - C. Refer to List of Electrical Drawings, revised as indicated.

ITEM NO.      ELECTRICAL DRAWING CHANGES

ED-13      Refer to Drawing EC1.1 (reissued):

A.      Refer to Electrical Drawing Index, revised as indicated.

ED-14      Refer to Drawing No. E0.1C (reissued):

A.      Refer to Title Block, revised as follows:

1.      Drawing Title revised to read Zone 'B' in lieu of Zone 'C'
2.      Drawing No. revised to read "E0.1B" in lieu of "E0.1C."

B.      Refer to First Level Demolition Plan – Zone 'C', revised as follows:

1.      Plan Zone designation revised to read "Zone – 'B'" in lieu of "Zone – 'C'".
2.      Room numbers revised to reflect Zone 'B' designation.

ED-15      Refer to Drawing No. E1.1C (reissued):

A.      Refer to Title Block, revised as follows:

1.      Drawing Title revised to read Zone 'B' in lieu of Zone 'C'.
2.      Drawing No. revised to read "E1.1B" in lieu of "E1.1C."

B.      Refer to First Level Electrical Lighting Plan revised to read as follows:

1.      Plan Zone designation revised to read "Zone – 'B'" in lieu of "Zone – 'C'".
2.      Room numbers revised to reflect Zone 'D' designation.

ED-16      Refer to Drawing E2.1C (reissued):

A.      Refer to Title Block, revised as follows:

1.      Drawing Title revised to read Zone 'B' in lieu of Zone 'C'
2.      Drawing No. revised to read "E2.1B" in lieu of "E2.1C."

B.      Refer to First Level Power and Systems Plan, revised to read as follows:

1.      Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'C'".
2.      Room numbers revised to reflect Zone 'D' designation.
3.      Notes identifying Alternate Prices A-2 and A-3 added to drawing as indicated.

ED-17      Refer to Drawing E3.1 (reissued):

A.      Refer to Detail numbering, revised as indicated.

**15102 – PIERCE ELEMENTARY SCHOOL**

ITEM NO.      STRUCTURAL DRAWING CHANGES

- SD-1      Refer to Drawing Nos. S -001, S-002, S-101, and S-501 (reissued):
- A.      Refer to Title Block, revised to delete note "Not For Construction".

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

- AD-9      Refer to Drawing No. TS.1 (reissued):
- A.      Refer to List of Architectural Drawings, revised as indicated.
- AD-10      Refer to Drawing AD1.1 (reissued):
- A.      Refer to Door & Frame Schedule, revised to add Hardware Sets to Door opening B139A, B139B, and B139C.
- AD-11      Refer to Drawing A1.1B reissued):
- A.      Refer to First Level Floor Plan – Zone 'B', revised to add Construction Keynote 2 to Doors B139A, B139B, and B139C.
- AD-12      Refer to Drawing A1.1C (reissued):
- A.      Refer to Wall Partition Key Legend, revised to add description and tag for Wall Type 1,  
B.      Refer to First Level Floor Plan – Zone 'C', revised as follows:
1.      Relocated tile murals added to Corridor A116 with elevation and detail tags all as indicated.
  2.      Added Dimensions to Office A123 and Corridor A121 as indicated.
  3.      Added Wall Type 1 designation between doors AA123A and A123B as indicated.
  4.      Added Section tags to Loading Dock Area.
  5.      Added Section and Elevation tags to generator compound gate and posts.
  6.      Revised Construction Keynote 20.
- AD-13      Refer to Drawing A3.2 (reissued):
- A.      Refer to new Detail 1/A3.2, added to drawing:  
B.      Refer to Elevation 4/A3.2, revised to add detail reference.
- AD-14      Refer to Drawings A4.1, A4.2 and A7.1 (new):
- A.      Drawings added to set.
- AD-15      Refer to Drawing A10.1C (reissued):
- A.      Refer to First level Finish Plan – Zone 'C', revised to add note as indicated.

ITEM NO.      ELECTRICAL DRAWING CHANGES

- ED-18      Refer to Drawing E0.1C (reissued):
- A.      Refer to First level Electrical Demolition Plan –Zone ‘C’, revised to add room names and numbers.
- ED-19      Refer to Drawing E1.1C (reissued):
- A.      Refer to First Level Lighting Plan – Zone ‘C’, revised to add room names and numbers.
- ED-20      Refer to Drawing E2.1A (reissued):
- A.      Refer to First Level Power and System Plan – Zone ‘A’, revised to add notes identifying Alternate Prices A-2 and A-3 as indicated.
- ED-21      Refer to Drawing E2.1C (reissued):
- A.      Refer to First Level Power and System Plan – Zone ‘C’, revised to add notes identifying Alternate Prices A-2 and A-3 as indicated.

**15103 – QUARTON ELEMENTARY SCHOOL**

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

- AD-16      Refer to Drawing No. TS.1 (reissued):
- A.      Refer to List of Structural Drawings, revised to delete list and reference to Drawing S1.1.
- AD-17      Refer to Drawing AD1.1 (reissued):
- A.      Refer to Door and Frame Schedule, revised as follows:
    - 1.      Refer to Door Opening B100, revised to add Hardware Set 23.
    - 2.      Refer to Door Opening C107A, revised to change frame to HM in lieu of AL. and to revise frame finish to PTD in lieu of PFN.
- AD-18      Refer to Drawing A4.1 (reissued)
- A.      Drawing revised to add Detail 4/A6.1
  - B.      Refer to Details 1/A6.1 and 3/A6.1, revised to add survey elevations as indicated.
- AD-19      Refer to Drawing A6.1 (reissued):
- A.      Refer to Enlarged Demolition Plan, revised as follows:
    - 1.      Section tags deleted from drawing.
    - 2.      Demolition Key Notes revised as indicated.

- B. Refer to Enlarged Floor Plan, revised as follows:
  - 1. Section Tags 4/A4.1 added to plan as indicated.
  - 2. Elevations added to landings.

ITEM NO.      ELECTRICAL DRAWING CHANGES

ED-22      Refer to Drawing No. E2.1C (reissued):

- A. Refer to First Level Power and System Plan – Zone ‘C’, revised to add notes identifying Alternate Prices A-2 and A-3 as indicated.

**15105 – BIRMINGHAM COVINGTON SCHOOL**

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

AD-20      Refer to Drawing No. TS.1 (reissued):

- A. Refer to Electrical Drawing Index, revised as indicated.

AD-21      Refer to Drawing AD1.1 (reissued):

- A. Refer to Door and Frame Schedule, revised to add Door D127.

AD-22      Refer to Drawing A1.1B (reissued):

- A. Refer to Title Block, revised to modify Drawing Number to “A9.1B” in lieu of “A1.1B.”
- B. Refer to Locker Legend, revised to modify locker height to 60” in lieu of 72”.

AD-23      Refer to Drawing A1.1D (reissued):

- A. Refer to Construction Keynote Legend, revised to modify note 16 as indicated.  
Refer to First Level Floor Plan – Zone ‘D’, revised as follows:
  - 1. Door number D127 added and Construction Keynote 12 added as indicated.
  - 2. Configuration of new exterior sidewalk revised as indicated.
  - 3. New Detail 2/A1.1D added to drawing.

AD-24      Refer to Drawings A9.1BC and A9.1C (reissued):

- A. Refer to Locker Legend, revised to modify locker height to 60” in lieu of 72”.

ITEM NO.      ELECTRICAL DRAWING CHANGES

ED-23      Refer to Drawing EC1.1 (reissued):

- A. Refer to Electrical Sheet Index, revised as indicated.

- ED-24 Refer to Drawing No. E0.1E (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'E'.
    - 2. Drawing No. revised to read "E0.1D" in lieu of "E0.1E."
  - B. Refer to First Level Demolition Plan – Zone 'E' revised as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'E'".
    - 2. Room numbers revised to reflect Zone 'D' designation.
- ED-25 Refer to Drawing E1.1E (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'E'.
    - 2. Drawing No. revised to read "E1.1D" in lieu of "E1.1E."
  - B. Refer to First Level Lighting Plan – Zone 'E', revised as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'E'".
    - 2. Room numbers revised to reflect Zone 'D' designation.
- ED-26 Refer to Drawing E2.1E (reissued):
- A. Refer to Title Block, revised as follows:
    - 1. Drawing Title revised to read Zone 'D' in lieu of Zone 'E'.
    - 2. Drawing No. revised to read "E2.1D" in lieu of "E2.1E."
  - B. Refer to First Level Power and System Plan – Zone 'E', revised as follows:
    - 1. Plan Zone designation revised to read "Zone – 'D'" in lieu of "Zone – 'E'".
    - 2. Room numbers revised to reflect Zone 'D' designation.
    - 3. Notes identifying Alternate Prices A-2 and A-3 added to drawing as indicated.
- ED-27 Refer to Drawing E3.1 (reissued):
- A. Refer to Detail numbering, revised as indicated;

### **15108 – GROVES HIGH SCHOOL**

#### **ITEM NO. CIVIL DRAWING CHANGES**

- CD-1 Refer to Drawing C1.6 (new):
- A. New Drawing added to Set.

ITEM NO.      LANDSCAPE DRAWING CHANGES

LD-1            Refer to Drawing No L102 (reissued):

- A.    Refer to Tennis Site Plan, revised to add notes referring to Tennis Practice Board and Posts.

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

AD-25          Refer to Drawing No. TS.1 (reissued):

- A.    Refer to Civil Drawing Index, revised as indicated.
- B.    Refer to Landscape Drawing Index, revised as indicated.
- C.    Refer to Architectural Drawing Index, revised as indicated.

AD-26          Refer to Drawing A4.1 (new):

- A.    Drawing added to Set.

**15108 – SEAHOLM HIGH SCHOOL**

ITEM NO.      LANDSCAPE DRAWING CHANGES

LD-2            Refer to Drawing No. L2.02 (reissued):

- A.    Refer to Seaholm Tennis Plan, revised to add notes referring to Tennis Practice Board and Posts.

ITEM NO.      ARCHITECTURAL DRAWING CHANGES

AD-27          Refer to Drawing No. TS.1 (reissued):

- A.    Refer to Civil Drawing Index, revised as indicated.
- B.    Refer to Architectural Drawing Index, revised as indicated.

AD-28          Refer to Drawing A4.1 (new):

- A.    Drawing added to Set.

**\*\*END OF ADDENDUM NO. 2 - BID PACKAGE NO.1\*\***



## LIST OF DRAWINGS

SHEET NO.                      TITLE

**15097 BEVERLY ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN
AD1.1	DOOR AND FRAME SCHEDULE
A0.1B	FIRST LEVEL DEMOLITION PLAN – ZONE ‘B’
A1.1B	FIRST LEVEL PLAN – ZONE ‘B’
A10.1B	FIRST LEVEL FINISH PLAN – ZONE ‘B’
MC1.1	FIRST LEVEL MECHANICAL COMPOSITE PLAN, SHEET INDEX, ABBREVIATION LIST AND SYMBOL LIST
M1.1B	FIRST LEVEL MECHANICAL PLAN – ZONE “B”
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
E1.1B	FIRST LEVEL LIGHTING PLAN – ZONE “B”
E2.1B	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “B”
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

**15098 BINGHAM FARMS ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN
AD1.1	DOOR AND FRAME SCHEDULE
A0.1B	FIRST LEVEL DEMOLITION PLAN – ZONE ‘B’
A0.2B	CLERESTORY DEMOLITION PLAN – ZONE ‘B’
A1.1B	FIRST LEVEL FLOOR PLAN – ZONE ‘B’
A1.2B	CLERESTORY LEVEL FLOOR PLAN – ZONE ‘B’
A2.1B	FIRST LEVEL REFLECTED CEILING PLAN – ZONE ‘B’
A5.1	PLAN DETAIL
A7.1	INTERIOR ELEVATION
A9.1B	FIRST LEVEL CASEWORK PLAN – ZONE ‘B’
A10.1B	FIRST LEVEL FINISH PLAN – ZONE ‘B’
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
<b>E0.1B</b>	<b>FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “A” **ADD02**</b>
<b>E1.1B</b>	<b>FIRST LEVEL LIGHTING PLAN – ZONE “A” **ADD02**</b>
<b>E2.1B</b>	<b>FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “A” **ADD02**</b>
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
LD-1

BID PACKAGE NO. 1

**15099 GREENFIELD ELEMENTARY SCHOOL**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN
AD1.1	DOOR AND FRAME SCHEDULE
A0.1C	FIRST LEVEL DEMOLITION PLAN – ZONE ‘C’
A1.1C	FIRST LEVEL FLOOR PLAN – ZONE ‘C’
A10.1C	FIRST LEVEL FINISH PLAN – ZONE ‘C’
MC1.1	FIRST LEVEL MECHANICAL COMPOSITE PLAN, SHEET INDEX, ABBREVIATION LIST AND SYMBOL LIST
M1.1C	FIRST LEVEL MECHANICAL PLAN – ZONE “C”
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
<b>E0.1C</b>	<b>FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “C” **ADD02**</b>
E1.1C	FIRST LEVEL LIGHTING PLAN – ZONE “C”
E2.1C	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “C”
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

**15100 HARLAN ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN
AD1.1	DOOR AND FRAME SCHEDULE
A0.1D	FIRST LEVEL DEMOLITION PLAN – ZONE ‘D’
A1.1D	FIRST LEVEL FLOOR PLAN – ZONE ‘D’
A2.1D	FIRST LEVEL REFLECTED CEILING PLAN – ZONE ‘D’
A10.1D	FIRST LEVEL FINISH PLAN – ZONE ‘D’
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
<b>E0.1D</b>	<b>FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “D” **ADD02**</b>
<b>E1.1D</b>	<b>FIRST LEVEL LIGHTING PLAN – ZONE “D” **ADD02**</b>
<b>E2.1D</b>	<b>FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “D” **ADD02**</b>
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

**15101 PEMBROKE ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN
AD1.1	DOOR AND FRAME SCHEDULE
A0.1B	FIRST LEVEL DEMOLITION PLAN – ZONE ‘B’

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
LD-2

BID PACKAGE NO. 1

A0.2C	ROOF LEVEL DEMOLITION PLAN – ZONE ‘C’
<b>A1.1B</b>	<b>FIRST LEVEL FLOOR PLAN – ZONE ‘B’ **ADD02**</b>
A3.1	EXTERIOR ELEVATIONS AND DETAILS
A10.1B	FIRST LEVEL FINISH PLAN – ZONE ‘B’
MC1.1	FIRST LEVEL MECHANICAL COMPOSITE PLAN SHEET INDEX, ABBREVIATION LIST AND SYMBOL LIST
M1.1B	FIRST LEVEL MECHANICAL PLAN – ZONE “B”
M4.1	TEMPURATURE CONTROLS
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
E0.1C	FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “C”
E1.1C	FIRST LEVEL LIGHTING PLAN – ZONE “C”
E2.1C	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “C”
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

### **15102 PIERCE ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
<b>L3.01</b>	<b>SOFTBALL FIELD IMPROVEMENTS **ADD02**</b>
<b>L3.02</b>	<b>SOFTBALL FIELD DETAILS **ADD02**</b>
<b>S.001</b>	<b>GENERAL STRUCTURAL NOTES **ADD02**</b>
<b>S.002</b>	<b>SPECIAL INSPECTIONS **ADD02**</b>
<b>S.101</b>	<b>TRUCK DECK PLAN **ADD02**</b>
<b>S.501</b>	<b>TYPICAL DETAILS **ADD02**</b>
AC1.1	COMPOSITE FLOOR PLAN – FIRST LEVEL
AC1.2	COMPOSITE FLOOR PLAN – SECOND LEVEL
AD1.1	DOOR AND FRAME SCHEDULE
A0.1A	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘A’
A0.1B	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘B’
A0.1C	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘C’
A0.2A	SECOND LEVEL DEMOLITION FLOOR PLAN – ZONE ‘A’
A0.2B	SECOND LEVEL DEMOLITION FLOOR PLAN – ZONE ‘B’
A0.2C	SECOND LEVEL DEMOLITION FLOOR PLAN – ZONE ‘C’
A1.1A	FIRST LEVEL FLOOR PLAN – ZONE ‘A’
A1.1B	FIRST LEVEL FLOOR PLAN – ZONE ‘B’
A1.1C	FIRST LEVEL FLOOR PLAN – ZONE ‘C’
A1.2A	SECOND LEVEL FLOOR PLAN – ZONE ‘A’
A1.2B	SECOND LEVEL FLOOR PLAN – ZONE ‘B’
A1.2C	SECOND LEVEL FLOOR PLAN – ZONE ‘C’
A2.2B	SECOND LEVEL REFLECTED CEILING PLAN – ZONE ‘B’
A3.1	EXTERIOR ELEVATIONS
A3.2	EXTERIOR ELEVATIONS
<b>A4.1</b>	<b>SECTIONS **ADD02**</b>
<b>A4.2</b>	<b>SECTIONS **ADD02**</b>

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
LD-3

BID PACKAGE NO. 1

A6.1	ENLARGED PLANS
A7.1	INTERIOR ELEVATIONS
A10.1C	FINISH FLOOR PLAN – ZONE ‘C’
MC1.1	FIRST LEVEL MECHANICAL COMPOSITE PLAN SHEET INDEX, ABBREVIATION LIST AND SYMBOL LIST
MC1.2	SECOND LEVEL MECHANICAL COMPOSITE PLAN
M2.1A	FIRST LEVEL MECHANICAL PLAN – ZONE “A”
M2.1B	FIRST LEVEL MECHANICAL PLAN – ZONE “B”
M2.1C	FIRST LEVEL MECHANICAL PLAN – ZONE “C”
M2.2A	SECOND LEVEL MECHANICAL PLAN – ZONE “A”
M2.2B	SECOND LEVEL MECHANICAL PLAN – ZONE “B”
M2.2C	SECOND LEVEL MECHANICAL PLAN – ZONE “C”
M3.1	MECHANICAL SCHEDULES AND DETAILS
M4.1	TEMPERATURE CONTROLS
M4.2	TEMPERATURE CONTROLS
M4.3	TEMPERATURE CONTROLS
M4.4	TEMPERATURE CONTROLS
M4.5	TEMPERATURE CONTROLS
M4.6	TEMPERATURE CONTROLS
M4.7	TEMPERATURE CONTROLS
M4.8	TEMPERATURE CONTROLS
EC1.1	FIRST LEVEL ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
EC1.2	SECOND LEVEL ELECTRICAL COMPOSITE PLAN
E0.1C	FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “C”.
E1.1C	FIRST LEVEL LIGHTING PLAN – ZONE “C”
E2.1A	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “A”
E2.1B	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “B”
E2.1C	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “C”
E2.2A	SECOND LEVEL POWER AND SYSTEMS PLAN – ZONE “A”
E2.2B	SECOND LEVEL POWER AND SYSTEMS PLAN – ZONE “B”
E2.2C	SECOND LEVEL POWER AND SYSTEMS PLAN – ZONE “C”
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E4.1	PARTIAL POWER ONE LINE DIAGRAM – NEW WORK

### **15103 QUARTON ELEMENTARY**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN – FIRST LEVEL
AD1.1	DOOR AND FRAME SCHEDULE
A0.1B	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘B’
A0.1C	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘C’
A1.1B	FIRST LEVEL FLOOR PLAN – ZONE ‘B’
A1.1C	FIRST LEVEL FLOOR PLAN – ZONE ‘C’
<b>A2.1C</b>	<b>FIRST LEVEL REFLECTED CEILING PLAN – ZONE ‘C’ **ADD02**</b>
A4.1	WALL SECTIONS
A6.1	ENLARGED PLANS

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
 15102, 15103, 15105, 15108, 15109  
 15111, 15112  
 LD-4

BID PACKAGE NO. 1

A8.1	MILLWORK
A9.1C	CASEWORK PLAN – ZONE ‘C’
A10.1C	FINISH FLOOR PLAN – ZONE ‘C’
MC1.1	FIRST LEVEL MECHANICAL COMPOSITE PLAN SHEET INDEX, ABBREVIATION LIST AND SYMBOL LIST
M1.1C	FIRST LEVEL MECHANICAL PLAN – ZONE “C”
EC1.1	FIRST LEVEL ELECTRICAL COMPOSITE PLAN, SHEET INDEX AND SYMBOL LIST
E0.1C	FIRST LEVEL ELECTRICAL DEMOLITION – ZONE “C”
E1.1C	FIRST LEVEL LIGHTING PLAN – ZONE “C”
E2.1C	FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “C”
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

### **15105 BIRMINGHAM COVINGTON MIDDLE SCHOOL**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
AC1.1	COMPOSITE FLOOR PLAN – FIRST LEVEL
AD1.1	DOOR AND FRAME SCHEDULE
A0.1B	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘B’
A0.1BC	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘BC’
A0.1C	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘C’
A0.1D	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘D’
A1.1D	FIRST LEVEL FLOOR PLAN – ZONE ‘D’
A9.1B	FIRST LEVEL CASEWORK PLAN – ZONE ‘B’
A9.1BC	FIRST LEVEL CASEWORK PLAN – ZONE ‘BC’
A9.1C	FIRST LEVEL CASEWORK PLAN – ZONE ‘C’
A10.1D	FIRST LEVEL FINISH FLOOR PLAN – ZONE ‘D’
EC1.1	FIRST FLOOR ELECTRICAL COMPOSITE PLAN, SHEET INDEX, SYMBOL LIST AND LIGHTING FIXTURE SCHEDULE
<b>E0.1D</b>	<b>FIRST LEVEL ELECTRICAL DEMOLITION PLAN – ZONE “D” **ADD02**</b>
<b>E2.1D</b>	<b>FIRST LEVEL POWER AND SYSTEMS PLAN – ZONE “D” **ADD02**</b>
E3.1	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS
E3.2	MISCELLANEOUS DETAILS AND WIRING DIAGRAMS

### **15108 GROVES HIGH SCHOOL**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
<b>C1.1</b>	<b>OVERALL TOPOGRAPHICAL SURVEY **ADD02**</b>
<b>C1.2</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN TENNIS AREA **ADD02**</b>
<b>C1.3</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN FIELD NO 2 **ADD02**</b>
<b>C1.4</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN FIELD NO 3 &amp; 4 **ADD02**</b>
<b>C1.5</b>	<b>SITE ENGINEERING PLAN TENNIS ALTERNATE AT-1 **ADD02**</b>
<b>C1.6</b>	<b>SITE ENGINEERING PLAN FIELD # 2 **ADD02**</b>
<b>C1.7</b>	<b>SITE ENGINEERING PLAN FIELD NO. 3 &amp; 4 **ADD02**</b>

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
LD-5

BID PACKAGE NO. 1

<b>L1.01</b>	<b>TENNIS AND J.V. SOFTBALL DEMOLITION PLAN **ADD02**</b>
<b>L1.02</b>	<b>TENNIS SITE PLAN **ADD02**</b>
<b>L1.03</b>	<b>TENNIS DIMENSION PLAN **ADD02**</b>
<b>L1.04</b>	<b>TENNIS GRADING PLAN **ADD02**</b>
<b>L1.05</b>	<b>TENNIS ALTERNATE AT-1 **ADD02**</b>
<b>L1.06</b>	<b>TENNIS DETAILS **ADD02**</b>
<b>L1.07</b>	<b>PROTECTIVE NETTING DETAILS **ADD02**</b>
<b>L0.08</b>	<b>NET DETAILS **ADD02**</b>
AC1.1	COMPOSITE FLOOR PLAN – FIRST LEVEL
A0.1A	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘A’
A0.1C	FIRST LEVEL DEMOLITION FLOOR PLAN – ZONE ‘C’
A3.1	EXTERIOR ELEVATIONS
A6.1	ENLARGED PLANS
A10.1A	FINISH PLAN – ZONE ‘A’
A10.1C	FINISH PLAN – ZONE ‘C’
ES.01	ELECTRICAL SHEET INDEX, SYMBOL LIST AND ELECTRICAL SITE PLAN - DEMOLITION
ES.02	PARTIAL ELECTRICAL SITE PLAN – DEMOLITION – FIELD NO.2
ES.03	PARTIAL ELECTRICAL SITE PLAN – DEMOLITION – FIELD NO.3 AND NO.4
ES.1	ELECTRICAL SITE PLAN – NEW WORK
ES.2	PARTIAL ELECTRICAL SITE PLAN – NEW WORK – FIELD NO.2
ES.3	PARTIAL ELECTRICAL SITE PLAN – NEW WORK – FIELD NO.3 AND NO.4
ES.4	DETAILS DIAGRAMS AND SCHEDULES

**15109 SEAHOLM HIGH SCHOOL**

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION
<b>C1.1</b>	<b>OVERALL TOPOGRAPHICAL SURVEY **ADD02**</b>
<b>C1.2</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN FIELD NO. 1 **ADD02**</b>
<b>C1.3</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN TENNIS AREA **ADD02**</b>
<b>C1.4</b>	<b>TOPOGRAPHICAL SURVEY AND DEMOLITION PLAN FIELD NO 2 **ADD02**</b>
<b>C1.5</b>	<b>SITE ENGINEERING PLAN FIELD # 1 **ADD02**</b>
<b>C1.6</b>	<b>SITE ENGINEERING PLAN TENNIS AREA **ADD02**</b>
<b>C1.7</b>	<b>SITE ENGINEERING PLAN FIELD # 2 **ADD02**</b>
<b>L1.01</b>	<b>TENNIS COURT AND BASEBALL DEMOLITION PLAN **ADD02**</b>
<b>L1.02</b>	<b>TENNIS COURT AND BASEBALL SITE AND DIMENSION PLAN **ADD02**</b>
<b>L1.03</b>	<b>TENNIS COURT AND BASEBALL GRADING PLAN **ADD02**</b>
<b>L1.04</b>	<b>ALTERNATE TENNIS PLAN AT-1 **ADD02**</b>
<b>L1.05</b>	<b>TENNIS DETAILS **ADD02**</b>
<b>L1.06</b>	<b>PROTECTIVE NETTING DETAILS **ADD02**</b>
AC1.2	COMPOSITE FLOOR PLAN – SECOND LEVEL
A0.2A	SECOND LEVEL DEMOLITION FLOOR PLAN – ZONE ‘A’
A0.2B	SECOND LEVEL DEMOLITION FLOOR PLAN – ZONE ‘B’

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
 15102, 15103, 15105, 15108, 15109  
 15111, 15112  
 LD-6

BID PACKAGE NO. 1

- A3.1 EXTERIOR ELEVATIONS
- A6.1 ENLARGED PLANS
- A10.2A FINISH PLAN – ZONE ‘A’ \*\*ADD02\*\***
- A10.2B FINISH PLAN – ZONE ‘B’ \*\*ADD02\*\***
  
- ES.01 ELECTRICAL SHEET INDEX, SYMBOL LIST AND ELECTRICAL SITE PLAN -  
DEMOLITION
- ES.02 PARTIAL ELECTRICAL SITE PLAN – DEMOLITION – FIELD NO.1
- ES.03 PARTIAL ELECTRICAL SITE PLAN – DEMOLITION – FIELD NO.2
- ES.1 ELECTRICAL SITE PLAN – NEW WORK
- ES.2 PARTIAL ELECTRICAL SITE PLAN – NEW WORK – FIELD NO.1
- ES.3 PARTIAL ELECTRICAL SITE PLAN – NEW WORK – FIELD NO.2
- ES.4 DETAILS DIAGRAMS AND SCHEDULES

**15111 OPERATIONS BUILDING**

- TS.1 COVER SHEET
- AS.1 ARCHITECTURAL SITE PLAN
  
- E0.1 ELECTRICAL DEMOLITION FLOOR PLANS, SHEET INDEX AND ELECTRICAL SYMBOL  
LIST
- E1.1 ELECTRICAL NEW WORK FLOOR PLANS

**15112 TRANSPORTATION BUILDING**

- TS.1 COVER SHEET
- AS.1 ARCHITECTURAL SITE PLAN
  
- E0.1 ELECTRICAL DEMOLITION FLOOR PLANS, SHEET INDEX AND ELECTRICAL SYMBOL  
LIST
- E1.1 ELECTRICAL NEW WORK PLANS

**\*\*END OF SECTION\*\***

ALTERNATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definition: An alternate is an amount proposed by Bidders and stated on the Bid Form that will be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either scope of work or in products, materials, equipment, systems or installation methods described in Contract Documents.
- B. Coordination: Coordinate related work and modify or adjust adjacent work as required to ensure that work affected by each accepted alternate is complete and fully integrated into the project.
- C. Notification: Immediately following award of 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, if any.
- D. Schedule: A "Schedule of Alternates" is included at the end of this section. Specification sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the work described under each alternate.
  - 1. Include as part of each alternate, miscellaneous devices, appurtenances and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate AT-1: To construct the eighth tennis courts at both Groves High School and at Seaholm High School as indicated on the drawings and in the specifications. Work generally involves the removal of existing site elements, the excavation and grading for the sites of the new courts, installation of subsurface material and surfacing as indicated, fencing, nets and other equipment as indicated. In addition, the following are to be included:
  - 1. Seaholm High School: All work related to the relocation of the Experiential Learning Equipment as indicated on the drawings.
  - 2. Groves High School: Civil work relating to the reconfiguration of the parking lot as indicated on the drawings to accommodate the new court.



- B. Alternate No. AT-2: To remove the existing surfaces and related sub-base material for the existing seven (7) tennis courts and to rebuild the courts as indicated on the drawings and in the specifications.
- C. Alternate No. A-1: To provide glazing types GL-3 and GL-12 indicated specifically as security glazing, in lieu of existing or other scheduled glazing, for Beverly, Bingham Farms, Greenfield, Harlan, Pembroke, Pierce, Quarton and Covington Schools, all as indicated on drawings and in specifications.
- D. Alternate No. A-2: To provide electronic access control consisting of an electric strike, proximity sensor and related wiring and accessories for a complete system, for the entrances from the secure lobby to the main office for Beverly, Bingham Farms, Greenfield, Harlan, Pembroke, Pierce, Quarton and Covington Schools all as indicated on drawings and in specifications.
- E. Alternate No. A-3: To provide electronic security hardware and related accessories and wiring tied into the building's security system, for a complete installation for the following doors at the schools noted, as indicated on the drawings and in the specifications:
- |       |               |                        |
|-------|---------------|------------------------|
| 15097 | Beverly       | Doors B101A, and B107A |
| 15098 | Bingham Farms | Doors B114A, and B116B |
| 15099 | Greenfield    | Doors D110, and D105   |
| 15100 | Harlan        | Door B127              |
| 15101 | Pembroke      | Door B109              |
| 15102 | Pierce        | Doors A147, and A132   |
| 15103 | Quarton       | Door C110A             |
| 15105 | Covington     | Door D114              |
- F. Alternate No. A-4: To provide three (3) accent colors for locker doors. For this Alternate, all locker bodies, metal bases, caps and end panels will be the same color throughout the school, selected from one of the standard colors offered by the manufacturer. Banks of lockers will have doors painted one of three accent colors selected from the manufacturer's standard range. A final layout of the color scheme will be provided to the Contractor awarded the work.
- G. Alternate No. A-5: To prepare the existing floor surface and base as recommended by the tile manufacturer and as noted on the drawings, and to install new ceramic tile flooring and base as indicated on drawings and in the specifications, at the following schools for the following rooms:
1. Groves High School: Rooms A106, C102, C105, C113C120, C123, C124, C125, C126, C130, and C131.
  2. Seaholm High School: Rooms B215, B216, B237, B245, B246, B248, B249, B250, B251, B252, B253, B254, and B255.
- H. Alternate No. A-6: At Groves and Seaholm High School football stadium scoreboards, provide **Daktronics** digital video display as per Specification Section 116843, and additional supporting structure, as indicated on drawings and in specifications. Electrical infrastructure noted on the drawings will be part of the base price. **\*\*ADD02\*\***
- I. Alternate No. A-7: To provide lock model Keyless 1 by Keyless Co. in lieu of the specified combination lock for the 685 new lockers scheduled for Covington School as outlined in specification Section 105113.

- J. Alternate No. A-8: To provide lock model 3310 mechanical push button lock by Zyfer Co. in lieu of the specified combination lock for the 685 new lockers scheduled for Covington School as outlined in specification Section 105113.
- K. Alternate A-9: To revise scoreboard, scoring console, and related accessories manufacturer listed on Section 116843 – SCOREBOARD Sentence 2.1.A to Fair-Play, meeting performance criteria and features listed for the Basis of Design models. \*\*ADD02\*\***
- L. Alternate A-10: To revise scoreboard, scoring console, and related accessories manufacturer listed on Section 116843 – SCOREBOARD Sentence 2.1.A to Eversan, meeting performance criteria and features listed for the Basis of Design models. \*\*ADD02\*\***
- M. Alternate A-11: To revise outdoor LED video display manufacturer listed in Section 116843 – SCOREBOARD, Sentence 2.1.C.2 to Fair-Play, meeting performance criteria and features listed for the Basis of Design models. \*\*ADD02\*\***
- N. Alternate A-12: To revise outdoor LED video display manufacturer listed in Section 116843 – SCOREBOARD, Sentence 2.1.C.2 to Eversan, meeting performance criteria and features listed for the Basis of Design models. \*\*ADD02\*\***
- O. Alternate No. M-1: To provide unit ventilators manufactured by **Airedale or Change’Air** meeting the specified performance criteria, and providing the specified actuators and other items noted, in lieu of the unit ventilators manufactured by Trane for the unit ventilator replacement work scheduled for Pierce Elementary School. **\*\*ADD02\*\***
- P. Alternate No. M-2: To provide the Temperature Control System scheduled for Pierce Elementary School by manufactured by Tridium, meeting the specified performance criteria, in lieu of the specified manufacturer – Andover.
- Q. Deduct Alternate No. E-1: To provide electrical distribution equipment manufactured by Siemens, Square-D or Eaton, in lieu of General Electric.
- R. Add Alternate No. E-2: Provide alternate price to replace existing sump seals serving all conduits entering tank sumps.
1. Sump seals shall be specifically selected for use with the existing sumps including both material and sump surface shape. Sump seals shall provide a studded flange connection to create a positive and secure seal with the rubber seal in contact with the sump wall and also around the conduit. Seal to include stud fasteners with a compression ring to provide a high compression mechanical seal. Seals shall withstand a minimum of 6’ of liquid head pressure.
  2. Sump seals shall be corrosion resistant. The exterior studded metal compression ring that provides the positive sealing pressure shall be encapsulated within rubber to protect it from corrosion. All studs and compression ring shall be made of 401 stainless steel and shall be exposed only on the inside of the containment sump. Sump seals shall be chemical resistant. Seals shall be made of PVC Nitrile compound which has been independently tested to insure its compatibility with a wide assortment of chemicals.

3. **Sump seals shall be installed in accordance with the manufacturer's recommendations and installation instructions. Sump seals shall be OPW or approved equal. \*\*ADD02\*\***

**\*\*END OF SECTION\*\***

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes items of finish hardware that are required for swing, sliding, and folding doors, except hardware specified in the same sections as the doors and door frames on which it is installed.
- B. Related Sections include the following:
  - 1. Division 08 Section "Flush Wood Doors".
  - 2. Division 28 Section "Fire Detection and Alarm" for connections to building fire alarm system.

1.3 QUALITY ASSURANCE

- A. Single Source Responsibility:
  - 1. Obtain each category of hardware (hinges, latch and locksets, exit devices, closers, etc.) from a single manufacturer.
- B. Supplier Qualifications:
  - 1. An established finish hardware supplier who is a factory authorized distributor for all products required, and has display samples, inventory, and qualified personnel trained and experienced in preparing Hardware Schedules, issuing templates, and ordering, furnishing, and servicing finish hardware for architecturally designed projects.
  - 2. Supplier or supplier's representative shall meet with Owner to determine keying requirements.
- C. Fire-Rated Openings:
  - 1. Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80. Provide only items of door hardware that are listed by Factory Mutual, Underwriters' Laboratories, or Warnock Hersey for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and frame labels.
- D. Preinstallation Seminar:
  - 1. Before the installation of finish hardware begins, the Contractor/Construction Manager shall request that a hardware installation seminar for the installation of LCN closers and Von Duprin exit devices be conducted by the manufacturer's representative of these products. Seminar to be held at job site and attended by all installers of hardware. Examples: Aluminum doors and carpentry installers. Seminar will address proper

coordination and installation of exit devices, door closers, and weatherstripping, as detailed in the finish hardware schedule for this project, with the use of installation manuals, hardware schedule, templates, physical product samples, and exit device installation videos.

1.4 SUBMITTALS

A. Hardware Schedules:

1. Submit proper number of Hardware Schedules to allow the Architect to retain two copies for his use, plus the number of copies required by the Contractor/Construction Manager for his distribution and use; but, do not submit more than six copies. Include the following:

- a. Door index, listing all doors by Architect's number, with Schedule page number where Hardware is itemized.
- b. Complete preface sheet, in the same order as the Specification, listing product categories only and manufacturers' names of items being furnished, as follows:

<u>CATEGORY</u>	<u>SPECIFIED</u>	<u>SCHEDULED</u>
Hinges	Manufacturer A	Manufacturer B
Locksets	Manufacturer X	Manufacturer X
Kick Plates	Open	Manufacturer Z

- c. Hardware locations: Refer to paragraph 3.1.B, Templates and Hardware Locations.
- d. Opening Description: Single or pair, number, room locations, hand, active leaf, degree of swing, size, material, frame material, and UL Listed.
- e. Hardware Description: Quantity, category, product number, and finish.
- f. Headings that refer to the specified Hardware Set Numbers.
- g. To facilitate checking, follow scheduling sequence specified in Hardware Sets and as outlined in Sequence and Format for the Hardware Schedule published by DHI.
- h. Product data of each hardware item, and shop drawings where required, for special conditions and specialty hardware.
- i. "Vertical" scheduling format only. "Horizontal" schedules will be returned "Not Approved".
- j. Typed copy.
- k. Double spacing of lines containing product details.
- l. 8-1/2 x 11 inch sheets.
- m. Consecutively numbered pages.
- n. U.S. Standard finish symbols or BHMA finish symbols.

2. Do NOT submit hardware catalog cuts.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Label each item of hardware with the appropriate door number and Hardware Schedule heading number, and deliver to the installer so designated by the Contractor/Construction Manager.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General:

1. Requirements for function, size, and other distinctive qualities for finish hardware are specified in the "Hardware Sets" at the end of this Section.

B. Hinges:

1. Furnish class 5BB1 and size 4-1/2 x 4-1/2 inches, unless specified otherwise. Numbers specified are Ives.
  - a. Equal products from any B.H.M.A. member will also be acceptable.

C. Locksets and Latchsets:

1. Mortise Locksets and Latchsets with Lever Trim.
  - a. Function numbers are Schlage L9000 series with 17A lever trim. (No substitutions)

D. Exit Devices:

1. Panic exit and Fire exit Devices.
  - a. Function numbers are Von Duprin 99 series. (No substitutions)

E. Push and Pull Hardware:

1. Push Plates: Plain design, wrought, 6 x 16 x 0.050 inches, square corners, beveled edges. If stile widths will not accept 6 inches, furnish stile width less 2 inches.
2. Pull Plates: Plain design with wrought plate 4 x 16 x 0.050 inches, square corners, beveled edges: 1 inch round rod, straight grip with 10 inch centers.
3. Furnish Push and Pull Hardware from any member of BHMA, except for products specified by particular manufacturers.

F. Closers & Low Energy Operators:

1. Review the door frame and plan details to determine the proper length of arm and the degree of swing. State the degree of door swing in the Hardware Schedule. Provide accessories such as drop and adapter plates, panel adapters, thick-hub shoes, blade stop spacers, and shoe supports as required to install door closers correctly.
  - a. LCN 4000 series. (No substitutions)

G. Kick Plates:

1. Furnish 10 x 0.050 inches x door width less 2 inches at single doors, and less one inch at pairs.
  - a. Where glass or louvers prevent this height, supply with height equal to height of bottom rail less two inches.
  - b. When specified to be installed above surface mounted automatic door bottoms, deduct height of door bottoms.
  - c. Drill and countersink screw holes for oval head undercut screws. Pan head screws are not acceptable.

H. Wall Stops:

1. Furnish with pictorial installation instructions illustrating downward slope of diagonal side.

a.	Door Controls	3252
b.	Ives	WS33
c.	Trimco	1298

I. Cylinders and Keying: All hardware components capable of being locked shall be provided with a cylinder as listed below. Cylinders shall be mortise or rim type as required by function of locking device. Provide cams or tail pieces as required.

1. Furnish cylinders factory master and grand master keyed to existing Best system, according to Owner's instructions. Furnish two change keys for each cylinder and master and grand master keys as required by Owner.
2. Supply cylinders with interchangeable construction cores for use during the construction period. Best Representative shall ship final cores to Owner who shall replace construction cores with final cores and return construction cores to Best Representative.
3. Furnish construction master keys as required by Contractor/Construction Manager.

J. Miscellaneous:

1. Furnish items not categorized in the above descriptions but specified by manufacturers' names in the Hardware Sets.

K. Fasteners:

1. Furnish fasteners of the proper type, size, quantity, and finish.
  - a. Use machine screws and lead anchors for attaching hardware to concrete or masonry.
  - b. Use wall grip inserts at hollow wall construction.
  - c. Install exit devices with fasteners supplied by the exit device manufacturer.
  - d. Attach closers with wood or machine screws.

L. Finishes:

1. Generally, Satin Chrome, US26D. Furnish finish for each item as indicated in sets.

M. Quantities

1. Furnish one hinge for each 30 inches of door height or fraction thereof.
2. Furnish one additional intermediate pivot for doors over 90 inches.
3. Furnish hinges, continuous hinges, electric hinges, pivot sets, electric pivots, roller latches, exit devices, push and pull hardware, closers, overhead holders and stops, kick plates, armor plates, door edgings, bumpers, stops, seals, automatic bottoms, bottom sweeps, stop strips, weatherstripping, and thresholds for both leaves of pairs and batteries unless specified otherwise.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General:

1. Install hardware according to manufacturers' printed instructions and to template dimensions.
2. Refer to Cylinders and Keying in Part 2 of this Section regarding replacement of construction cores with final cores.

B. Templates and Hardware Locations:

1. Furnish hardware made to template. Supply required templates and hardware locations to the door and frame manufacturers.
2. Dimensions are from finish floor to centerline of items.
3. Include this list in Hardware Schedule.

CATEGORY

DIMENSION

Hinges

Door Manufacturer's Standard

Wall Stops

At Head

Roller Bumpers

At Head

C. Inspecting, Adjusting, and Demonstrating:

1. Provide the services of a hardware supplier's or manufacturer's representative to inspect and adjust each item of hardware to ensure proper installation and operation of every unit.
2. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.



3. Instruct the Owner's personnel in adjustment and maintenance of the hardware.

3.2 HARDWARE SETS:

HW SET: 01

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	PANIC HARDWARE	99NL-OP	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	AUTO-EQUALIZER	4642	689	LCN
2	EA	WALL PLATE SWITCH	8310-856T	689	LCN
2	EA	ESCUTCHEON	8310-874		LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	ELECTRONIC KEY PAD	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER, ELECTRONIC KEY PAD AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

HW SET: 02

1	EA	CONTINUOUS HINGE	112HD-EPT	PCO	IVE
1	EA	PANIC HARDWARE	99EO	626	VON
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 03 (ALTERNATE)

1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES.

NOTE: MODIFY, PATCH AND REPAIR THE EXISTING DOOR AND FRAME FOR THE NEW ITEMS. REUSE THE BALANCE OF EXISTING HARDWARE.

SECTION 087100  
DOOR HARDWARE

HW SET: 04

1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9095BDC 17A 24VDC	626	SCH
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE DOOR WILL BE UNLOCKED ON BOTH SIDES DURING SCHOOL HOURS. THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY AND EXIT. WHEN THE DOOR IS LOCKED, THE PANIC BUTTON LOCATED INSIDE THE ADMINISTRATION AREA WILL LOCK THE DOOR ON BOTH SIDES WHEN PRESSED.

NOTE: MODIFY, PATCH AND REPAIR THE EXISTING DOOR AND FRAME FOR THE NEW ITEMS. REUSE THE BALANCE OF EXISTING HARDWARE.

HW SET: 05

1	EA	ELECTRIC STRIKE	REUSE EXISTING
1	EA	LOW-ENERGY OPERATOR	REUSE EXISTING
1	EA	PROXIMITY READER	REUSE EXISTING
1	EA	KEY PAD	REUSE EXISTING
1	EA	POWER SUPPLY	REUSE EXISTING

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES. THE DOOR CONTACT IS MONITORED BY THE SECURITY SYSTEM. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

HW SET: 06

1	EA	ELECTRIC STRIKE	9500 24VDC (FAIL SECURE)	630	HES
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

NOTE: MODIFY, PATCH AND REPAIR THE EXISTING DOOR AND FRAME FOR THE NEW ITEMS. REUSE THE BALANCE OF EXISTING HARDWARE.

SECTION 087100  
DOOR HARDWARE

HW SET: 07 (ALTERNATE)

1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9095BDC 17A 24VDC	626	SCH
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE DOOR WILL BE UNLOCKED ON BOTH SIDES DURING SCHOOL HOURS. THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY AND EXIT. WHEN THE DOOR IS LOCKED, THE PANIC BUTTON LOCATED INSIDE THE ADMINISTRATION AREA WILL LOCK THE DOOR ON BOTH SIDES WHEN PRESSED.

NOTE: MODIFY, PATCH AND REPAIR THE EXISTING DOOR AND FRAME FOR THE NEW ITEMS. REUSE THE BALANCE OF EXISTING HARDWARE.

HW SET: 08

1	EA	ELECTRIC STRIKE	9500 24VDC (FAIL SECURE)	630	HES
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	KEY PAD	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

NOTE: MODIFY, PATCH AND REPAIR THE EXISTING DOOR AND FRAME FOR THE NEW ITEMS. REUSE THE BALANCE OF EXISTING HARDWARE.

HW SET: 09

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9095BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS33	626	IVE
1	SET	SEALS	2525B	BRN	NGP
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE DOOR WILL BE UNLOCKED ON BOTH SIDES DURING SCHOOL HOURS. THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY AND EXIT. WHEN THE DOOR IS LOCKED, THE PANIC BUTTON LOCATED INSIDE THE ADMINISTRATION AREA WILL LOCK THE DOOR ON BOTH SIDES WHEN PRESSED.

SECTION 087100  
DOOR HARDWARE

HW SET: 10

1	EA	CONTINUOUS HINGE	112HD-EPT	PCO	IVE
1	EA	POWER TRANSFER	EPT-2	689	VON
1	EA	ELECTRIC LOCK	L9095BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE DOOR WILL BE UNLOCKED ON BOTH SIDES DURING SCHOOL HOURS. THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY AND EXIT. WHEN THE DOOR IS LOCKED, THE PANIC BUTTON LOCATED INSIDE THE ADMINISTRATION AREA WILL LOCK THE DOOR ON BOTH SIDES WHEN PRESSED.

HW SET: 11

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9095BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE DOOR WILL BE UNLOCKED ON BOTH SIDES DURING SCHOOL HOURS. THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY AND EXIT. WHEN THE DOOR IS LOCKED, THE PANIC BUTTON LOCATED INSIDE THE ADMINISTRATION AREA WILL LOCK THE DOOR ON BOTH SIDES WHEN PRESSED.

HW SET: 12

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE

SECTION 087100  
DOOR HARDWARE

HW SET: 12 (ALTERNATE)

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9092BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 13

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070BDC 17A	626	SCH
1	EA	OVERHEAD STOP	100S	630	IVE

HW SET: 14

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	CLASSROOM LOCK	L9070BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN

HW SET: 14 (ALTERNATE)

1	EA	CONTINUOUS HINGE	112HD-EPT	PCO	IVE
1	EA	POWER TRANSFER	EPT-2	689	VON
1	EA	ELECTRIC LOCK	L9092BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 15

1	EA	CONTINUOUS HINGE	224HD	PCO	IVE
1	EA	FIRE EXIT HARDWARE	99L-F 996L	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS33	626	IVE
1	SET	SEALS	2525B	BRN	NGP

02/26/16 ISSUED FOR ADDENDUM 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
087100-10

BID PACKAGE NO. 1

SECTION 087100  
DOOR HARDWARE

HW SET: 16

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	OVERHEAD STOP	900S	630	IVE
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	2525B	BRN	NGP

HW SET: 16 (ALTERNATE)

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 ETW4	652	IVE
1	EA	ELECTRIC LOCK	L9092BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	OVERHEAD STOP	900S	630	IVE
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	2525B	BRN	NGP
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 17

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	PANIC HARDWARE	99NL-OP	626	VON
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	AUTO-EQUALIZER	4642	689	LCN
1	SET	WEATHER SEAL	BY FRAME SUPPLIER		B/O
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP
1	EA	WALL PLATE SWITCH	8310-853T (BOLLARD)	689	LCN
1	EA	JAMB SWITCH	8310-818T	689	LCN
1	EA	BOLLARD POST	8310-866	628	LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

SECTION 087100  
DOOR HARDWARE

HW SET: 18

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	PANIC HARDWARE	99EO	626	VON
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	SET	WEATHER SEAL	BY FRAME SUPPLIER		B/O
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 19

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	CLASSROOM LOCK	L9070BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN

HW SET: 19 (ALTERNATE)

1	EA	CONTINUOUS HINGE	112HD-EPT	PCO	IVE
1	EA	POWER TRANSFER	EPT-2	689	VON
1	EA	ELECTRIC LOCK	L9092BDC 17A 24VDC	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	PANIC BUTTON	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 20

2	EA	CONTINUOUS HINGE	224HD	628	IVE
2	EA	MANUAL FLUSH BOLTS	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP1	626	IVE
1	EA	STOREROOM LOCK	L9080BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH X ST-1586	689	LCN
1	SET	WEATHER SEAL	700N	AL	NGP
1	EA	ASTRAGAL SEAL	178SA	AL	NGP
1	EA	DRIP CAP	16A	AL	NGP
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP

02/26/16 ISSUED FOR ADDENDUM 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
087100-12

BID PACKAGE NO. 1

SECTION 087100  
DOOR HARDWARE

HW SET: 21

1	EA	AUTO-EQUALIZER	4642	689	LCN
2	EA	WALL PLATE SWITCH	8310-856T	689	LCN
2	EA	ESCUTCHEON	8310-874		LCN
1	EA	ELECTRIC STRIKE	REUSE EXISTING		
1	EA	PROXIMITY READER	REUSE EXISTING		
1	EA	KEY PAD	REUSE EXISTING		
1	EA	POWER SUPPLY	REUSE EXISTING		

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE LEVER WILL PERMIT EGRESS AT ALL TIMES. THE DOOR CONTACT IS MONITORED BY THE SECURITY SYSTEM. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

HW SET: 22

1	EA	CONTINUOUS HINGE	112HD	PCO	IVE
1	EA	PANIC HARDWARE	99NL-OP	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	AUTO-EQUALIZER	4642	689	LCN
2	EA	WALL PLATE SWITCH	8310-856T	689	LCN
2	EA	ESCUTCHEON	8310-874		LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

HW SET: 23

1	EA	CONTINUOUS HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	L9080BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH X ST-1586	689	LCN
1	SET	WEATHER SEAL	700N	AL	NGP
1	EA	DRIP CAP	16A	AL	NGP
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP

02/26/16 ISSUED FOR ADDENDUM 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
087100-13

BID PACKAGE NO. 1



SECTION 087100  
DOOR HARDWARE

HW SET: 24

1	EA	CONTINUOUS HINGE	224HD	PCO	IVE
1	EA	PANIC HARDWARE	99NL-OP	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	AUTO-EQUALIZER	4642	689	LCN
2	EA	WALL PLATE SWITCH	8310-856T	689	LCN
2	EA	ESCUTCHEON	8310-874		LCN
1	EA	PROXIMITY READER	BY SECURITY CONTRACTOR		B/O
1	EA	ELECTRONIC KEY PAD	BY SECURITY CONTRACTOR		B/O
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE PROXIMITY READER, ELECTRONIC KEY PAD AND SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES. THE PROXIMITY READER AND ACCESS CONTROL SYSTEM WILL ENABLE THE OUTSIDE ACTIVATION SWITCH. THE INSIDE ACTIVATION SWITCH WILL ALWAYS BE ACTIVE, AND WILL RETRACT THE LATCHBOLT PRIOR TO ACTIVATING THE OPERATOR.

HW SET: 25

1	EA	CONTINUOUS HINGE	224HD-EPT	PCO	IVE
1	EA	PANIC HARDWARE	99EO	626	VON
1	EA	ELECTRIC STRIKE	6111 FSE 24VDC	630	VON
1	EA	OFFSET PULL	908.09.899 X 909.39.099	WHT	HAF
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	POWER SUPPLY	BY SECURITY CONTRACTOR		B/O

OPERATION: THE SCHEDULE OF THE ACCESS CONTROL SYSTEM WILL UNLOCK THE DOOR FOR ENTRY. THE INSIDE PANIC DEVICE WILL PERMIT EGRESS AT ALL TIMES.

HW SET: 26

2	EA	CONTINUOUS HINGE	224HD	628	IVE
2	EA	MANUAL FLUSH BOLTS	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP1	626	IVE
1	EA	STOREROOM LOCK	L9080BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH X ST-1586	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	WEATHER SEAL	700N	AL	NGP
1	EA	ASTRAGAL SEAL	178SA	AL	NGP
1	EA	DRIP CAP	16A	AL	NGP
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP

02/26/16 ISSUED FOR ADDENDUM 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15108, 15109  
15111, 15112  
087100-14

BID PACKAGE NO. 1

SECTION 087100  
DOOR HARDWARE

HW SET: 27

1	EA	CONTINUOUS HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	L9080BDC 17A	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH X ST-1586	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	WEATHER SEAL	700N	AL	NGP
1	EA	DRIP CAP	16A	AL	NGP
1	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425	AL	NGP

**HW SET: 28**

<b>1</b>	<b>EA</b>	<b>CONTINUOUS HINGE</b>	<b>112HD</b>	<b>DKB</b>	<b>IVE</b>
<b>1</b>	<b>EA</b>	<b>EXIT DEVICE</b>	<b>REUSE EXISTING</b>		
<b>1</b>	<b>EA</b>	<b>RIM CYLINDER</b>	<b>REUSE EXISTING</b>		
<b>1</b>	<b>EA</b>	<b>DOOR PULL</b>	<b>REUSE EXISTING</b>		
<b>1</b>	<b>EA</b>	<b>SURFACE CLOSER</b>	<b>REUSE EXISTING</b>		
<b>1</b>	<b>EA</b>	<b>WEATHER SEAL</b>	<b>REUSE EXISTING</b>		
<b>1</b>	<b>EA</b>	<b>DOOR SWEEP</b>	<b>C627DKB</b>	<b>DKB</b>	<b>NGP</b>
<b>1</b>	<b>EA</b>	<b>THRESHOLD</b>	<b>REUSE EXISTING</b>		

**NOTE: MODIFY, PATCH AND REPAIR THE EXISTING FRAME FOR THE NEW DOOR. THE EXISTING ITEMS LISTED ABOVE WILL BE SALVAGED FROM THE EXISTING DOORS AND REUSED ON THE NEW REPLACEMENT DOORS. \*\*ADD02\*\***

**\*\*END OF SECTION\*\***

TENNIS PRACTICE BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. This section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
  - 1. Section 03 3010 Portland Cement Concrete
  - 2. Section 32 3130 Chainlink Fence - Vinyl

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary for the installation of tennis practice boards.

1.3 QUALITY ASSURANCE

- A. Warranty Guarantee: The Contractor and any Sub-contractors hereunder guarantee their respective work against defective materials or workmanship for a period of two (2) years from the date of filing notice of completion and an acceptance by the Owner.
- B. Product Testing: All material installed under this specification shall be subject to testing by Owner at his expense. Any material so inspected and found to be not in strict conformance with this specification shall be promptly removed and replaced by the Contractor at his expense.

1.4 SUBMITTALS:

- A. Submit manufacturer literature, identifying the particular item to be installed. Manufacturer information should include photographs, and applicable technical information.

PART 2 - PRODUCTS

2.1 PRACTICE BOARD – (2) 36' Sections Required

- A. Practice board shall be two sets of, nine (9) 4' by 8' ht. fiber glass panels, total width 36'-0". Front and back of panels to be dark green. Panels to be mounted 12" above grade on 2" by 2" steel channels field mounted to 4" fence posts 6' on center. All miscellaneous equipment is to be painted gloss black. Practice board shall be 8' by 20' Flat Slimline Series" manufactured by:
  - 1. Bakko Bak Board  
6618 Randolph Blvd. San Antonio, TX 78233  
Phone: (800) 445-2673  
Fax: (210) 655-8343
- B. New fence posts shall be 4" diameter green vinyl steel, schedule 40 pipe extending 10' above tennis court grade. Posts shall be 6' on center, set in 14" diameter by 42" concrete footings. Top of footings shall be 6" below finish grade of courts.
- C. Concrete shall be 6 bag mix with 3500 psi compressive strength after 30 days. Concrete to cure 72 hours prior to installation of practice boards.

02/26/16 ISSUED FOR ADDENDUM NO. 2

TMP15097, 15098, 15099, 15100, 15101  
15102, 15103, 15105, 15106, 15107  
15108, 15109, 15111, 15112

BID PACKAGE NO. 1

116828-1

PART 3 – EXECUTION

3.1 CLEAN UP AND DISPOSAL

- A. Remove from the site all the equipment, materials, and debris resulting from construction work including this section. Leave work area neat and clean and in a condition acceptable by the Architect and Owner. All work shall be complete, ready for use, at the time of final acceptance.

**\*\*END OF SECTION\*\***

SCOREBOARD

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
  - 1. Section 033010 Portland Cement Concrete
  - 2. Division 26 Electrical

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary for installation of single-sided LED scoreboards and steel supports for a complete installation at the football and baseball fields

1.3 QUALITY ASSURANCE AND WARRANTY GUARANTEE

- A. Reference Standards:
  - 1. Standard for Electrics Signs, UL-48, 13<sup>th</sup> Edition
  - 2. Standard for Control Centers for Changing Message Type Signs, UL-1433, 1<sup>st</sup> Edition
  - 3. Standard for CAN/CSA C22.2
  - 4. Federal Communications Commission Regulation Part 15
  - 5. NEC Compliant
  - 6. FCC Compliant
- B. Scoring equipment and accessories shall be through one source from a single manufacturer.
- C. Structural Performance: Provide post and panel signs capable of withstanding the effects of gravity loads and the following loads and stresses within the limits and under conditions indicated determined according to local code requirements:
  - 1. Wind Loads: Determine loads based on a uniform pressure of 30psf wind pressure of 80 mph, acting in any direction.
- D. Thermal Movements: provide post and panel signs that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sk loss.

1. Temperature Change (Range): 120 degrees F, ambient 180 degrees F, material surfaces.

- E. Warranty: Scoreboard shall be guaranteed for a period of five (5) years from the date of acceptance against defects in the workmanship, material or labor and shall be replaced or repaired without cost to the Owner provided the equipment or parts (which include LED segments) are returned to the Manufacturer.

### 1.3 SUBMITTALS

- A. Product data: Submit manufacturer's product illustrations, data and literature that fully describe the scoreboards and accessories proposed for installation. Manufacturer shall provide a colored rendering of proposed scoreboard for Owner approval. Guarantee shall be void if any alteration or service, other than unplugging modules or controls, is performed without Manufacturer's factory authorization; or if the equipment shall have been connected to incorrect power, or is improperly grounded or improperly installed. Equipment which is subjected to accident, neglect, abuse, misuse or other natural disasters, including but not limited to: fire, wind, lightning, flood, is not covered by the guarantee.
- B. Shop drawings: Submit mechanical and electrical drawings.
- C. Maintenance Data: Manufacturer's installation, operation, and maintenance manuals.

### 1.4 DELIVERY AND HANDLING

- A. Deliver post and scoreboard signs in protective covering and crating to protect sign components and surfaces against damage.

## PART 2 - PRODUCTS

### 2.1 SCOREBOARD

**A. Manufacturer and Basis of Design: Daktronics.**

~~1. Daktronics~~

~~2. Eversan~~

~~3. Fair-Play \*\*ADD02\*\*~~

B. Provide for baseball field(s) as follows:

1. Scoreboard: Basis of Design Daktronics Model BA-2518. 4' high x 9' wide for baseball and softball
- a. Color: Scoreboard and border striping to be selected by Owner from manufacturer's standard colors.
- b. Digits: Shall be TS AlInGaP Light Emitting Diodes (LEDs) with seven bar segments per digit. Digit panels shall be fastened with screws and allow for easy access and removal. Rivets are not an acceptable fastening method. All LED digits shall be Amber in color

1) HOME, Guest and INNING digits 18" high

- 2) BALL, STRIKE and OUT indicators 2" high

c. Caption:

- 1) "HOME" for home side.
- 2) "GUEST" for Visitor side
- 3) HOME, Guest and INNING captions: 8" high
- 4) BALL, STRIKE and OUT captions; 6" high
- 5) Manufacturer standard White in color

d. Accessories:

- 1) 1 ½" border stripe - white

C. Provide for football field(s) as follows:

1. Scoreboard: Basis of Design Daktronics Model FB-2019-A-PV-120F, 8' high x 18' wide football/track

a. Color: Scoreboard and border striping color to be selected by Owner from manufacturer's standard colors.

b. Digits: Shall be TS AllnGaP Light Emitting Diodes (LEDs) with seven bar segments per digit. Digit panels shall be fastened with screws and allow for easy access and removal. Rivets are not an acceptable fastening method. All LED digits shall be Amber in color

- 1) HOME, GUEST, DOWN, TO GO, BALL ON, QTR, and clock digits: 24" (610 mm) high
- 2) Time Outs Left (T.O.L.) = 18" in height

(Note: LED dots in lieu of numerical digits will not be accepted)

c. Caption:

- 1) "HOME" for home side
- 2) "GUEST" for Visitor side
- 3) HOME, GUEST, DOWN, TO GO, BALL ON, QTR, and track captions: 12" (305 mm) high
- 4) Manufacturer standard White in color

d. Accessories:

1. 1 ½" border stripe – white
2. 12VDC trumpet horn
3. 15" PanaView Time Outs Left option

2. Outdoor LED Video Display above scoreboard (Alternate A-6); Basis of Design: Daktronics Model DVX-103-20MT-HC-144X252-120BU-LT-MR-CNTLRM-none

a. 9'-11" high x 17'-1" wide nominal dimensions single one-sided display

b. Matrix: 144 lines by 252 columns, 20mm spacing

c. LED Color: Full Color RGB

d. Filler Panels on remaining width of scoreboard

2.2 SCORING CONSOLE

- A. Console Basis of Design: Daktronics All Sport® 5000 controller
- B. Scores multiple sports using changeable keyboard inserts
- C. Controls multiple scoreboards and displays, including other All Sport 5000 controlled displays currently owned by customer
- D. Recalls clock, score, and period information if power is lost
- E. Console capable of automatically calculating and displaying DOWN & TO GO for each play
- F. Runs Time of Day and Segment Timer modes
- G. Console includes:
  - 1. Rugged aluminum enclosure to house electronics
  - 2. Sealed membrane water-resistant keyboard
  - 3. 32-character LCD to verify entries and recall information currently displayed
  - 4. Power cord that plugs into a standard grounded outlet; 6 watts max
  - 5. Control cable to connect to the control receptacle junction box (wired system only)
  - 6. Hand-held switch for main clock start/stop and horn
  - 7. Soft-sided carrying case
- H. Accessory Equipment
  - 1. 2.4 GHz spread spectrum radio system with frequency hopping technology and 64 non-interfering channels; system includes a transmitter installed inside the console and a receiver installed inside the scoreboard(s)
  - 2. Hard carrying case
  - 3. Battery pack

2.3 ACCESSORIES

- A. A loud solid-state trumpet horn shall be located in the scoreboard. The horn shall automatically sound at 0:00 for a minimum of 2 seconds. Operator must have the capability of sounding the horn manually or to omit the automatic horn.
- B. Control Cable; One length required per scoreboard of 2-wire cable ¼" in diameter and to be placed in PVC conduit. See plans for scoreboard locations and conduits sizes.
- C. Junction Box: One 4" x 2 1/8" with cover, to be installed within pressbox and shall be furnished with the scoreboard.



2.4 SUPPORT SYSTEM

- A. Steel supports and concrete foundations shall be per manufacturer's recommendations. Steel shall be primed and painted.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify that mounting structure is ready to receive scoreboard and that concrete has cured adequately according to specifications. Installer shall also verify placement of conduit and junction boxes are as specified and indicated on plans.
- B. All power and control cables shall be routed in conduit. Scoreboard control wiring will be the responsibility of the contractor furnishing and installing the scoreboard.
- C. Install scoreboard and applicable exterior displays in accordance with manufacturer's instructions.
  - 1. Installed scoreboard unit shall be plumb and level.
- D. Provide boxes, cover plates and jacks in locations shown on plans. Installer shall test connect control unit to all jacks and check for proper operation of control unit, scoreboard and all features. Control unit in carrying case, manuals and operational information shall be turned over to Owner's Representative.

\*\*END OF SECTION\*\*

ACCESS CONTROL AND VISITOR NOTIFICATION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Existing system description.
2. Security access operating system.
3. Door Modules.
4. Readers, standard width.
5. Readers, narrow width.
6. Power supplies.
7. Panic lock down button.
8. Access Control Panels (existing).
9. Door Position Switches (not used).
10. Electric Locks (furnished with door hardware).
11. Wiring and raceways.

1.3 DEFINITIONS

- A. VNS: The district utilizes a visitor notification system. The VNS utilizes a number of integrated building systems including card access, video security, telephone/intercom, lock down, etc.
- B. CCTV: Closed-circuit television.
- C. CPU: Central processing unit.
- D. Credential: Data assigned to an entity and used to identify that entity.
- E. GFI: Ground fault interrupter.
- F. I/O: Input/Output.

1.4 SYSTEM INTEGRATOR

- A. Card Access/VNS system revisions shall be performed by a system integrator with a minimum 5 years' experience in the installation of card access systems and the integration of building systems.
- B. The system integrator shall be a subcontractor to the electrical contractor.
- C. The system integrator shall be responsible for the following:
  - 1. Purchase, installation, wiring and connections of all system components as indicated on plan and herein specified.
  - 2. Installation, wiring and connections of all electrified door hardware.
  - 3. System programming revisions.
  - 4. System tip switch settings and adjustments.
  - 5. System testing.
- D. The following system integrators are acceptable:
  - Electronic Security Systems: 586-765-8400
  - Progressive Hardware: 586-491-6900
  - Flint Builders Hardware (FBH): 810-239-9471

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
  - 1. Cable installer must have on staff a registered communication distribution designer certified by Building Industry Consulting Service International.
- B. Source Limitations: Obtain central station, workstations, controllers, Identifier readers, and all software through one source from single manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NFPA 70, "National Electrical Code."

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Reference each product to a location on Drawings. Test and evaluation data presented in Product Data shall comply with SIA BIO-01.

SECTION 281300  
ACCESS CONTROL AND  
VISITOR NOTIFICATION  
SYSTEM

- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
  - 1. Diagrams for cable management system.
  - 2. System labeling schedules, including electronic copy of labeling schedules that are part of the cable and asset identification system of the software specified in Parts 2 and 3.
  - 3. Wiring Diagrams. For power, signal, and control wiring. Show typical wiring schematics including the following:
    - a. Cable Administration Drawings: As specified in "Identification" Article.

1.7 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.8 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For security system to include in emergency, operation, and maintenance manuals.
  - 1. Hard copies of manufacturer's specification sheets, operating specifications, design guides, user's guides for software and hardware, and PDF files on CD-ROM of the hard-copy submittal.
  - 2. System installation and setup guides with data forms to plan and record options and setup decisions.

1.9 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Fuses of all kinds, power and electronic, equal to 10 percent of amount installed for each size used, but no fewer than three units.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Project Electronics:
  - 1. Store in temperature- and humidity-controlled environment in original manufacturer's sealed containers. Maintain ambient temperature between 50 and 85 deg F (10 and 30 deg C), and not more than 80 percent relative humidity, noncondensing.
  - 2. Open each container; verify contents against packing list; and file copy of packing list, complete with container identification, for inclusion in operation and maintenance data.

SECTION 281300  
ACCESS CONTROL AND  
VISITOR NOTIFICATION  
SYSTEM

3. Mark packing list with the same designations assigned to materials and equipment for recording in the system labeling schedules that are generated by software specified in "Cable and Asset Management Software" Article.
4. Save original manufacturer's containers and packing materials and deliver as directed under provisions covering extra materials.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. The card access system is existing manufactured by Vanderbilt Industries. The system utilizes a VRCNX series controller with VRINX series door modules.
- B. The existing card access main entry door is interfaced with the existing Valcom telephone system in order to provide intercom functions and to unlock the door remotely from the main office when locked.
- C. The existing system will be modified and expanded to accommodate this project. New readers, door controllers, power supplies, cabling, etc., will be installed and will interface with door hardware including locks, door operators, etc.
- D. A panic door lock down pushbutton will be installed at the main office and will control doors into or out of the office.

2.2 SOFTWARE

- A. The system software is existing and will be maintained. Modify system programming as required to accommodate the sequence of security operations.

2.3 ACCESS CONTROL PANELS

- A. Access control panels are existing. Modify access control panels as required to accommodate project revisions. Access control panels are Vanderbilt Industries VRCNX series.

2.4 DOOR MODULES

- A. Furnish and install new door modules and modify existing as required.
- B. New door modules shall be Vanderbilt industries model VRINX.
- C. The system software is existing and will be maintained. Modify system programming as required to accommodate this project. Door control modules shall:
  1. VRINX connects one read head to a reader.
  2. Be RS-485 protocol.

3. Dual voltage 12 and 24 volt DC.
4. Supports proximity, smart card, magnetic stripe, biometrics, bar code and Wiegand technologies.
5. Provide two Form "C", single pole/double throw, mechanically latching 1 A relay outputs.
6. Monitor four supervised or unsupervised contact inputs.
7. NEMA one metal enclosure with hinged and dual screw door.
8. On board connection for tamper switch.
9. Tamper switch, lock and key option available
10. Dimensions: 3-13/16" H x 3-13/16" W x 3/4" D
11. Enclosure dimensions: 8-1/4" H x 7-1/2" W x 3-1/2" D
12. Power consumption: 120 mA (without read heads).
13. BAA compliant
14. UL 294 Approved

## 2.5 POWER SUPPLIES

- A. Existing door power supplies may be used to serve new load provided the power supply is not loaded more than 75% of it nameplate rating.
- B. Submit shop drawings on all card access system equipment and components. Include with shop drawings the rating and loading of all new power supplies.
- C. All power supply loading shall be based on door hardware shop drawings.
- D. All power supplies shall be labeled with the panel and circuit from which it is served.
- E. 120 volt circuits serving existing power supplies may be used to serve new power supplies provided the existing 120 volt circuit is not loaded greater than 14 amps.
- F. All new 120 volt circuits serving door power supplies shall originate from the circuit breaker panel currently serving power supplies in the area. Typically this will be a panelboard provided with transient voltage surge suppression and served from the generator. All card access system power must be served from a generator powered panel.
- G. New power supplies shall be Vanderbilt 3 amp, 5 amp or 10 amp, 24 volt DC by Vanderbilt Industries. Power supplies shall not be loaded beyond 75% of their nameplate. Power supplies shall be as follows:
  1. SMS-3APS 24VDC @ 3A Power Supply/Charger

SECTION 281300  
ACCESS CONTROL AND  
VISITOR NOTIFICATION  
SYSTEM

2. SMS-5APS 24VDC @ 5A Power Supply/Charger
3. SMS-10APS 24VDC @ 10A Power Supply/Charge
4. Precise battery regulation for all lead acid batteries
5. LED's indicate AC, power good, and DC on
6. Electronic power limited short circuit protection
7. Thermal regulation to prevent overheating
8. Output ON/OFF service switch
9. No switch over or voltage drop when input power fails
10. Non latching or latching mode
11. Universal 11-29VDC Operation
12. Reverse polarity protected
13. Normally on & normally off Output
14. Output LED indicates condition
15. Form C contacts indicates trigger status
16. 12A transfer relay contacts
17. Outputs can be triggered with:
  - a. N/O or N/C switch with supervised EOL
  - b. N/C switch with over ride
  - c. N/C switch with AUX-IN auxiliary
  - d. Ground on any trigger input when green jumper is enabled
18. RoHS Lead Free
19. Module Dimensions: 2.23"W x 3.75"L x .8"H
20. UL listed for UL 294 Access Control
21. Up to 1A continuous supply current
22. Electronically protected against over current and temperature

2.6 ACCESS CONTROL READERS AND READER/KEYPADS

- A. Manufacturer:
1. Reader only (standard width): Allegion aptiQ MT15
  2. Reader only (narrow width): Allegion aptiQ MT11
  3. Reader and key pad: Allegion aptiQ MTK15
  4. No substitutes will be accepted.
- B. Requirements: Multi-technology Contactless reader
- C. Multi-technology contactless reader shall read access control data from both 125 kHz and 13.56 MHz contactless smart cards and NFC-compatible. The multi-technology contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz Proximity and 13.56 MHz contactless smart cards and devices.
- D. Product construction suitable for both indoor and outdoor applications.
- E. Customizable behavior for indicator lights and beeper.
- F. Multi-technology contactless reader shall comply with the following 13.56MHz-related standards to ensure product compatibility and predictability of performance in accordance with ISO 14443.
- G. Multi-technology contactless reader shall be suitable for global deployment by meeting worldwide radio and safety regulatory compliance including:
1. FCC Certification
  2. UL294
  3. ULC-S319
  4. FIPS201 / PIV I
  5. IP65
- H. Multi-technology contactless reader shall provide the ability for mounting to standard electrical boxes through the use of universal international mounting holes.
- I. Multi-technology contactless reader shall be provided with a full potted assembly.
- J. Multi-technology contactless reader shall be provided with a quick connect wire harness.
- K. The Multi-technology contactless reader shall provide customizable reader behavior options either from the factory, or defined in the field through the use of pre-configured command cards. Reader behavior programming options shall include:



SECTION 281300  
ACCESS CONTROL AND  
VISITOR NOTIFICATION  
SYSTEM

1. LED & Audio configurations.
  2. Ability to disable reading of specific card technologies or frequencies.
  3. ISO 14443/15693 CSN output configuration.
  4. Wiegand output spacing and timing.
- L. Multi-technology contactless reader shall provide the following programmable audio/visual indication:
- M. An audio beeper shall provide tone sequence to signify: access granted, access denied, power up, and diagnostics.
- N. A light bar shall provide clear visual status (red/green/amber).
- O. Multi-technology contactless reader shall be designed for low current operation to enable migration from most legacy proximity applications without the need to replace existing access control panels and/or power supplies. Contactless smart card power requirements shall be:
1. Operating voltage: 5 – 16 VDC, reverse voltage protected.
  2. Current requirements: 125 mA DC, 140 mA PEAK @ 12 VDC
  3. Color shall match existing.
  4. Multi-technology contactless reader shall meet the following environmental specifications:
  5. Operating temperature: -31 to 151 degrees F (-35 to 67 degrees C)
  6. Operating humidity: 5% to 95% relative humidity non-condensing
  7. Weatherized design suitable to withstand harsh environments
  8. Certified rating of IP65
- P. Proximity Key Fob \*\*ADD01\*\***
- 1. Include 1,000 key FOB credentials for use with the readers. ADD 01.**
  - 2. Access key fobs shall be used with access readers to gain entry to access control portals (e.g. doors, gates, turnstiles) and to hold information specific to the user. ADD 01.**
  - 3. The fob shall function at 125 kHz. Presentation to the access control reader at any angle within a minimum distance of one (1) inch shall result in an accurate reading of the fob. ADD 01.**
  - 4. The fob shall be compatible with HID, XceedID and Schlage proximity readers. ADD 01.**

**5. This fob shall be compatible with aptiQ multi-technology readers. The fob shall be composed of polycarbonate material. \*\*ADD 01\*\***

2.7 PANIC BUTTONS

- A. Furnish and install panic buttons and wire to trigger a door lock down as indicated on plan.
- B. Panic buttons shall be located as coordinated with district staff and architectural trades prior to rough-in.
- C. Panic buttons shall be push to activate, twist and pull to deactivate, maintained contact, (1) N.O. and (1) N.C.
- D. Button head shall be grey.
- E. Provide all programming and dip switch settings required for operation.
- F. Because doors are fail secure, they shall be normally powered and unlocked. Use of the panel button shall via the door module cause doors to be deenergized and locked.
- G. Panic buttons shall be Allen Bradley #800H-FXT-4-A-AV or equal General Electric, Siemens, Square-D or Eaton.
- H. Install on stainless steel coverplate on single gang box.

2.8 DOOR HARDWARE

- A. Door hardware including locks will be furnished by the door contractor. Door position switches will not be used. Refer to door hardware specifications and coordinate all work with the architectural trades as required for complete and operating systems.

2.9 MOTORIZED DOOR OPERATORS

- A. Motorized door operators will be furnished and installed by architectural trades.
- B. 120 volt service and the local disconnect switch shall be furnished and installed by this electrical contractor.
- C. Door operator pushbuttons will be provided with the operators and shall be installed and wired by this electrical contractor.
- D. Provide interface wiring and connections between the door operator control panel and the card access door module so that the door operator can only be activated when access is approved.
- E. Coordinate all work with architectural trades.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. All card access system revisions shall be coordinated with door hardware revisions and architectural trades.
- B. Refer to architectural drawings and specifications for the sequence of operation at each door and a description of the intended door control security.
- C. The exact location of all readers, operators, pushbuttons, etc. Shall be coordinated with and approved by architectural trades and district staff prior to rough-in.
- D. All readers, operators, pushbuttons, etc. Shall be located at 48" AFF unless otherwise noted or indicated.
- E. Wiring, connections and revisions for all door hardware components and devices shall be in accordance with the manufactures recommendations, wiring diagrams and installation instructions and the equipment shop drawings. Installer shall obtain same prior to installation.
- F. All card access and/or VNS system revisions shall be tested for proper operation.
- G. Card access system details and diagrams are provided to convey the system operation and design intent. Details and diagrams are not guaranteed to be complete or accurate or to reflect the final installation requirements or complete existing conditions. Field verify all existing conditions including ceiling construction, wall construction, architectural conditions, etc. And adjust details and diagrams accordingly. Provide all additional or modify existing as required, raceways, wiring, devices, boxes, connections, etc. And include all costs for same. Include all programming, dip switch settings, etc. As required for the intended security operation and include all costs for same. Bidder shall be responsible for any additional engineering or design required, and shall include all costs for same as required for complete and operating systems in accordance with the design intent. In bidding this project, bidder acknowledges that no additional costs will be approved during construction unless a change in scope is requested by the district.
- H. Provide complete system as built drawings reflecting the system installation.

3.2 PREPARATION

- A. Comply with recommendations in SIA CP-01.

3.3 CABLING

- A. Comply with TIA 569-B, "Commercial Building Standard for Telecommunications Pathways and Spaces."
- B. Comply with NECA 1, "Good Workmanship in Electrical Construction."

SECTION 281300  
ACCESS CONTROL AND  
VISITOR NOTIFICATION  
SYSTEM

- C. Refer to power and system general notes for additional requirements.
- D. Conduits, boxes, raceways, etc. shall be subject to the requirements of specification section 260533 Raceway and Boxes for Electrical Systems.
- E. Wiring, connections and revisions for all door hardware components and devices shall be in accordance with the manufactures recommendations, wiring diagrams and installation instructions and the equipment shop drawings.
- F. One VRINX door module onboard relay shall serve a maximum of two electric strikes or mortise locks. Relays are rated 1 amp at 30 VDC.
- G. All card access and/or VNS system revisions shall be tested for proper operation.
- H. All wiring serving the card access system shall be plenum rated.
- I. The color coding of all wiring serving the card access system shall be the same throughout and shall match existing.
- J. All conduit serving the card access system shall be concealed within building construction. Utilize a finished surface raceway such as Wiremold where concealing conduit is not feasible as a result of existing masonry construction. In existing drywall construction, conceal the conduit.
- K. All card access system low voltage wiring shall be installed in conduit or a finished surface raceway except as follows:
  - L. Where installed above an accessible lay-in ceiling.
  - M. Where installed in a door or window frame mullion
  - N. Low voltage wiring installed above a lay-in accessible ceiling and not in conduit, shall be supported on j-hooks installed at maximum 4 foot on centers. Existing j-hooks maybe used for new wiring.
  - O. When transitioning from conduit to no conduit, utilize a bushing on the end of the conduit.
- P. All junction boxes provided to serve a reader, door operator pushbutton, etc., shall be approved by the manufacturer to serve that device and for the intended purpose. Surface boxes shall be finished, smooth edged and without sharp edges. Box finish shall match the connected raceway.
- Q. Include all conduit sleeves through walls as required for the routing of low voltage cabling. Sleeves installed in existing walls shall utilize a neat hole made with a coring machine or hole saw. Coring in masonry surfaces shall be continuous from one wall surface to the opposing wall surface without spalling. No conduit less than 1" shall be used for sleeves.
- R. Fire proof inside and out all conduit sleeves.
- S. Low voltage cabling shall be installed as required for conformance with the cabling recommendations of the cable manufacturer. Obtain same from the manufacturer.

- T. Low voltage cabling shall be installed as follows:
1. Not installed within 18 inches of light fixture ballasts or within 36 inches of motors or transformers.
  2. In accordance with maximum bending radius as recommended by the manufacturer.
  3. Installed perpendicular to power conduit runs upon their intersection wherever possible.

### 3.4 GROUNDING

- A. Coordinate this article with Drawings.
- B. Comply with Section 280526 "Grounding and Bonding for Electronic Safety and Security."
- C. Comply with IEEE 1100, "Recommended Practice for Power and Grounding Electronic Equipment."
- D. Ground cable shields, drain conductors, and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.
- E. Bond shields and drain conductors to ground at only one point in each circuit.
- F. Signal Ground:
1. Terminal: Locate in each equipment room and wiring closet; isolate from power system and equipment grounding.
  2. Bus: Mount on wall of main equipment room with standoff insulators.
  3. Backbone Cable: Extend from signal ground bus to signal ground terminal in each equipment room and wiring closet.

### 3.5 IDENTIFICATION

- A. In addition to requirements in this article, comply with applicable requirements in Section 260553 "Identification for Electrical Systems" and with TIA/EIA 606-A.
- B. Label each terminal strip and screw terminal in each cabinet, rack, or panel.
1. All wiring conductors connected to terminal strips shall be individually numbered, and each cable or wiring group being extended from a panel or cabinet to a building-mounted device shall be identified with the name and number of the particular device as shown.
  2. Each wire connected to building-mounted devices is not required to be numbered at the device if the color of the wire is consistent with the associated wire connected and numbered within the panel or cabinet.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
  - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:
  - 1. Test each circuit and component of each system. Tests shall include, but are not limited to, measurements of power-supply output under maximum load, signal loop resistance, and leakage to ground where applicable. System components with battery backup shall be operated on battery power for a period of not less than 10 percent of the calculated battery operating time. Provide special equipment and software if testing requires special or dedicated equipment.
  - 2. Operational Test: After installation of cables and connectors, demonstrate product capability and compliance with requirements. Test each signal path for end-to-end performance from each end of all pairs installed. Remove temporary connections when tests have been satisfactorily completed.
- C. Devices and circuits will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.
- E. Verify the proper operation of all system components and sequences.

\*\*END OF SECTION\*\*