



HURST-ROSCHE, INC.

PROJECT MANUAL FOR

TENNIS COURT CONSTRUCTION
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS
HR # 150-0115

Prepared for

Hillsboro C.U.S.D. No. 3
1311 Vandalia Road
Hillsboro, Montgomery County, Illinois

April 7, 2025

Bid Package No. _____

HURST-ROSCHE INC.

1400 E. Tremont Street

Hillsboro, Illinois 62049

217 / 532-3959

DOCUMENT 000110 - TABLE OF CONTENTS

TENNIS COURT CONSTRUCTION
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS
HR # 150-0115

Section Title

PROCUREMENT AND CONTRACTION REQUIREMENTS GROUP
DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
INTRODUCTORY INFORMATION

000110 Table of Contents.....000110-1-3

PROCUREMENT REQUIREMENTS

001116 Invitation to Bid.....001116-1-2
002114 Instructions to Bidders – AIA.....002114-1-7
004113 Bid Form - Stipulated Sum (Single-Prime Contract).....004113-1-5
004300 Procurement Form Supplements.....004300-1-3

CONTRACTING REQUIREMENTS

005214 Agreement Form - AIA Stipulated Sum (Single-Prime Contract).....005214-1-4
006400 Contractor’s Affidavit for Final Completion.....006400-1-1
006450 Waiver of Lien.....006450-1-1
006500 Affidavit of Payment to Material Suppliers and Subcontractors.....006500-1-1
006550 Consent of Surety Company to Final Payment.....006550-1-1
007214 General Conditions - AIA Stipulated Sum (Single-Prime Contract).....007214-1-1
007313 Supplementary Conditions – AIA.....007313-1-6
008250 Prevailing Rate of Wages.....008250-1-5
008600 Drawings, Schedules, and Details.....008600-1-1

SPECIFICATIONS GROUP
GENERAL REQUIREMENTS SUBGROUP
DIVISION 01 - GENERAL REQUIREMENTS

011000 Summary.....011000-1-4
012000 Price and Payment Procedures.....012000-1-5
013000 Administrative Requirements.....013000-1-4
013300 Submittal Procedures.....013300-1-5
014000 Quality Requirements.....014000-1-2
015000 Temporary Facilities and Controls.....015000-1-3
016000 Product Requirements.....016000-1-3
017000 Execution and Closeout Requirements.....017000-1-5

FACILITY CONSTRUCTION SUBGROUP

DIVISION 26 – ELECTRICAL

26 05 19	Low-Voltage Electrical Power Conductors and Cables.....	26 05 19-1-4
26 05 26	Grounding and Bonding for Electrical Systems.....	26 05 26-1-5
26 05 33	Raceway and Boxes for Electrical Systems.....	26 05 33-1-7
26 56 00	Exterior Lighting.....	26 56 00-1-3
26 58 00	Athletic Field Lighting.....	26 58 00-1-9

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 18 23	Concrete Tennis Court Surface.....	32 18 23-1-6
32 18 24	Athletic Field Equipment.....	32 18 24-1-3
32 31 13	Chain Link Fences and Gates.....	32 31 13-1-6

SPECIFIERS:

CIVIL: Justin L. Goodwin, PE



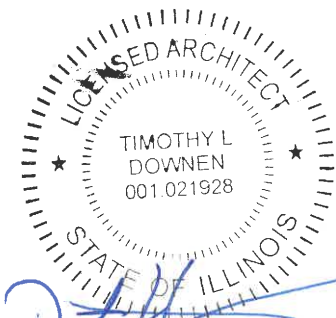
Justin Goodwin
Date: 04/07/2025
Expires: 11/30/2025

ELECT: Mark A. Ritter, PE



Date: 04/07/2025
Expires: 11/30/2025

ARCH: Timothy L. Downen, AIA



Timothy L. Downen
Date: 04/07/2025
Expires: 11/30/2025

END OF SECTION

DOCUMENT 001116 - INVITATION TO BID

Project: **TENNIS COURT CONSTRUCTION
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS
HR # 150-0115**

Owner: **HILLSBORO C.U.S.D. NO. 3
1311 VANDALIA ROAD
HILLSBORO, ILLINOIS 62049**

Architect/Engineer: **HURST-ROSCHE, INC.
1400 E. TREMONT ST.
HILLSBORO, ILLINOIS 62049**

Date: **April 7, 2025**

The Owner will receive Bids until 2:00 PM local prevailing time on Friday, the 25th day of April 2025, at Hillsboro CUSD No. 3 Unit Office, 1311 Vandalia Road, Hillsboro Illinois for the following work:

SCOPE OF WORK:

BASE BID: Project consists of the construction of 6 tennis courts with reinforced cast-in-place concrete pavement, and related grading, drainage, fencing, tennis equipment, and tennis surfacing. Electrical work consists of convenience outlet and sports lighting of 3 of the tennis courts as well as additional parking lot poles and fixtures.

ALTERNATE BID #1: Project consists of reinforced concrete frost wall around the west and portions of the north and south edges of the tennis court pavement as indicated on the Civil Drawings.

ALTERNATE BID #2: Project consists of additional parking lot poles and fixtures as indicated on the Electrical Drawings.

A Pre-bid Meeting will be held on Wednesday, April 9, 2025, at 2:00 PM, prevailing time, at Hillsboro C.U.S.D. No. 3 Unit Office, 1311 Vandalia Road, Hillsboro, Illinois.

Drawings and specifications may be obtained at the office of Hurst-Rosche, Inc., 1400 E. Tremont St., Hillsboro, Illinois, after April 7, 2025, by paying a non-refundable amount of \$40.00 (\$50.00 if mailed) for each set of drawings and specifications.

Bidding Documents, Drawings and Specifications, may be examined by prospective bidders and material suppliers at the offices of Hurst-Rosche, Inc., 1400 E. Tremont St., Hillsboro, Illinois, and the following Plan Rooms:

Central Illinois Plan Room, 1620 S. 5th Street, Springfield, IL 62703
Greater Peoria Contractors & Suppliers Association, 1811 West Altorfer Drive, Peoria, IL 61615
McGraw Hill Construction, www.dodgeprojects.construction.com
Southern Illinois Builders Association, 1468 Green Mount Road, O'Fallon, IL 62269

Drawings and specifications will be available for viewing on the internet at: www.hurst-rosche.com. The documents are being provided for reference purposes only. Bidders are encouraged to obtain a signed and sealed hard copy set of the bidding documents. At a minimum, bidders must obtain clean copies of bid forms from the offices of Hurst-Rosche Inc. by paying a non-refundable amount of \$10.00 to submit a bid for this project.

The Owner requires the project to be substantially completed by September 5, 2025.

Bidders will be required to provide bid security of a sum no less than 10 percent of the bid sum. The bid security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Illinois. Hereinafter this bid security shall be referred to as the bid bond.

Submit two copies of your bid on the bid form provided. Bidders may supplement this form as appropriate. Equipment providers to submit two copies of pricing break down on company letterhead, acknowledging any issued addenda, signed by authorized officer of company and must include all submittals indicated in the mechanical specifications.

Your bid or equipment pricing will be required to be submitted under a condition of irrevocability for a period of 45 days after submission.

The owner reserves the right to accept or reject any or all bids or any part thereof, to waive any informality in bidding, and to accept bids deemed most favorable to the owner.

HILLSBORO C.U.S.D. NO. 3

MR. DAVID POWELL, SUPERINTENDENT

END OF DOCUMENT

DOCUMENT 002114 - INSTRUCTIONS TO BIDDERS - AIA

1.1 SUMMARY

- A. Document Includes:
 - 1. Instructions to Bidders.
 - 2. Site examination.
 - 3. Prebid conference.
- B. Related Documents:
 - 1. Document 001116 - Invitation To Bid.
 - 2. Document 004113 - Bid Form - Stipulated Sum.
 - 3. Document 007214 - General Conditions – AIA Stipulated Sum.
 - 4. Document 007313 - Supplementary Conditions – AIA.

1.2 INSTRUCTIONS TO BIDDERS

- A. These Instructions to Bidders amend or supplement AIA Document A701-1997 - Instructions to Bidders and other provisions of Bidding Documents and Contract Documents.
- B. To be considered all bids must be in accordance with these Instructions to Bidders.
- C. Bidders are encouraged to obtain a signed and sealed hard copy set of the bidding documents by paying a non-refundable amount of \$40.00 (\$50.00 if mailed). At a minimum, bidders must obtain clean copies of bid forms by paying a non-refundable amount of \$10.00 to submit a bid for this project.

1.3 SITE EXAMINATION

- A. Bidders shall carefully examine documents and construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions which can be determined by examining site and these documents.
- B. Contact Mr. Fred Butler at the following phone number to arrange date and time to visit Project site:
 - 1. Telephone: (217) 254-8723.
- C. A visit to Project site has been arranged for Bidders following the Pre-Bid Meeting at 2:00 PM on April 9, 2025.

1.4 THE SCHEDULE FOR BIDDING THIS PROJECT IS AS FOLLOWS

- A. **Plans Available:** Monday, April 7, 2025
- B. **Pre-Bid Meeting:** Wednesday, April 9, 2025
2:00 PM
1311 Vandalia Rd.
Hillsboro, IL 62049
- C. **Latest Time to Submit Request for Interpretation** Thursday, April 17, 2025
- D. **Latest Time to Issue an Addendum:** Tuesday, April 22, 2025
- E. **Bid Opening:** Friday, April 25, 2025
2:00 PM
1311 Vandalia Rd.
Hillsboro, IL 62049
- F. **Potential Award:** Tuesday, April 29, 2025
- G. All requests for interpretations shall be in writing via mail or e-mail addressed to the Architect/Engineer. All questions must be submitted on the “Request for Interpretation Pre-Bid Question and Comment Form” included at the end of this section, and questions not submitted in accordance with this form and specified time frame will not be accepted. Any and all interpretations and supplemental instructions will be made by addendum to the Drawings and Specifications and forwarded to all bidders either by mail or e-mail transmittal. All responses by the Architect/Engineer must be in writing to be binding. Any response general in nature or affecting these Instructions to Bidders shall be sent via addendum as previously described. All bidders are required to return the signature page of the addendum signed to the Architect within 24 hours after receipt. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from an obligation under the bid as submitted. All addenda so issued shall become part of the Contract Documents. Oral interpretations, changes or corrections will not be binding, and Bidders shall not rely upon such interpretations, changes and corrections. Each Bidder shall ascertain prior to submitting Bid that all addenda issued have been received and shall acknowledge receipt in Bid.
Questions shall be directed to:
e-mail: tdownen@hurst-rosche.com
- H. Bids shall be made on unaltered Bid Forms furnished by the Architect. Fill in all blank spaces and submit two (2) copies. Bids shall be signed with name typed below signature. Where bidder is a corporation, bids must be signed with legal name of corporation followed by name of state of incorporation and legal signature of an officer authorized to bind the corporation to a contract.

- I. Each bidder shall designate on the attached bid form one person who shall serve as the bidder's contact person for all matters pertaining to the bid. In absence of such designation, the person who signs the bid shall be deemed the bidder contact.
- J. For those projects which are bid on a unit price basis, in the event in which a bidder does not fill out the extension of the unit price, or a math error has occurred in calculation, the unit prices listed shall govern.
- K. Each Bid shall be accompanied by bid security made payable to the Owner, in the amount of ten percent (10%) of the bid sum. Security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Illinois. Successful bidder's security will be retained until he has signed the contract and furnished required payment and performance bonds. Owner reserves the right to retain security of the next two (2) lowest bidders until the lowest bidder enters into contract or until thirty (30) days after bid opening, whichever is shorter. All other bid security will be returned as soon as practicable. If any bidder refuses to enter into a contract, Owner will retain bid security as liquidated damages, but not as a penalty.
- L. All costs associated with the preparation and submission of a bid are the sole responsibility of the bidder. These costs shall not be chargeable to the Owner by any successful or unsuccessful bidder. All bids become the property of the Owner and shall not be returned except in the case of a late submission.
- M. Simultaneously, with delivery of the executed contract, the successful bidder, at its own expense, shall furnish surety in the form of a performance bond and a labor and material payment bond in the amount of one hundred percent (100%) of the contract amount. Surety for such bonds shall be a company duly authorized and licensed in the State of Illinois and acceptable to the Owner. The Attorney-In-Fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.
- N. All copies of the bid, bid security and any other documents required to be submitted with bid shall be enclosed in a sealed opaque envelope. Envelope shall be addressed to **Hillsboro C.U.S.D. No. 3, Unit Office, 1311 Vandalia Rd., Hillsboro, Illinois 62049**, and shall be identified with project name, bidder's name and address. Mailed bid envelopes shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof. Oral, telephonic or telegraphic Bids are invalid and will not receive consideration. Bids shall be deposited at the location designated in the Invitation to Bid prior to time and date designated for opening, or any extension thereof made by addendum. Bidder shall assume full responsibility for timely delivery at location designated for receipt of Bids. Bids received after time and date for receipt of bids will be returned unopened.

- O. A Bid may not be modified, withdrawn or canceled during the forty-five (45) days immediately following bid opening, and each bidder so agrees in submitting his Bid. Any bidder may withdraw, cancel or modify its bid, at any time prior to scheduled time for opening of bids, by letter or telegram actually received by Owner prior to bid time, or, with proper identification, by personally securing bid submitted; if by telegram, written confirmation over signature of bidder shall be mailed and postmarked on or before date and time of bid opening. Withdrawn bids may be resubmitted up to bid opening time provided that they are in full compliance with these Instructions to Bidders.
- P. Protests
1. Any bidder who submitted a bid and believes the bid was improperly rejected or that the bid selected by the Owner is not in the best interest of the Owner may submit a written notice of intent to protest the bid to the Owner within seven (7) days. The Owner shall consider all protests before execution of a contract. Each protest must specify the reasons supporting the protest. The Owner may require that additional information be provided. Failure to supply such required information shall be cause for dismissal of the protest.
 2. The Owner shall immediately investigate the allegations against the Owners actions and shall issue a written response to the protest.
 3. This provision allowing for the submission of protest shall not confer any right on any bidder but is intended solely to assist the Owner in determining the best responsible bid.
- Q. Any complaint or protest of the bidding procedure must be filed by the bidder to the Owner. Within 7 days of bid opening the bidder shall notify the Owner in writing of his intent to protest bidding. The bidder shall perfect this notice of intent within 7 days.
- R. Owner reserves right to disqualify bids and bidders, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon part of bidder, lack of responsibility as evidenced by poor workmanship and progress of past work, incomplete work which, in judgment of Owner, might hinder or prevent prompt completion of additional work if awarded, for being in arrears on existing contracts, in litigation with the Owner, or having defaulted on a previous contract.
- S. Bidder's attention is directed to the fact that all Federal and Illinois State Laws, municipal ordinances and regulations of any and all authority having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full. Successful Bidders shall be required to comply with 775 ILCS 10 concerning equal employment opportunities; comply with 30 ILCS 570 concerning the employment of citizens of the State of Illinois; comply with 820 ILCS 265 concerning substance abuse prevention on public works projects; and comply with 820 ILCS 130 concerning prevailing wages.
- T. Any successful bidder that is a corporation organized in a state other than Illinois shall furnish to the Owner, upon request, a properly certified copy of its current Certificate of Authority to do business in the State of Illinois, such certificate is to remain on file with the Owner.

- U. Any successful bidder that is a corporation organized in the State of Illinois shall furnish at its own cost to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate is to remain on file with the Owner.
- V. Owner is exempt from payment of Federal & Illinois Department of Revenue's Use and Sales Tax on material entering permanently into structure. Retail sales tax shall not be included in the bid amount.
- W. Bids will be opened as announced in Invitation for Bids.
- X. Owner reserves the right to reject any or all bids or any part thereof, to waive any informalities in bidding and to accept bids deemed most favorable to the Owner.
- Y. Notwithstanding any delay in preparation and execution of the formal Contract Agreement, each bidder shall be prepared, upon written notice of bid acceptance, to commence work within ten (10) days following receipt of official written Notice to Proceed, or on date stipulated in such notice.
- Z. Any work in providing or preparing to provide the services specified herein that is commenced by the successful bidder prior to execution of a written contract agreement shall be at the bidder's expense.
- AA. Accepted bidder shall assist and cooperate with the Owner in preparing the formal Contract Agreement, and, within fifteen (15) days following its presentation, shall execute same and return it to Owner.
- BB. The first day of construction is approximately June 2, 2025. The Owner requires the project to be substantially completed by September 5, 2025.

1.5 REQUIRED CONTRACTOR/SUBCONTRACTOR BACKGROUND SCREENING

- A. Hillsboro C.U.S.D. No. 3 requires background screening to be completed on all contractor/subcontractor employees. All employees must have documentation that a background screening has been completed on them prior to working on any district projects. All costs associated with the background screening are to be the responsibility of the contractor. The background screening must be conducted by a company acceptable to the Hillsboro C.U.S.D. No. 3
- B. All contractor/subcontractor employees working on the school grounds of Hillsboro C.U.S.D. No. 3 are required to submit to background screening. Each employee must complete, sign, and date the Consent and Waiver Release form. These forms will be submitted and the applicant cleared before the applicant may work on any part of the school grounds.
- C. The contractor is responsible for submitting the forms to a company acceptable to the Hillsboro C.U.S.D. No. 3, and for any costs involved in the screening. All information received as a result of a background check will be strictly confidential. A notice of automatic disqualification will be sent to the hiring or using entity. After the screenings, the contractor is also responsible for sending Hillsboro C.U.S.D. No. 3 copies of approved background checks for their records.

END OF DOCUMENT

REQUEST FOR INTERPRETATION PRE-BID QUESTION AND COMMENT FORM

(All information entered shall be typed in black).

PROJECT NAME: Tennis Court Construction, Hillsboro CUSD No. 3

BIDDER: _____ SUBMITTED BY (Name): _____ Date: _____

ADDRESS: _____ CITY: _____ STATE: _____ PHONE: _____ Sheet _____ of _____

Question No.	Page (or Drawing Sheet) Number	Drawing No. or Spec. Section Article & Paragraph Number	Question by Bidder

NOTE: ANY AND ALL QUESTIONS PERTAINING TO THIS BID MUST BE TYPED AND SUBMITTED ON THIS FORM AND MAILED OR E-MAILED TO RECEIVE A RESPONSE.

DOCUMENT 004113 - BID FORM - STIPULATED SUM

To: **HILLSBORO C.U.S.D. NO. 3**
1311 VANDALIA ROAD
HILLSBORO, ILLINOIS 62049

Project: **TENNIS COURT CONSTRUCTION**
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS
HR # 150-0115

Date: _____

Submitted by: _____
(full name)

(full address) _____

Contact Name: _____

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Hurst-Rosche, Inc. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of _____ dollars, (\$ _____), in lawful money of the United States of America.

We have included the bid security as required by the Instruction to Bidders.

All applicable federal taxes are excluded and State of Illinois and City of Hillsboro taxes are excluded from the Bid Sum.

2. REVIEW OF BID DOCUMENTS

The bidder represents that he is skilled and experienced in the use and interpretation of drawings and specifications such as those included in the bid documents for this contract. He has carefully reviewed the drawings, specifications and other bid documents, and has found them free of ambiguities and sufficient for bid purposes. Further, the Bidder has carefully examined the site of the work and, from his own observations, has satisfied himself as to the nature and location of the work; the character, quality and quantity of materials; the difficulties likely to be encountered; and any other items which may affect the performance of the Work. He has based his bid solely on these documents and observations and has not relied in any way on any explanation or interpretation, oral or written, from any other source.

3. CONTRACTOR'S FEE FOR CHANGES IN WORK

Undersigned herein indicates a single percentage, not to exceed **12%** for own forces and not to exceed **8%** for subcontractors, for overhead and profit to be added to net extra job cost for changes in the work required to be performed by:

a) Own Forces ___% b) Subcontractors ___%

Undersigned herein indicates a single percentage, not less than **10%** for own forces and not less than **5%** for subcontractors, for overhead and profit to be added to net credit for job costs for changes in the work required to be performed by:

a) Own Forces ___% b) Subcontractors ___%

Percentages named above shall not include any items of insurance, bond or taxes since these are considered job cost items in contractor's quotations for changes in the work.

Any percentages indicated which are higher or lower than the maximum or minimum in the typewritten language herewith, shall be disregarded and typewritten figure used.

4. CONTRACT TIME

Undersigned agrees that, if awarded the Contract for Work bid upon herein, work will start on date designated by the Owner and will be completed in accordance with the contract documents, with all phases of work completed and operational and ready for acceptance by the Owner no later than as required by the Contract Agreement.

6. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum # _____ Dated _____; Addendum # _____ Dated _____
Addendum # _____ Dated _____; Addendum # _____ Dated _____

7. APPENDICES

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

Bid Surety in the form of _____
Document 004300 - Procurement Form Supplements including:
Appendix A - List of Subcontractors.
Appendix B - List of Alternates.

8. EQUAL EMPLOYMENT OPPORTUNITY

During performance of this contract, Contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- b. The contractor will in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- c. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, notice advising the labor union or worker's representative of the contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor.
- e. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and order of the Secretary of Labor pursuant thereto, and will permit access to his books, records and accounts by the Department of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- f. In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

- g. The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with the subcontractor or vendor as a result of such direction by the Department, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

9. NOT BARRED

The contractor by submitting its bid certifies that the Contractor is not barred from bidding on the contract as a result of a conviction for either bid-rigging or bid-rotating. 720 ILCS 5/33/E-11.

10. DRUG FREE WORKPLACE

The Contractor by submitting its bid certifies that it will provide a drug free workplace and that it is in compliance with the requirements of the Drug Free Workplace Act 30 ILCS 580.1 et. seq., and the Substance Abuse Prevention on Public Works Projects Act PA095-0635.

11. SEXUAL HARASSMENT POLICY

The Contractor by submitting its bid certifies that it has a written sexual harassment, (ii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties (v) the legal resource, investigative and compliant process through the Illinois Department of Human Rights; (vi) directions on how to contact the Department and Commission; and (vii) protection against retaliation for exercising rights under the policy in accordance with 775 ILCS 5/2-105(A)(4).

12. CRIMINAL RECORDS CHECKS

The Contractor by submitting its bid certifies that it will submit to background screening those employees, including subcontract employees, which will be working on any district project. This information is to be provided in accordance with the requirements of 105 ILCS 5/10-21.9. The Contractor by submitting its bid understands that employees found to be in violation of the Illinois School Code will not be permitted to work on school grounds.

13. BID FORM SIGNATURES

The Corporate Seal of

(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

(Authorized signing officer Title)

(Seal)

(Authorized signing officer Title)

(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF DOCUMENT

DOCUMENT 004300 - PROCUREMENT FORM SUPPLEMENTS

To: **HILLSBORO C.U.S.D. NO. 3**
1311 VANDALIA ROAD
HILLSBORO, ILLINOIS 62049

Project: **TENNIS COURT CONSTRUCTION**
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS
HR # 150-0115

Date: _____

Submitted by: _____
(full name)

(full address) _____

Contact Name: _____

In accordance with Document 002114 - Instructions to Bidders - AIA and Document 004113 - Bid Form - Stipulated Sum, we include the Appendices to Bid Form Supplements listed below. The information provided shall be considered an integral part of the Bid Form.

The following Appendices are attached to this document:

Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.

Appendix B - List of Alternates: Include cost variation to Bid Sum applicable to the Work described in Section 01 20 00 - Price and Payments.

BID FORM SUPPLEMENTS SIGNATURES

The Corporate Seal of

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

(Seal)

(Authorized signing officer Title)

(Authorized signing officer Title)

(Seal)

APPENDIX A - LIST OF SUBCONTRACTORS

Herewith is the list of subcontractors referenced in the bid submitted by:

(Bidder) _____

To (Owner) HILLSBORO C.U.S.D. NO. 3

Dated _____ and which is an integral part of the Bid Form.

The following work will be performed (or provided) by subcontractors and coordinated by us:

WORK SUBJECT	NAME
<u>Earthwork</u>	_____
<u>Electrical</u>	_____
<u>Tennis Court Surfacing</u>	_____
<u>Fencing and Gates</u>	_____
<u>Concrete</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

END OF DOCUMENT

APPENDIX B - LIST OF ALTERNATES

The following is the list of alternates referenced in the bid submitted by:

(Bidder) _____

To (Owner) **HILLSBORO C.U.S.D. NO. 3**
1311 VANDALIA ROAD
HILLSBORO, ILLINOIS 62049

Dated _____ and which is an integral part of the Bid Form.

The following amounts shall be added to or deducted from the Bid Sum. Refer to Section 01 20 00 - Price and Payment Procedures: Schedule of Alternates for description of alternates.

Alternate Bid #1 (Add) \$ _____

Alternate Bid #2 (Add) \$ _____

END OF DOCUMENT

DOCUMENT 005214 - AGREEMENT FORM - AIA

1.1 SUMMARY

- A. Document Includes:
 - 1. Contract Agreement.
- B. Related Documents:
 - 1. Document 007214 - General Conditions – AIA Stipulated Sum.
 - 2. Document 007313 - Supplementary Conditions - AIA.

1.2 CONTRACT AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A. THIS AGREEMENT, made and entered into as of the _____ day of _____ in the year of Two Thousand and ____ by and between _____ hereinafter and in the Contract Documents called "Contractor" and the **HILLSBORO C.U.S.D. NO. 3**, hereinafter and in the Contract Documents called "Owner."
- B. WITNESSETH: That for and in consideration of the mutual covenants and agreements, hereinafter stated, Contractor and Owner covenant and agree as follows:
- C. THE CONTRACT WORK:
 - 1. Contractor covenants and agrees to furnish all labor, materials, equipment, transportation, construction plant and facilities necessary to perform all Work required by the Contract Documents, for the Project entitled:
 - a. TENNIS COURT CONSTRUCTION
HILLSBORO JUNIOR HIGH SCHOOL
HILLSBORO C.U.S.D. NO. 3
HILLSBORO, MONTGOMERY COUNTY, ILLINOIS

as shown on Drawings and described in Specifications prepared by Hurst-Rosche, Inc., Hillsboro, Illinois, acting as, and in these Contract Documents referred to as Architect/Engineer and covenants and agrees to do and perform all acts and things required of Contractor by this Contract and the Contract Documents.
- D. TIME OF COMPLETION:
 - 1. First day of construction is approximately June 2, 2025. The Owner requires the project to be substantially completed by September 5, 2025.

E. CONTRACT SUM AND TERMS OF PAYMENT:

1. Contract Sum: The Owner, if Contractor shall faithfully fulfill and perform this Contract, covenants and agrees to pay Contractor in current funds, subject to additions and deductions by Change Order as provided in the Contract Documents, the sum of _____ Dollars (\$ _____), which sum shall constitute the Contract Sum, said Contract Sum being derived from Contractor's Bid dated _____. It is understood and agreed that should there be any increase in wage rates, or in cost of materials or equipment, or in any other of Contractor's costs or should Contractor be compelled to pay premium wages, or for overtime work, during the life of this Contract and/or prior to completion of Contractor's work thereunder, Contractor shall absorb all such increased costs, without addition to the Contract Sum except when otherwise expressly provided in Contract Documents.
2. Payments: Owner shall make payments for work performed under the Contract as provided in Article Nine of the General Conditions and in accordance with other applicable articles of the Supplementary Conditions and Contract Documents.
3. Contractor's Fees for Changes in Work: In accordance with Contractor's bid, it is agreed that the following percentages for overhead and profit shall be applied on work added to or omitted from the Contract by written Change Order approved by Architect and Owner in advance of performance of the work.

Additional Work performed by:

- | | |
|--------------------|------------------------|
| 1. Own Forces ___% | 2. Subcontractors ___% |
|--------------------|------------------------|

Omitted Work originally required by:

- | | |
|--------------------|------------------------|
| 1. Own Forces ___% | 2. Subcontractors ___% |
|--------------------|------------------------|

Note: Taxes (when applicable) are considered as incidentals, as well as bonds and insurance costs and are not included in the percentages listed above nor should they be added to change orders submitted.

F. CONTRACT DOCUMENTS:

1. Contract Documents include the Contract Agreement, Contractor's Bid as accepted by Owner, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to, and all Modifications issued after execution of the Contract Agreement.
2. Bidder's attention is directed to the fact that all Federal and Illinois State Laws, municipal ordinances and regulations of any and all authority having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full. Successful Bidders shall be required to comply with 777 ILCS 10 concerning equal employment opportunities; comply with 30 ILCS 570 concerning the employment of citizens of the State of Illinois; comply with 820 ILCS 265 concerning substance abuse prevention on public works projects; and comply with 820 ILCS 130 concerning prevailing wages.

G. ILLINOIS LABOR:

Contractor shall comply with all Illinois statutory requirements regarding labor, including, but not limited to, the following:

1. Illinois Public Act 77-1552 and Chapter 48, Sections 39S-1 through 39S-12 of the Illinois Revised Statutes regulating wages of laborers, mechanics and other workers employed in any public works and known as the "Prevailing Wage Act," which provides in part that all laborers, mechanics and workers performing work under the Contract shall be paid not less than the prevailing rate of wages as determined by the Illinois Department of Labor (820 ILCS 130).
2. Illinois Public Act 83-1472, Article 2 and Chapter 48, Sections 2201 through 2207, 1984 of the Illinois Revised Statutes pertaining to hiring of Illinois labor and known as the "Illinois Preference Act (30 ILCS 570)."
3. "Illinois Human Rights Act of 1980," Chapter 68, Illinois Revised Statutes, and the Rules and Regulations, Title 44, Section 750 of the Illinois Administrative Code, Illinois Department of Human Rights; pertaining to equal employment opportunity (777 ILCS 10).

H. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND:

1. Within ten (10) days immediately following date of his receipt of this contract, Contractor shall furnish Owner the signed Contract and Performance Bond and Labor and Material Payment Bond as required by and in accordance with the terms of Contract Documents in a penal sum of one hundred percent (100%) of the Contract sum.
2. In the event Contractor fails to furnish Owner such Contract and Bonds within said period, this Contract shall thereupon become null and void at Owner's option, exercised by written registered notice and mailed to Contractor by said Owner within five (5) days thereafter. Owner may then retain and enforce as liquidated damages, bid guarantee heretofore deposited with it in connection with Contractor's proposal for this Contract or the difference between his bid and a subsequent awarded bid, whichever is lesser.

I. IN WITNESS HEREOF, the parties hereto have executed this agreement as of the day and year first written above.

OWNER:

HILLSBORO C.U.S.D. NO. 3

BY _____

TITLE _____

CONTRACTOR:

Attest:

BY _____

Secretary

BY _____

TITLE _____

(Corporate Seal)

END OF DOCUMENT

CONTRACTOR'S AFFIDAVIT FOR FINAL COMPLETION
(To be filed with final request for payment)

STATE OF _____)

COUNTY OF _____)

_____, being
first duly sworn upon oath deposes and says:

That he/she is _____ of _____

hereinafter termed "The Contractor" for all work upon the hereinafter termed "Said Project," work for the HILLSBORO C.U.S.D. NO. 3, under that certain contract between said Contractor and said Owner, bearing date of _____ pertaining to said work.

Affiant further states, of his/her own knowledge, that all bills incurred by the Contractor, for services, labor and material furnished, for work done by the Contractor under said Contract, or in connection with said project have been paid and all subcontractors who have furnished services, labor or materials have no claim or demand against Owner for any services, labor and/or materials furnished and/or work done by them upon said Project.

Affiant further states that this affidavit is made on behalf of the Contractor for the purpose of obtaining payment of the sum of _____ (\$ _____) dollars, which affiant states, upon his/her own knowledge, constitutes the full balance due the Contractor for all services, labor and materials furnished and work done to and upon Said Project by the Contractor whether under and pursuant to provisions of said Contract and all subsequent modifications thereof and changes therein or otherwise; and that payment of the sum to the Contractor will constitute payment in full on everything due for such services, labor, materials and work, and will fully satisfy any and all claims or demands which Contractor may have or assert against said Owner, arising out of anything done or furnished by the Contractor or occurring in connection with said Project and/or Contract.

CONTRACTOR

By _____

Title _____

Subscribed and Sworn to before me the _____ day of _____, 20____.

NOTARY PUBLIC

(PARTIAL) (FINAL)
WAIVER OF LIEN

STATE OF _____ }
COUNTY OF _____ } SS

TO WHOM IT MAY CONCERN:

WHEREAS the undersigned has been employed by HILLSBORO C.U.S.D. NO. 3, hereinafter known as the OWNER,

To Furnish: _____

For the project known as: TENNIS COURT CONSTRUCTION

For the premises known as: HILLSBORO JUNIOR HIGH SCHOOL

Address: HILLSBORO C.U.S.D. NO. 3, HILLSBORO, ILLINOIS

THE undersigned, for and in consideration of the dollar amount shown below and other good and valuable considerations, do(es) hereby waive and release under the mechanics' lien statutes of the State where the project premises are located, to the extent of the payment recited below is received by the undersigned and is applicable to lienable labor, services, materials, fixtures, or apparatus, any and all lien or claim or right of lien on the above-described premises and the improvements, fixtures and appurtenances thereon, and on the monies or other considerations due or to become due from the Owner and on all other project-related monies from whatever source, on the account of the above-mentioned labor, services, materials, fixtures, or apparatus furnished by the undersigned for or in connection with the above-described premises.

(Payment amount written in long form)

PAYMENT AMOUNT _____

(Company Name)

(Address)

(City/State/Zip)

(Signature of Officer)

Sworn to and subscribed before me this ____ day of _____.

(Notary Public)

My commission expires: _____

AFFIDAVIT OF PAYMENT TO MATERIAL SUPPLIERS AND SUBCONTRACTORS

STATE OF _____

COUNTY OF _____

_____, being first duly sworn upon oath
deposes and says, that he/she entered into a Contract with the HILLSBORO C.U.S.D. NO. 3, known as
the Owner, for furnishing of labor, work services, materials, fixtures, and supplies for TENNIS COURT
CONSTRUCTION at the following described real estate: HILLSBORO JUNIOR HIGH SCHOOL.

That for the purpose of said Contract, the following persons, firms or corporations have been contracted
with to furnish, have furnished or prepared, or will furnish or prepare labor, services, materials, fixtures,
apparatus, machinery or supplies, or are furnishing and preparing material for said construction; that there
are due or to become due to them respectively, the amounts set opposite their names for said labor,
services, materials, fixtures, apparatus, machinery and supplies as stated; that there are no other
contractors outstanding and there is nothing due or to become due any person, firm, or corporation, for
labor, services, materials, fixtures, machinery, apparatus, or supplies, other than as stated herewith.

MATERIAL SUPPLIER AND/OR SUBCONTRACTOR	CONTRACT ITEM	CONTRACT AMOUNT	AMOUNT PAID TO DATE	AMOUNT DUE OR TO BECOME DUE
--	------------------	--------------------	---------------------------	-----------------------------------

CONTRACTOR

Subscribed and sworn to before me, a Notary Public, this _____ day of _____; A.D.
20____.

NOTARY PUBLIC

CONSENT OF SURETY COMPANY TO FINAL PAYMENT
(To be filed with final request for payment)

PROJECT: TENNIS COURT CONSTRUCTION
 HILLSBORO JUNIOR HIGH SCHOOL
 HILLSBORO C.U.S.D. NO. 3
 HILLSBORO, MONTGOMERY COUNTY, ILLINOIS

TO (Owner): HILLSBORO C.U.S.D. NO. 3
 1311 VANDALIA ROAD
 HILLSBORO, ILLINOIS 62049

CONTRACTOR:
(Name, address)

CONTRACT DATE:

BOND NO.:

In accordance with the provisions between Owner and Contractor indicated above, _____

_____ SURETY COMPANY, hereby
approves of final payment to Contractor, and agrees that final payment to Contractor shall not relieve
Surety Company of any of its obligations to Owner, as set forth in Surety Company's bond.

IN WITNESS WHEREOF, Surety Company has hereunto set its hand this _____ day of
_____, 20____.

Attest:

Surety Company

(Seal):

Signature of Authorized Representative

Title

DOCUMENT 007214 - GENERAL CONDITIONS – AIA STIPULATED SUM

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
- B. Related Documents:
 - 1. Document 005214 – Agreement Form – AIA Stipulated Sum.
 - 2. Document 007313 – Supplementary Conditions - AIA.

1.2 GENERAL CONDITIONS

- A. AIA Document A201-2007, General Conditions of the Contract for Construction, is the General Conditions of the Contract.

1.3 SUPPLEMENTARY CONDITIONS

- A. Refer to Document 007313 for modifications to General Conditions.

END OF DOCUMENT

DOCUMENT 007313 - SUPPLEMENTARY CONDITIONS - AIA

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
 - 2. Supplementary Conditions.

- B. Related Documents:
 - 1. Document 004113 – Bid Form – Stipulated Sum
 - 2. Document 005214 – Agreement Form - AIA

1.2 GENERAL CONDITIONS

- A. The General Conditions of the Contract for Construction, AIA Document A201, Sixteenth Edition, 2007, Articles 1 through 15, is a part of this Contract and is incorporated herein as fully as if here set forth. Copies of the General Conditions are on file and may be reviewed at the offices of the Architect or may be obtained from the American Institute of Architects, St. Louis Chapter, 911 Washington St., #225, St. Louis, Missouri 63101-1203.

1.3 SUPPLEMENTARY CONDITIONS

- A. The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction," AIA Document A201, Sixteenth Edition, 2007. Where any Article of the General Conditions is modified or changed or any Paragraph, Subparagraph or Clause thereof is modified, changed or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

1.4 REFERENCE TO DIVISION 01

- A. Where provisions of General Conditions relate to project administrative or work-related requirements of the Contract, and those provisions differ from those specified in Division 01, provisions outlined in Division 01 shall prevail.

1.5 ARTICLE 1: GENERAL PROVISIONS

- A. 1.5.1 In the second line following the word "Specifications" insert the words "and Project Manual,".

- B. 1.6 TRANSMISSION OF DATA IN DIGITAL FORM: Add new subparagraph 1.6.1:

1.6.1 Electronic drawings provided by the Owner or Architect are for informational purposes only and are not intended for any other use. The paper copies provided are a true representation of the completed design and if discrepancies should exist between the paper copy and the electronic copy, the paper copy shall govern.

- C. Delete Subparagraph 1.1.8 its entirety and substitute the following:

1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2. If the Initial Decision Maker is not specifically identified in the Agreement, the responsibilities of the Initial Decision Maker shall default to the Architect.

- D. DEFINITIONS: Add Paragraph 1.1.9

1.1.9 PROJECT MANUAL

The Project Manual is the collection of documents which includes the bidding requirements, sample forms and, certain Contract Documents such as the Conditions of the Contract and the Specifications.

1.6 ARTICLE 2: OWNER

- A. 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER:

- B. Delete Subparagraphs 2.2.3 and 2.2.5 in their entireties and substitute the following:

2.2.3 The Owner shall, at the request of the Contractor, furnish to Contractor any survey or other similar descriptive information of project site that Owner has in his possession. Upon demonstration of need by Contractor for specific additional survey information, Owner shall obtain and furnish such information to Contractor.

2.2.5 Contractor will be furnished, free of charge, 4 copies of Drawings, Specifications, and Project Manual as set forth in Division 1 of the Specifications. Additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

1.7 ARTICLE 3: CONTRACTOR

- 3.2. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR: Add Subparagraphs 3.2.5 and 3.2.6:

3.2.5 The Contractor by executing the Contract represents that he has carefully examined the Site of the Work at each location and that he has full knowledge of and fully understands the facilities, site conditions, difficulties and restrictions attending performance of the Work. Contractor further represents that he has taken all required measurements and carefully inspected existing constructions, irregularities and interferences which may affect the Work. No additional compensation will be allowed for conditions increasing Contractor's cost which were not known to or appreciated by him prior to executing the Contract if they could have been discovered by him following the foregoing procedures and thoroughly informing himself of all existing conditions affecting the Work.

3.2.6 Contractor will not, however, be required to excavate, penetrate or demolish any constructions or other work and conditions prior to executing the Contract in order to uncover and/or expose concealed conditions that affect the Work. If, during course of construction, Contractor uncovers conditions that affect the work that could not have been known and understood by the above-described careful examination of conditions affecting the Work, he shall promptly notify the Architect, in writing, who will determine if claims for additional costs or extensions of time are justified. If such claims are found to be justified, Contract will be modified in accordance with Article 7 of the General Conditions.

1.8 ARTICLE 4: ARCHITECT

A. 4.1 GENERAL: Delete Subparagraph 4.1.1 in its entirety and substitute the following:

4.1.1 The Owner shall retain an architect or engineer lawfully licensed to practice architecture or engineering or an entity lawfully practicing architecture or engineering in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

1.9 ARTICLE 5: SUBCONTRACTORS

A. 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK: Add new Subparagraph 5.2.1.1.:

5.2.1.1. Within ten (10) days of notification of acceptance of his proposal, Contractor shall submit the names of those to whom he intends to award a Subcontract.

1.10 ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

A. 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS: Delete Subparagraph 6.1.3 in its entirety and substitute the following:

6.1.3 General Contractor shall have responsibility of coordinating efforts of all contractors and to maintain overall direction of job progress. Each Contractor shall coordinate operational methods with other contractors and encourage communications among all trades. All Contractors shall make other contractors aware of any problems, delays in materials shipments or lack of work force, and assist other contractors in maintaining job momentum and direction of overall project.

1.11 ARTICLE 9: PAYMENTS AND COMPLETION

A. 9.3 APPLICATIONS FOR PAYMENT: Add new Subparagraph 9.3.1.3

9.3.1.3.: Until Substantial Completion, the Owner will pay 90 percent of the amount due Contractor on account of approved progress payments.

1.12 ARTICLE 11: INSURANCE AND BONDS

A. 11.1.1 In the first line following the word "maintain," insert the words "in a company or companies licensed to do business in the state in which the project is located and rated 'A' or better by A.M. Best Co.."

B. Add new Subparagraph 11.1.1.9:

11.1.1.9 General Liability Insurance shall be comprehensive, on occurrence, and shall include:

- Premises and Operations.
- Independent Contractors.
- Products and Completed Operations.
- Broad Form Property Damage.
- Personal Injury.
- Explosion, Collapse and Underground damage where the hazard exists.
- Contractual liability.

C. Add the following Sub-Subparagraphs to Subparagraph 11.1.2:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be on a project specific basis and written for not less than the following, or greater if required by law:

1. Worker's Compensation:

- a. State: Statutory
- b. Applicable Federal: Statutory
- c. Employer's Liability: \$500,000

2. Comprehensive General Liability:

a. Bodily Injury:

\$1,000,000 Combined Single Limit

b. Property Damage:

\$1,000,000 Combined Singled Limit

Limit Coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

3. Personal Injury:

\$ 1,000,000 Combined single limit including owned non-owned and hired motor vehicle.

4. Comprehensive Automobile Liability:
 - a. Bodily Injury:

\$1,000,000	Combined single limit including owned, non-owned and hired motor vehicle.
-------------	---
 - b. Property Damage:

\$1,000,000	Combined single limit including owned, non-owned, and hired motor vehicle
-------------	---
 - c. \$1,000,000 Combined Single

Limit coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

11.1.2.2 Umbrella Form Liability Coverage:

An Umbrella Form Liability coverage to not less than \$2,000,000 for any one occurrence and subject to the same aggregate over the Employer's Liability, Comprehensive General Liability, and Comprehensive Automobile Liability coverage is required.

D. Add the following Subparagraph 11.1.3.1:

11.1.3.1 Contractor shall furnish one copy of each of Certificates of Insurance herein required for each copy of the Agreement which shall specifically set forth evidence of all coverage required by Paragraph 11.1. The Certificate of Insurance is to be accompanied by AIA Document G715TM-1997 (Supplemental Attachment for ACORD Certificate of Insurance 25-S). Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits. The Contractor shall furnish to the Owner notice of any policy cancellation at least 30 days (10 days for nonpayment of premiums) prior to the effective date of cancellation. The Contractor shall submit copies of subcontractor's Certificates of Insurance prior to the beginning of work.

E. Add the following Subparagraph 11.1.4.1:

11.1.4.1 The Owner and Architect shall be named as additional insureds on ISO form 20331001 by endorsement for the purpose of coverage only with no liability for premium payments. All policies and coverages shall include a waiver of subrogation in favor of the Owner, Architect, and all subconsultants.

- F. 11.3. PROPERTY INSURANCE: Delete Subparagraph 11.3.1 in its entirety and substitute the following:

11.3.1: The General Contractor shall be responsible to maintain property (builder's risk) insurance upon the completed value of all work at the site under this contract to the full insurable value thereof. This insurance shall include the interests of the Owner, the General Contractor, Subcontractors, and Sub-subcontractors in the work and as their interests may appear in the work, and shall be an all-risk type policy, including theft, subject to the exclusions generally accepted in the insurance industry. This coverage is not intended to, and shall not, provide coverage for tools, equipment, scaffolding, forms, or other devices used by the Contractors or Subcontractors in performing work under this contract.

11.3.1.2 Delete this Paragraph in its entirety.

- G. Delete Subparagraphs 11.3.1.3 in its entirety and substitute the following:

11.3.1.3 If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles.

1.13 ARTICLE 13: MISCELLANEOUS PROVISIONS

- A. Add new paragraph 13.8 as follows:

13.8 REFERENCED STANDARDS

13.8.1 No provision of any referenced standard specification, manual or code; whether or not specifically incorporated by reference in the Contract Documents; shall be effective to change the duties and responsibilities of Owner, Contractor or Architect, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Architect, or any of Architect's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Articles 1 through 15.

END OF SECTION

ARTICLE 25: PREVAILING RATE OF WAGES

25.1 Pursuant to Illinois Compiled Statutes 820 ILCS 130/0.01 et seq., these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

Montgomery County Prevailing Wage Rates posted on 3/3/2025

Trade Title	Rg	Type	C	Base	Foreman	Overtime					Pension	Vac	Trng	Other Ins	Add OT 1.5x owed	Add OT 2.0x owed
						M-F	Sa	Su	Hol	H/W						
ASBESTOS ABT-GEN	All	ALL		32.91	33.91	1.5	1.5	2.0	2.0	8.25	23.27	0.00	0.80	0.00	15.76	31.52
ASBESTOS ABT-MEC	All	BLD		37.10	38.10	1.5	1.5	2.0	2.0	10.45	7.00	0.00	0.50	0.00	0.00	0.00
BOILERMAKER	All	BLD		45.50	49.00	1.5	1.5	2.0	2.0	7.07	27.83	0.00	1.19	0.00	0.00	0.00
BRICK MASON	All	BLD		38.24	40.53	1.5	1.5	2.0	2.0	9.60	16.00	0.00	1.03		0.00	0.00
CARPENTER	All	BLD		36.08	38.83	1.5	1.5	2.0	2.0	9.70	23.00	0.00	0.80	0.00	16.35	32.70
CARPENTER	All	HWY		38.54	40.29	1.5	1.5	2.0	2.0	9.70	22.50	0.00	0.77	0.00	0.00	0.00
CEMENT MASON	All	ALL		39.00	40.00	1.5	1.5	2.0	2.0	11.50	18.50	0.00	0.60	0.00	15.30	30.60
CERAMIC TILE FINISHER	All	BLD		28.50		1.5	1.5	2.0	2.0	9.60	7.69	1.00	0.86		0.00	0.00
ELECTRIC PWR EQMT OP	NE	ALL		55.13	65.42	1.5	1.5	2.0	2.0	8.90	15.43	0.00	0.55	0.00	0.00	0.00
ELECTRIC PWR EQMT OP	SW	ALL		56.38	67.97	1.5	1.5	2.0	2.0	8.88	15.79	0.00	0.56	0.00	12.62	25.23
ELECTRIC PWR GRNDMAN	NE	ALL		37.46	65.42	1.5	1.5	2.0	2.0	8.37	10.49	0.00	0.37	0.00	0.00	0.00
ELECTRIC PWR GRNDMAN	SW	ALL		42.10	67.97	1.5	1.5	2.0	2.0	6.63	11.79	0.00	0.42	0.00	9.43	18.84
ELECTRIC PWR LINEMAN	NE	ALL		61.36	65.42	1.5	1.5	2.0	2.0	9.09	17.18	0.00	0.61	0.00	0.00	0.00
ELECTRIC PWR LINEMAN	SW	ALL		64.83	67.97	1.5	1.5	2.0	2.0	10.21	18.15	0.00	0.65	0.00	14.52	29.01
ELECTRIC PWR TRK DRV	NE	ALL		39.31	65.42	1.5	1.5	2.0	2.0	8.43	11.01	0.00	0.39	0.00	0.00	0.00
ELECTRIC PWR TRK DRV	SW	ALL		46.03	67.97	1.5	1.5	2.0	2.0	7.25	12.89	0.00	0.46	0.00	10.33	20.60
ELECTRICIAN	E	BLD		45.25	49.78	1.5	1.5	2.0	2.0	8.95	12.86	0.00	0.68		1.02	2.04
ELECTRICIAN	NW	BLD		39.80	42.30	1.5	1.5	2.0	2.0	9.40	13.28	0.00	0.40		0.99	1.99
ELECTRICIAN	SW	ALL		49.67	52.65	1.5	1.5	2.0	2.0	9.19	15.18	0.00	1.36	3.24	14.48	28.97
ELECTRONIC SYSTEM TECH	E	BLD		38.91	41.91	1.5	1.5	2.0	2.0	9.10	9.49	0.00	0.40		0.58	1.17
ELECTRONIC SYSTEM TECH	NW	BLD		36.99	39.99	1.5	1.5	2.0	2.0	8.60	11.91	0.00	0.40		0.55	1.11
ELECTRONIC SYSTEM TECH	SW	BLD		39.14	42.14	1.5	1.5	2.0	2.0	4.40	11.18	0.00	0.40	2.00	0.58	1.17
ELEVATOR CONSTRUCTOR	All	BLD		62.73	70.57	2.0	2.0	2.0	2.0	16.27	21.36	5.02	0.80		0.00	0.00
GLAZIER	All	BLD		39.77	41.77	1.5	1.5	2.0	2.0	8.10	13.85	0.00	0.68		0.00	0.00
HEAT/FROST INSULATOR	All	BLD		42.63	43.63	1.5	1.5	2.0	2.0	11.79	13.80	0.00	1.15		0.00	0.00
IRON WORKER	N	BLD		36.20	38.20	1.5	1.5	2.0	2.0	10.75	19.50	0.00	1.10	0.00	0.00	0.00
IRON WORKER	N	HWY		37.60	39.35	1.5	1.5	2.0	2.0	10.75	21.09	0.00	1.10	0.00	0.00	0.00

Montgomery County Prevailing Wage Rates posted on 3/3/2025

IRON WORKER	S	ALL		41.65	43.65	1.5	1.5	2.0	2.0	10.75	19.75	0.00	0.68	0.00	15.59	31.18
LABORER	All	ALL		32.41	33.41	1.5	1.5	2.0	2.0	8.25	23.27	0.00	0.80	0.00	15.76	31.52
LATHER	All	BLD		36.08	38.83	1.5	1.5	2.0	2.0	9.70	23.00	0.00	0.80	0.00	16.35	32.70
MACHINIST	All	BLD		58.39	62.39	1.5	1.5	2.0	2.0	9.93	8.95	1.85	1.47		0.00	0.00
MARBLE FINISHER	All	BLD		28.50		1.5	1.5	2.0	2.0	9.60	7.69	1.00	0.86		0.00	0.00
MILLWRIGHT	All	BLD		37.25	40.00	1.5	1.5	2.0	2.0	9.70	22.32	0.00	0.80	0.00	16.01	32.02
MILLWRIGHT	All	HWY		41.00	42.75	1.5	1.5	2.0	2.0	9.70	23.25	0.00	0.77	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	1	46.65	48.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	2	45.52	47.52	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	3	41.04	43.04	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	4	47.65	49.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	5	48.65	50.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	6	49.20	51.20	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	7	49.50	51.50	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	8	49.80	51.80	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	9	50.45	52.45	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	10	50.95	52.95	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	11	48.65	50.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	12	49.65	51.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	13	46.65	48.65	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	BLD	14	41.10	43.10	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	1	45.15	47.15	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	2	44.02	46.02	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	3	39.54	41.54	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	4	46.15	48.15	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	5	47.15	49.15	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	6	47.70	49.70	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	7	48.00	50.00	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	8	48.30	50.30	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	9	48.95	50.95	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90

Montgomery County Prevailing Wage Rates posted on 3/3/2025

OPERATING ENGINEER	All	HWY	10	49.45	51.45	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	11	47.15	49.15	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	12	48.15	50.15	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
OPERATING ENGINEER	All	HWY	13	39.60	41.60	1.5	1.5	2.0	2.0	14.95	20.25	0.00	1.70		18.45	36.90
PAINTER	All	BLD		33.49	34.99	1.5	1.5	2.0	2.0	8.10	14.83	0.00	0.70		0.00	0.00
PAINTER	All	HWY		34.69	36.19	1.5	1.5	2.0	2.0	8.10	14.83	0.00	0.70		0.00	0.00
PAINTER OVER 30 FT.	All	BLD		34.49	35.99	1.5	1.5	2.0	2.0	8.10	14.83	0.00	0.70		0.00	0.00
PAINTER PWR EQMT	All	BLD		34.49	35.99	1.5	1.5	2.0	2.0	8.10	14.83	0.00	0.70		0.00	0.00
PAINTER PWR EQMT	All	HWY		35.69	37.19	1.5	1.5	2.0	2.0	8.10	14.83	0.00	0.70		0.00	0.00
PILEDRIIVER	All	BLD		38.08	40.83	1.5	1.5	2.0	2.0	9.70	23.00	0.00	0.80	0.00	16.35	32.70
PILEDRIIVER	All	HWY		39.54	41.29	1.5	1.5	2.0	2.0	9.70	22.50	0.00	0.77	0.00	0.00	0.00
PIPEFITTER	NE	BLD		43.73	47.73	1.5	1.5	2.0	2.0	9.45	13.86	0.00	1.33	0.00	0.00	0.00
PIPEFITTER	SW	BLD		50.11	55.12	1.5	1.5	2.0	2.0	7.55	11.40	0.00	1.20	0.00	0.00	0.00
PLASTERER	All	BLD		37.30	38.80	1.5	1.5	2.0	2.0	11.50	12.50	0.00	0.75	0.00	12.38	24.75
PLUMBER	NE	BLD		43.73	47.73	1.5	1.5	2.0	2.0	9.45	13.86	0.00	1.33	0.00	0.00	0.00
PLUMBER	SW	BLD		50.11	55.12	1.5	1.5	2.0	2.0	7.55	11.40	0.00	1.20	0.00	0.00	0.00
ROOFER	All	BLD		35.00	38.10	1.5	1.5	2.0	2.0	10.62	14.00	0.00	0.50	0.00	0.00	0.00
SHEETMETAL WORKER	All	ALL		42.03	44.53	1.5	1.5	2.0	2.0	11.30	9.91	2.52	0.71	1.88	0.00	0.00
SPRINKLER FITTER	All	BLD		47.09	50.09	1.5	1.5	2.0	2.0	11.45	14.92	0.00	0.52		0.00	0.00
TERRAZZO FINISHER	All	BLD		28.50		1.5	1.5	2.0	2.0	9.60	7.60	1.00	0.86		0.00	0.00
TERRAZZO MASON	All	BLD		34.09		1.5	1.5	2.0	2.0	9.60	9.36	1.00	0.95		0.00	0.00
TRUCK DRIVER	All	ALL	1	43.31	47.67	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	2	43.89	47.67	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	3	44.21	47.67	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	4	44.56	47.67	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	5	45.67	47.67	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	O&C	1	34.65	38.14	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	O&C	2	35.11	38.14	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	O&C	3	35.37	38.14	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
TRUCK DRIVER	All	O&C	4	35.65	38.14	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00

Montgomery County Prevailing Wage Rates posted on 3/3/2025

TRUCK DRIVER	All	O&C	5	36.54	38.14	1.5	1.5	2.0	2.0	16.27	8.04	0.00	0.25	0.00	0.00	0.00
--------------	-----	-----	---	-------	-------	-----	-----	-----	-----	-------	------	------	------	------	------	------

Legend

Rg Region

Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers

C Class

Base Base Wage Rate

OT M-F Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

OT Sa Overtime pay required for every hour worked on Saturdays

OT Su Overtime pay required for every hour worked on Sundays

OT Hol Overtime pay required for every hour worked on Holidays

H/W Health/Welfare benefit

Vac Vacation

Trng Training

Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

Explanations MONTGOMERY COUNTY

CARPENTERS AND PILEDRIVERS (NORTH) - The area north of Route 108, running east to Route 55, then north to Routes 48/127, east following Route 48 from Raymond to Harvel.

ELECTRICIANS (EAST) - Townships of Audubon, East Fork, Fillmore, Irving, Nikomis, Roundtree, South Fillmore and Witt.

ELECTRICIANS (NW) - Townships of Bois D'Arc, Pitman, and Harvel (Northern projection).

ELECTRICIANS (SW) - Townships of Zanesville, Raymond, North and South Litchfield, Butler Grove, Hillsboro, Walshville and Grishman.

ELECTRONIC SYSTEMS TECHNICIAN (EAST) – The entirety of Montgomery County except for the portions defined as the Southwest and Northwest regions.

ELECTRONIC SYSTEMS TECHNICIAN (NORTHWEST) – Townships of Bois D'Arc, Pitman, and Harvel.

ELECTRONIC SYSTEMS TECHNICIAN (SOUTHWEST) – Townships of Zanesville, Raymond, North and South Litchfield, Butler Grove, Hillsboro, Walshville and Grisham.

ELECTRIC POWER LINEMAN, GROUNDMAN, EQUIPMENT OPERATOR, TRUCK DRIVER (NE) - Entire county except Butler Grove, Grisham, Hillsboro, North and South Litchfield, Raymond, Walshville, and Zanesville Townships.

IRONWORKERS (NORTH) - That part of the county north of a diagonal line through Taylor Springs and Chapman.

BIDDING & CONTRACT REQUIREMENTS
Document 008600 - Drawings, Schedules and Details

<u>DRAWING NO.</u>	<u>TITLE</u>
G-101	COVER SHEET
G-1	GENERAL NOTES
C-1	SITE PLAN
C-2	GRADING PLAN
C-3	STORMWATER POLLUTION PREVENTION PLAN
C-4	DETAILS
A-101	TENNIS COURT PLAN AND STRIPING LAYOUT
A-501	TENNIS COURT DETAILS
E-101	TENNIS COURT ELECTRICAL PLAN

All Drawings dated April 7, 2025.

END OF SECTION

SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and premises.
- C. Owner occupancy.
- D. Specification Conventions.
- E. Contractor's Duties
- F. Contract Documents

1.2 CONTRACT DESCRIPTION

- A. BASE BID: Project consists of the construction of 6 tennis courts with reinforced cast-in-place concrete pavement, and related grading, drainage, fencing, tennis equipment, and tennis surfacing. Electrical work consists of convenience outlet and sports lighting of 3 of the tennis courts as well as additional parking lot poles and fixtures.
- B. ALTERNATE BID #1: Project consists of reinforced concrete frost wall around the west and portions of the north and south edges of the tennis court pavement as indicated on the Civil Drawings.
- C. ALTERNATE BID #2: Project consists of additional parking lot poles and fixtures as indicated on the Electrical Drawings.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Use of site and premises by the public.
- B. Construction Operations: Limited to areas noted on Drawings.
- C. Allow for public use of all adjoining streets and sidewalks.
- D. Light duty vehicle parking is permitted. All parking lots and sidewalks are to be restored to their original condition.

1.4 OWNER OCCUPANCY

- A. The Owner will occupy the site during the entire period of construction for the conduct of normal operations.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.5 SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.6 CONTRACTOR'S DUTIES

- A. Except as specifically noted, Contractor shall provide and pay for:
 - 1. All labor, materials, and equipment used for construction of and/or incorporated into the project.
 - 2. All tools, construction equipment and machinery.
 - 3. Required building permits, and all inspection fees by governmental authorities.
 - 4. Other facilities and services necessary for proper execution and completion of work.
 - 5. All labor, material and equipment used for layout of the project.
 - 6. All construction testing.
 - 7. All special inspections, if applicable.
- B. Owner is exempt from sales tax on product permanently incorporated in work.
 - 1. Obtain sales tax exemption certificate number from Owner.
 - 2. Place exemption certificate number on invoices for materials incorporated in work.
 - 3. Upon completion of work, file with Owner a notarized statement that all purchases made under exemption certificate were entitled to be exempt and furnish copies of invoice to Owner.
 - 4. Pay legally assessed penalties for improper use of exemption certificate number.
- C. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of work.
- D. Promptly submit written notice to Architect/Engineer of observed variance of contract documents from legal requirements.
 - 1. It is not the Contractor's responsibility to make certain that drawings and specifications comply with codes and regulations.
 - a. Appropriate modifications to contract documents will account for/reflect necessary changes.

- b. Assume responsibility for work known to be contrary to such requirements if written notice is not provided by the Contractor to the Architect.
- E. Enforce strict discipline and good order among employees.
- F. Do not unreasonably encumber site with materials or equipment.
- G. Assume full responsibility for protection and safekeeping of products stored on premises.
- H. Move any stored products which interfere with operations of Owner or other Contractors.
- I. Obtain and pay for use of additional storage or work areas needed for operations.
- J. The School Board shall prohibit the use of tobacco on school property when the property is being used for any school purposes. Tobacco shall mean cigarette, cigar, pipe or tobacco in any other form including smokeless tobacco which is any loose, cut, shredded, ground, powdered, compressed or leaf tobacco that is intended to be placed in the mouth without being smoked. All members of work crews must remain fully clothed and refrain from using obscene or profane language during these same time parameters. School purposes include, but are not limited to, all interscholastic or extracurricular athletic, academic, or other events sponsored by the School Board or in which students of the District participate.
- K. Contractor shall furnish, erect and maintain temporary ladders, ramps, or hoists as may be required for performance of his work.
 - 1. All such equipment shall be substantially designed, constructed, and maintained in accordance with applicable federal, state, and local laws, ordinances, and regulations, and shall be promptly removed when no longer needed.
- L. Contractor shall design, furnish, erect, maintain, and move all ladders and scaffolding required for this work.
 - 1. All ladders and scaffolding shall be designed, constructed, and maintained in accordance with applicable federal, state, and local law, ordinances, and regulations, and shall be promptly removed when no longer needed.

1.7 CONTRACT DOCUMENTS

- A. Contractor will be furnished free of charge two (2) copies of drawings and specifications.
- B. On request, additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of values.
- B. Applications for payment.
- C. Change procedures.
- D. Defect assessment.
- E. Alternates.

1.2 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702.
- B. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.
- C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance.
- D. Include separately from each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.3 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on AIA Form G702-Application and Certificate for Payment.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit applications for payment to Architect/Engineer for processing no later than 10 days prior to date established for progress payment meeting.
- E. Submit with transmittal letter as specified for Submittals in Section 01 33 00.
- F. Submit lien waivers.

- G. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
1. Current construction photographs.
 2. Partial release of liens from major subcontractors and vendors.
 3. Affidavits attesting to off-site stored products.
- H. Application for Progress Payment No. 1 shall be accompanied by a notarized statement on Contractor's letterhead as follows:
1. I certify that the funds requested for the accompanying Pay Request No. 1 will be used to pay all just and lawful bills against the undersigned and his subcontractors for labor, material and equipment employed in the performance of the work. I further certify that such bills will be paid no later than ten (10) calendar days from date of receipt of the Owner's disbursement.
 2. Execute statement with signature of a responsible officer of contracting firm.
- I. Each subsequent application for progress payment shall be accompanied by the following supporting documents:
1. Partial or final waivers of lien in monetary amount from Contractor, each material supplier and/or subcontractor reflecting amounts incorporated into preceding request for progress payment.
 2. A notarized Affidavit of Payment to Material Suppliers and Subcontractors.
 - a. Affidavit shall be submitted in exact text as exhibit furnished by Architect/Engineers, signed by Contractor or Subcontractor.
 - b. Include unit item, actual amount of contract without overhead or profit, amount paid to date, and amount to become due (balance of account).
- J. Progress payments will be made for materials and equipment not incorporated in the work provided that:
1. Such materials and equipment have been delivered to and suitable stored at site or some other location approved in writing by Owner and Architect/Engineer. All such materials stored off-site shall be marked or tagged with identification of project to which they are assigned.
 2. Contractor submits evidence of title to such materials and equipment.
 3. Care and custody of such materials and equipment and all costs incurred for movement and storage shall be responsibility of Contractor.
 4. Such materials and equipment are suitably insured by Contractor. Contractor shall submit a certificate of insurance showing the Owner as an additional insured and showing amount of insurance overage of suitable proof that material and equipment are stored in a bonded warehouse.
- K. Refer to section 01 70 00 for submittal requirements for application for final payment and related closeout procedures.

1.4 CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions in writing.
- C. The Architect/Engineer may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within seven days.
- D. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation.
- E. Architect/Engineer may issue directive, on Hurst-Rosche Change Order form signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- F. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- G. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- H. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- I. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- J. Correlation Of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - 3. Promptly enter changes in Project Record Documents.

1.5 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer.
- D. Defective Work will be partially repaired to instructions of Architect/Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer.
- E. Authority of Architect/Engineer to assess defects and identify payment adjustments, is final.
- F. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.6 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work.
- C. Schedule of Alternates:
 - 1. Alternate Bid #1:
 - a. Project consists of reinforced concrete frost wall around the west and portions of the north and south edges of the tennis court pavement as indicated on the Civil Drawings.
 - 2. Alternate Bid #2:
 - a. Project consists of additional parking lot poles and fixtures as indicated on the Electrical Drawings.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Cutting and patching.
- E. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- C. Coordinate space requirements, supports, and installation of electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's occupancy.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Architect/Engineer will schedule meeting after Notice of Award.
- B. Attendance Required: Owner, Architect/Engineer, and Contractor.
- C. Agenda:

1. Execution of Owner-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 5. Designation of personnel representing parties in Contract and Architect/Engineer.
 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 7. Scheduling.
- D. Architect/Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with copies to Owner, and those affected by decisions made.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Architect/Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Architect/Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems impeding planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Architect/Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with copies to Owner, and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish or restore surfaces and finished to match existing finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- J. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

3.2 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products and salvaged products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- I. Refinish existing visible surfaces to remain to specified condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect/Engineer for review.
- L. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition; to Architect/Engineer for review.
- M. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- N. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Design data.
- G. Manufacturer's instructions.

1.2 SUBMITTAL PROCEDURES

- A. **Transmit each submittal with shop drawing submittal form found at the end of this section. A copy of submittal form must be attached to each copy of the submittal; if not, the submittal will be rejected and returned to the Contractor.**
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier, pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project and deliver to Architect/Engineer at business address. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Architect/Engineer review stamps.
- I. When revised for resubmission, identify changes made since previous submission.

- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within 15 days after date of Owner-Contractor Agreement. After review, resubmit required revised data within ten days.
- B. Submit revised Progress Schedules with each Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit computer generated horizontal bar chart with separate line for each major portion of Work or operation, identifying first workday of each week.
- F. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including Owner furnished products and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.
- G. Revisions To Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.4 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus 3 copies Architect/Engineer will retain.

- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus 3 copies Architect/Engineer will retain.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00.

1.7 DESIGN DATA

- A. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.8 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Architect/Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION



HURST-ROSCHE, INC.

SHOP DRAWING SUBMITTAL

PROJECT: Tennis Court Construction
Hillsboro Junior High School
Hillsboro C.U.S.D. No. 3
Hillsboro, Montgomery County, Illinois

DATE: _____

A/E PROJECT NO: 150-0115

CONTRACTOR: _____

PRESENTED BY:
(Subcontractor/Supplier)

Company Name

Address

Phone/Fax

Contact Person

ITEM: _____

SPEC SECTION: _____

By approving and submitting these shop drawings, product data and samples, we represent that we have determined and verified all materials, field measurements and field construction criteria related thereto, or will do so, and that we have checked and coordinated information contained within submittal with requirements of the work and contract documents.

Contractor's Signature

Date

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Examination.
- E. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities.
 - 1. Temporary electricity.
 - 2. Temporary water service.
 - 3. Temporary sanitary facilities.
- B. Construction Facilities:
 - 1. Vehicular access.
 - 2. Parking.
 - 3. Progress cleaning and waste removal.
- C. Temporary Controls:
 - 1. Barriers.
 - 2. Dust control.
 - 3. Noise control.
 - 4. Pollution control.
- D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

- A. Owner will pay cost of energy used. Exercise measures to conserve energy.
- B. Permanent convenience receptacles may be utilized during construction.

1.3 TEMPORARY WATER SERVICE

- A. Owner will pay cost of temporary water. Exercise measures to conserve energy. Utilize Owner's existing water system when available, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.4 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.5 VEHICULAR ACCESS

- A. Provide and maintain access to fire hydrants and control valves free of obstructions.
- B. Use existing on-site roads for construction traffic.

1.6 PARKING

- A. Use of designated existing on-site streets and driveways used for construction traffic is permitted as directed by the Owner. Tracked vehicles not allowed on paved areas.
- B. Use of designated areas of existing parking facilities used by construction personnel is permitted.
- C. Do not allow heavy vehicles or construction equipment in parking areas.
- D. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- E. Removal, Repair:
 - 1. Repair existing facilities damaged by use, to original condition.

1.7 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.8 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.9 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.10 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.11 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.
- F. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.

- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

- F. Substitution Submittal Procedure:
1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6-foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Demonstration and instructions.
- D. Protecting installed construction.
- E. Project record documents.
- F. Operation and maintenance data.
- G. Product warranties and product bonds.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer's review.
- B. Provide submittals to Architect/Engineer required by authorities having jurisdiction.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Provide a notarized Affidavit for Final Completion in exact text as exhibit furnished by Architect/Engineer, signed by Contractor.
- E. Owner will occupy all portions of building as specified in Section 01 10 00.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.
- C. Clean debris from drainage systems.
- D. Clean site: sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.
- B. Demonstrate Project equipment and instruction in classroom environment located at site and instructed by qualified manufacturer's representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. Required instruction time for each item of equipment and system is specified in individual sections.

1.5 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.6 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.

4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
 - C. Store record documents separate from documents used for construction.
 - D. Record information concurrent with construction progress, not less than weekly.
 - E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
 - F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 3. Field changes of dimension and detail.
 4. Details not on original Contract drawings.
 - G. Submit documents to Architect/Engineer with claim for final Application for Payment.

1.7 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11-inch (A4) text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.

- b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
- a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.

1.8 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.
- F. Submit prior to final Application for Payment.
- G. Time Of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
 - 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes building wire and cable and wiring connectors and connections.
- B. Related Sections:
 - 1. Section 26 05 53 - Identification for Electrical Systems: Product requirements for wire identification.

1.2 REFERENCES

- A. International Electrical Testing Association:
 - 1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- B. National Fire Protection Association:
 - 1. NFPA 70 - National Electrical Code – 2020 Edition.
 - 2. NFPA 262 - Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.
- C. Underwriters Laboratories, Inc.:
 - 1. UL 1277 - Standard for Safety for Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.

1.3 SYSTEM DESCRIPTION

- A. Product Requirements: Provide products as follows:
 - 1. Solid conductor for feeders and branch circuits 10 AWG and smaller.
 - 2. Stranded conductors for control circuits.
 - 3. Conductor not smaller than 12 AWG for power and lighting circuits.
 - 4. Conductor not smaller than 14 AWG for control circuits.
 - 5. Increase wire size in branch circuits to limit voltage drop to a maximum of 3 percent.
- B. Wiring Methods: Provide the following wiring methods:
 - 1. Exterior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
 - 2. Underground Locations: Use only building wire, Type THHN/THWN insulation, in raceway.

1.4 DESIGN REQUIREMENTS

- A. Conductor sizes are based on copper.

1.5 SUBMITTALS

- A. Product Data: Submit for building wire.

1.6 QUALITY ASSURANCE

- A. Provide wiring materials located in plenums with peak optical density not greater than 0.5, average optical density not greater than 0.15, and flame spread not greater than 5 feet (1.5 m) when tested in accordance with NFPA 262.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on Drawings.

1.8 COORDINATION

- A. Where wire and cable destination is indicated and routing is not shown, determine routing and lengths required.
- B. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 ft of length shown.

PART 2 PRODUCTS

2.1 BUILDING WIRE

- A. Manufacturers:
 - 1. AETNA.
 - 2. General Cable Co.
 - 3. Republic Wire.
 - 4. Rome Cable.
 - 5. Southwire.
 - 6. Superior Essex.
- B. Product Description: Single conductor insulated wire.
- C. Conductor: Copper.
- D. Insulation Voltage Rating: 600 volts.
- E. Insulation Temperature Rating: 90 degrees C.
- F. Insulation Material: Thermoplastic.

2.2 TERMINATIONS

- A. Terminal Lugs for Wires 6 AWG and Smaller: Solderless, compression type copper.

- B. Lugs for Wires 4 AWG and Larger: Color keyed, compression type copper, with insulating sealing collars.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify raceway installation is complete and supported.

3.2 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.3 EXISTING WORK

- A. Remove exposed abandoned wire and cable.
- B. Extend existing circuits using materials and methods compatible with existing electrical installations, or as specified.
- C. Clean and repair existing wire and cable remaining or wire and cable to be reinstalled.

3.4 INSTALLATION

- A. Route wire and cable to meet Project conditions.
- B. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- C. Special Techniques - Wiring Connections:
 1. Clean conductor surfaces before installing lugs and connectors.
 2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
 3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor.
 4. Install split bolt connectors for copper conductor splices and taps, 6 AWG and larger.
 5. Install solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
 6. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
 7. Install suitable reducing connectors or mechanical connector adaptors for connecting aluminum conductors to copper conductors.
- D. Install stranded conductors for branch circuits 10 AWG and smaller. Install crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under screws.
- E. Install terminal lugs on ends of 600 volt wires unless lugs are furnished on connected device, such as circuit breakers.

- F. Size lugs in accordance with manufacturer's recommendations terminating wire sizes. Install 2-hole type lugs to connect wires 4 AWG and larger to copper bus bars.
- G. For terminal lugs fastened together such as on motors, transformers, and other apparatus, or when space between studs is small enough that lugs can turn and touch each other, insulate for dielectric strength of 2-1/2 times normal potential of circuit.

3.5 WIRE COLOR

- A. General:
 - 1. For wire sizes 10 AWG and smaller, install wire colors in accordance with the following:
 - a. Black and red for single phase circuits at 120/240 volts.
 - 2. For wire sizes 8 AWG and larger, identify wire with colored tape at terminals, splices and boxes. Colors are as follows:
 - a. Black and red for single phase circuits at 120/240 volts.
- B. Neutral Conductors: White. When two or more neutrals are located in one conduit, individually identify each with proper circuit number.
- C. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.
- D. Feeder Circuit Conductors: Uniquely color code each phase.
- E. Ground Conductors:
 - 1. For 6 AWG and smaller: Green.
 - 2. For 4 AWG and larger: Identify with green tape at both ends and visible points including junction boxes.

3.6 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ATS, Section 7.3.1.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Rod electrodes.
 - 2. Wire.
 - 3. Mechanical connectors.
 - 4. Exothermic connections.

1.2 REFERENCES

- A. Institute of Electrical and Electronics Engineers:
 - 1. IEEE 142 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.
 - 2. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment.
- B. International Electrical Testing Association:
 - 1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- C. National Fire Protection Association:
 - 1. NFPA 70 - National Electrical Code.
 - 2. NFPA 99 - Standard for Health Care Facilities.

1.3 SYSTEM DESCRIPTION

- A. Grounding systems use the following elements as grounding electrodes:
 - 1. [Existing] Metal underground water pipe.
 - 2. Metal building frame.
 - 3. Concrete-encased electrode.
 - 4. Rod electrode.

1.4 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 5 ohms maximum.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data on grounding electrodes and connections.

- C. Test Reports: Indicate overall resistance to ground.
- D. Manufacturer's Installation Instructions: Submit for active electrodes.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept materials on site in original factory packaging, labeled with manufacturer's identification.
- C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.
- D. Do not deliver items to project before time of installation. Limit shipment of bulk and multiple-use materials to quantities needed for immediate installation.

1.7 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Complete grounding and bonding of building reinforcing steel prior concrete placement.

PART 2 PRODUCTS

2.1 ROD ELECTRODES

- A. Manufacturers:
 - 1. Erico, Inc.
 - 2. O-Z Gedney Co.
 - 3. Thomas & Betts, Electrical
 - 4. Substitutions: Section 01 60 00 - Product Requirements.
- B. Product Description:
 - 1. Material: Copper-clad steel.
 - 2. Diameter: 5/8 inch.
 - 3. Length: 10 feet.
- C. Connector: U-bolt clamp.

2.2 WIRE

- A. Material: Stranded copper.
- B. Foundation Electrodes: 4 AWG.
- C. Grounding Electrode Conductor: Copper conductor insulated.

D. Bonding Conductor: Copper conductor insulated.

2.3 MECHANICAL CONNECTORS

A. Description: Bronze connectors, suitable for grounding and bonding applications, in configurations required for particular installation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify final backfill and compaction has been completed before driving rod electrodes.

3.2 PREPARATION

A. Remove paint, rust, mill oils, and surface contaminants at connection points.

3.3 EXISTING WORK

- A. Modify existing grounding system to maintain continuity to accommodate renovations.
- B. Extend existing grounding system using materials and methods [compatible with existing electrical installations, or as specified.

3.4 INSTALLATION

- A. Install in accordance with IEEE 142.
- B. Install rod electrodes at locations as indicated on Drawings. Install additional rod electrodes to achieve specified resistance to ground.
- C. Install grounding and bonding conductors concealed from view.
- D. Install 4 AWG bare copper wire in foundation footing as indicated on Drawings.

***** [OR] *****
- E. Install grounding electrode conductor and connect to reinforcing steel in foundation footing as indicated on Drawings. Electrically bond steel together.
- F. Bond together metal siding not attached to grounded structure; bond to ground.
- G. Install grounding and bonding in patient care areas to meet requirements of NFPA 99.

- H. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- I. Install continuous grounding using underground cold water system and building steel as grounding electrode. Where water piping is not available, install artificial station ground by means of driven rods or buried electrodes.
- J. Permanently ground entire light and power system in accordance with NEC, including service equipment, distribution panels, lighting panelboards, switch and starter enclosures, motor frames, grounding type receptacles, and other exposed non-current carrying metal parts of electrical equipment.
- K. Install branch circuits feeding isolated ground receptacles with separate insulated grounding conductor, connected only at isolated ground receptacle, ground terminals, and at ground bus of serving panel.
- L. Accomplish grounding of electrical system by using insulated grounding conductor installed with feeders and branch circuit conductors in conduits. Size grounding conductors in accordance with NEC. Install from grounding bus of serving panel to ground bus of served panel, grounding screw of receptacles, lighting fixture housing, light switch outlet boxes or metal enclosures of service equipment. Ground conduits by means of grounding bushings on terminations at panelboards with installed number 12 conductor to grounding bus.
- M. Grounding electrical system using continuous metal raceway system enclosing circuit conductors in accordance with NEC.
- N. Permanently attach equipment and grounding conductors prior to energizing equipment.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements; 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Grounding and Bonding: Perform inspections and tests listed in NETA ATS, Section 7.13.
- D. Perform ground resistance testing in accordance with IEEE 142.
- E. Perform leakage current tests in accordance with NFPA 99.
- F. Perform continuity testing in accordance with IEEE 142.
- G. When improper grounding is found on receptacles, check receptacles in entire project and correct. Perform retest.

END OF SECTION

SECTION 26 05 33

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes conduit and tubing, surface raceways, wireways, outlet boxes, pull and junction boxes, and handholes.

1.2 REFERENCES

- A. American National Standards Institute:
 1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
 2. ANSI C80.3 - Specification for Electrical Metallic Tubing, Zinc Coated.
 3. ANSI C80.5 - Aluminum Rigid Conduit - (ARC).
- B. National Electrical Manufacturers Association:
 1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
 2. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 3. NEMA OS 1 - Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
 4. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports.
 5. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
 6. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Tubing and Conduit.
 7. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

1.3 SYSTEM DESCRIPTION

- A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
- B. Underground More than 5 feet outside Foundation Wall: Provide thin-wall nonmetallic conduit. Provide cast metal boxes or nonmetallic handhole.
- C. Underground Within 5 from Foundation Wall: Provide thick-wall nonmetallic conduit. Provide cast metal or nonmetallic boxes.
- D. In or Under Slab on Grade: Provide thin-wall nonmetallic conduit. Provide cast or nonmetallic metal boxes.
- E. Outdoor Locations, Above Grade: Provide intermediate metal conduit. Provide cast metal or nonmetallic outlet, pull, and junction boxes.

- F. In Slab Above Grade: Provide electrical metallic tubing. Provide cast boxes.
- G. Wet and Damp Locations: Provide aluminum conduit. Provide cast metal or nonmetallic outlet, junction, and pull boxes. Provide flush mounting outlet box in finished areas.
- H. Concealed Dry Locations: Provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.
- I. Exposed Dry Locations: Provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

1.4 DESIGN REQUIREMENTS

- A. Minimum Raceway Size: 3/4 inch unless otherwise specified.

1.5 SUBMITTALS

- A. Product Data: Submit for the following:
 - 1. Flexible metal conduit.
 - 2. Liquidtight flexible metal conduit.
 - 3. Nonmetallic conduit.
 - 4. Flexible nonmetallic conduit.
 - 5. Nonmetallic tubing.
 - 6. Raceway fittings.
 - 7. Conduit bodies.
 - 8. Surface raceway.
 - 9. Pull and junction boxes.
 - 10. Handholes.
- B. Manufacturer's Installation Instructions: Submit application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

1.6 CLOSEOUT SUBMITTALS

- A. Project Record Documents:
 - 1. Record actual routing of conduits larger than 2 inch.
 - 2. Record actual locations and mounting heights of outlet, pull, and junction boxes.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- B. Protect PVC conduit from sunlight.

1.8 COORDINATION

- A. Coordinate mounting heights, orientation and locations of outlets mounted above counters, benches, and backsplashes.

PART 2 PRODUCTS

2.1 METAL CONDUIT

- A. Rigid Steel Conduit: ANSI C80.1.
- B. Rigid Aluminum Conduit: ANSI C80.5.
- C. Intermediate Metal Conduit (IMC): Rigid steel.
- D. Fittings and Conduit Bodies: NEMA FB 1; [material to match conduit.] [furnish aluminum fittings with steel conduit.] [all steel fittings.]

2.2 FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked aluminum construction.
- B. Fittings: NEMA FB 1.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked aluminum]construction with PVC jacket.
- B. Fittings: NEMA FB 1.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel, set screw type.

2.5 NONMETALLIC CONDUIT

- A. Product Description: NEMA TC 2; Schedule 40/80 PVC.
- B. Fittings and Conduit Bodies: NEMA TC 3.

2.6 NONMETALLIC TUBING

- A. Product Description: NEMA TC 2.
- B. Fittings and Conduit Bodies: NEMA TC 3.

2.7 SURFACE METAL RACEWAY

- A. Product Description: Sheet metal channel with fitted cover, suitable for use as surface metal raceway.
- B. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories; match finish on raceway.

2.8 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch male fixture studs where required.
 - 2. Concrete Ceiling Boxes: Concrete type.
- B. Nonmetallic Outlet Boxes: NEMA OS 2.
- C. Cast Boxes: NEMA FB 1, Type FD, cast ferrous alloy. Furnish gasketed cover by box manufacturer.
- D. Wall Plates for Finished Areas: As specified in Section 26 27 26.
- E. Wall Plates for Unfinished Areas: Furnish gasketed cover.

2.9 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- B. Hinged Enclosures: As specified in Section 26 27 16.
- C. Surface Mounted Cast Metal Box: NEMA 250, Type 4; flat-flanged, surface mounted junction box:
 - 1. Material: Cast aluminum.
 - 2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.
- D. Fiberglass Handholes: Die-molded, glass-fiber hand holes:
 - 1. Cable Entrance: Pre-cut 6 inch x 6 inch cable entrance at center bottom of each side.
 - 2. Cover: Glass-fiber, weatherproof cover with nonskid finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

3.2 EXISTING WORK

- A. Remove exposed abandoned raceway, including abandoned raceway above accessible ceiling finishes. Cut raceway flush with walls and floors, and patch surfaces.
- B. Remove concealed abandoned raceway to its source.
- C. Disconnect abandoned outlets and remove devices. Remove abandoned outlets when raceway is abandoned and removed. Install blank cover for abandoned outlets not removed.
- D. Maintain access to existing boxes and other installations remaining active and requiring access. Modify installation or provide access panel.
- E. Extend existing raceway and box installations using materials and methods [compatible with existing electrical installations, or] as specified.
- F. Clean and repair existing raceway and boxes to remain or to be reinstalled.

3.3 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 26 05 26.
- B. Fasten raceway and box supports to structure and finishes in accordance with Section 26 05 29.
- C. Identify raceway and boxes in accordance with Section 26 05 53.
- D. Arrange raceway and boxes to maintain headroom and present neat appearance.

3.4 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.
- B. Arrange raceway supports to prevent misalignment during wiring installation.
- C. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- D. Group related raceway; support using conduit rack. Construct rack using steel channel specified in Section 26 05 29; provide space on each for 25 percent additional raceways.
- E. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports
- F. Do not attach raceway to ceiling support wires or other piping systems.
- G. Construct wireway supports from steel channel specified in Section 26 05 29.
- H. Route exposed raceway parallel and perpendicular to walls.

- I. Route raceway installed above accessible ceilings parallel and perpendicular to walls.
- J. Route conduit in and under slab from point-to-point.
- K. Maintain clearance between raceway and piping for maintenance purposes.
- L. Maintain 12 inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.
- M. Cut conduit square using saw or pipe cutter; de-burr cut ends.
- N. Bring conduit to shoulder of fittings; fasten securely.
- O. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for minimum 20 minutes.
- P. Install conduit hubs to fasten conduit to sheet metal boxes in damp and wet locations.
- Q. Install no more than equivalent of three 90 degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install hydraulic one-shot bender to fabricate bends in metal conduit larger than 2 inch size.
- R. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.
- S. Install fittings to accommodate expansion and deflection where raceway crosses seismic, control and expansion joints.
- T. Install suitable pull string or cord in each empty raceway except sleeves and nipples.
- U. Install suitable caps to protect installed conduit against entrance of dirt and moisture.
- V. Surface Raceway: Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings.
- W. Close ends and unused openings in wireway.

3.5 INSTALLATION - BOXES

- A. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings.
- B. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.
- C. Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26.
- D. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

- E. In Accessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- F. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- G. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.
- H. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- I. Install stamped steel bridges to fasten flush mounting outlet box between studs.
- J. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- K. Install adjustable steel channel fasteners for hung ceiling outlet box.
- L. Do not fasten boxes to ceiling support wires or other piping systems.
- M. Support boxes independently of conduit.
- N. Install gang box where more than one device is mounted together. Do not use sectional box.
- O. Install gang box with plaster ring for single device outlets.

3.6 INTERFACE WITH OTHER PRODUCTS

- A. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket.
- B. Locate outlet boxes to allow luminaires positioned as indicated on Drawings.
- C. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

3.7 ADJUSTING

- A. Adjust flush-mounting outlets to make front flush with finished wall material.
- B. Install knockout closures in unused openings in boxes.

3.8 CLEANING

- A. Clean interior of boxes to remove dust, debris, and other material.
- B. Clean exposed surfaces and restore finish.

END OF SECTION

SECTION 26 56 00
EXTERIOR LIGHTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes exterior luminaires, poles, and accessories.

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate dimensions and components for each luminaire not standard Product of manufacturer.
- C. Product Data: Submit dimensions, ratings, and performance data.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Store and handle solid wood poles in accordance with ANSI O5.1.

1.4 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Furnish bolt templates and pole mounting accessories to installer of pole foundations.

PART 2 PRODUCTS

2.1 LED FIXTURES

- A. Product Description: Complete exterior luminaire assemblies, with features, options, and accessories as scheduled.
- B. Refer to the Lighting Schedule on Drawings for product options.
- C. Wall mounted full cutoff luminaire with integrated lensed LED's mounted in a fixed array.
- D. Internal components are enclosed in a rain-tight, dust-tight and corrosion resistant housing.
- E. Housing, back plate and door frame shall be cast aluminum.
- F. LED selection shall be 4000 degrees Kelvin, 70 CRI nominal.

G. Optics shall provide distribution as indicated on the lighting schedule on the drawings.

H. LED fixture and driver shall be as follows:

1. Shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage) with no damage to the driver.
2. Output shall be regulated to +/- 5% across published load range.
3. Shall have a power factor greater than 0.90 for primary application to 50% of full load rating.
4. Input current shall have a total harmonic distortion (THD) of less than 20% to 50% of full load rating.
5. Shall have a Class A sound rating.
6. Shall have a minimum operating temperature of -40C (-40F).
7. Shall tolerate sustained open circuit and short circuit output conditions without fail and auto-resetting without need for external fuses or trip devices.
8. Driver output ripple current shall be less than 15% measured peak-to-average, with ripple frequency > 100 Hz.
9. Driver performance requirements shall be met when operated to 50% of full load rating.
10. Driver shall be rated for wet and dry locations.
11. Driver shall have integral common mode and differential mode surge protection of 2.5 kV.
12. Driver shall have integral thermal foldback to reduce driver power above rated case temperature to protect the driver if temperatures reach unacceptable levels.
13. Driver shall comply with NEMA 410 for in-rush current limits.
14. Driver shall incorporate an integral means of limiting surges to the LEDs.

I. Warranty

1. Provide a five-year warranty on all interior light fixtures.
2. Provide a ten-year warranty on all emergency ballasts.

2.2 METAL POLES

A. Material and Finish: Steel with anodized finish.

B. Section Shape and Dimensions: Square.

C. Height: As indicated on the lighting schedule on the drawings.

D. Base: Breakaway.

E. Base: Concrete as indicated on the drawings.

F. Accessories:

1. Handhole.
2. Anchor bolts.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install concrete bases for lighting poles at locations as indicated on Drawings.
- B. Install poles plumb. Install double nuts to adjust plumb. Grout around each base.
- C. Bond and ground luminaries, metal accessories and metal poles in accordance with Section 26 05 26. Install supplementary grounding electrode at each pole.

3.2 FIELD QUALITY CONTROL

- A. Operate each luminaire after installation and connection. Inspect for improper connections and operation.

3.3 ADJUSTING

- A. Aim and adjust luminaries to provide optimal illumination levels and distribution.

3.4 CLEANING

- 1. Clean finishes and touch up damage.

END OF SECTION

SECTION 26 58 00

ATHLETIC FIELD LIGHTING

PART 1 – GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The sports lighting will be for the following venues:
 - 1. Tennis Courts
- D. The primary goals of this sports lighting project are:
 - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impacts the safety of players and the enjoyment of spectators. Therefore, light levels are guaranteed to not drop below specified target values for a period of 25 years.
 - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light to adjoining properties and glare to players, spectators, and neighbors.
 - 3. **Cost of Ownership:** To reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
 - 4. All lighting designs shall comply with IHSA Standards.
 - 5. **Control and Monitoring** – To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.

1.2 ONFIELD LIGHTING PERFORMANCE

- A. **Illumination Levels and Design Factors:** Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting manufacturers will provide a guarantee that light levels will be sustained over the life of the warranty period. Lighting calculations shall be developed, and field measurements taken on the grid spacing with the minimum number of grid points specified below.

Manufacturers will provide lumen maintenance data of the LED luminaires used per TM-21-11 and will incorporate the lumen maintenance projections into the lighting designs to ensure target light levels are achieved throughout the guaranteed period of the system. Per IES guidelines, lumen maintenance hours should be reported based on the 6x multiplier of testing hours.

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Tennis Courts – 3 side by side	30fc	2.5:1	45	20' x 20'

- B. **Color Temperature:** The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.
- C. **Playability:** Lighting design and luminaire selection should be optimized for playability by reducing

glare onfield and providing sufficient uplight.

1. Aiming Angles: To reduce glare, luminaire aiming should ensure the top of the luminaire field angle (based on sample photometric reports) is a minimum of 10 degrees below horizontal.
2. Glare Control Technology – Luminaires selected should have glare control technology including, but not limited to: external visors, internal shields and louvres. No symmetrical beam patterns are acceptable.
3. Mounting Heights: To ensure proper aiming angles, minimum mountings heights shall be as described below. Higher mounting heights may be necessary for luminaire with lesser glare control to meet field angle requirements of section 1.2.C.1.

# of Poles	Pole Designation	Pole Height
4	T1, T2, T3, T4	50'

1.3 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers, and external shields. No symmetrical beam patterns are accepted.
- B. Lighting Ordinance: In accordance with Hillsboror, IL lighting ordinance, maximum initial horizontal illumination at the property line shall not exceed <Enter FC, F11> footcandles.
- C. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Average	Maximum
Specified Spill Line Horizontal Footcandles	.1 fc	.1 fc
Specified Spill Line Max Vertical Footcandles	.1 fc	.1 fc
Specified Spill Line Max Candela (taken at 5 ft above grade)		375 cd

- D. Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area until 375 candela or less is achieved.
- E. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be provided in 30-foot intervals along the boundary line at 3 ft above grade.
- F. Sample Photometry: The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer’s laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.
- G. Field Verification: Lighting manufacturer shall supply field verification of environmental light control using a meter calibrated within the last 12 months:
 1. Spill verification: Illumination levels shall be taken in accordance with IESNA RP-6-22. The light

sensing surface of the light meter should be held 36 inches above the playing surface with the sensing surface horizontal (for horizontal readings) or vertically pointed at the brightest light bank (for max vertical readings)

1.4 COST OF OWNERSHIP

- A. Manufacturer shall submit a 25 year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs. All costs associated with faulty luminaire replacement - equipment rentals, removal and installation labor, and shipping - are to be included in the maintenance costs.

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested. IHSA Lighting Standards page 9 (Manufacturing Requirements)
- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure. IHSA Lighting Standards page 9 (Durability)
- C. System Description: Lighting system shall consist of the following:
 - 1. Galvanized steel poles and cross-arm assembly.
 - 2. Non-approved pole technology:
 - a. Square static cast concrete poles will not be accepted.
 - b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
 - c. IHSA Lighting Standards page 8 (Outdoor Sports Lighting System)
 - 3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
 - a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
 - b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
 - c. IHSA Lighting Standards page 8 (Outdoor Sports Lighting System)
 - 4. Manufacturer will supply all drivers and supporting electrical equipment.

- a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed. IHSA Lighting Standards page 8 (Outdoor Sports Lighting System)
- b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.
- 5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation. IHSA Lighting Standards page 8 (Outdoor Sports Lighting System) & 11 (Strain Relief)
- 6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
- 7. Control cabinet to provide remote on-off control, monitoring, and entertainment features of the lighting system. See Section 2.3 for further details. IHSA Lighting Standards page 7 (Cabinet Construction)
- 8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.
 - a. Integrated grounding via concrete encased electrode grounding system.
 - b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.
- D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

- A. Electric Power Requirements for the Sports Lighting Equipment:
 - 1. Electric power: 208 Volt, Three Phase
 - 2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.
- B. Energy Consumption: The kW consumption for the field lighting system shall be 46kW.

2.3 CONTROL

- A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.
- B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.
- C. Contactor control of lights: To minimize wear on drivers and other electrical components and prevent lights from turning on due to communication loss, circuits must be controlled via contactor switching, not dimming driver output to zero. IHSA Lighting Standards page 7 (Contactor Control of Luminaires)
- D. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via

scheduling options (Website, app, phone, email).

- E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute “early off” commands by phone. Scheduling tool shall be capable of setting curfew limits. IHSA Lighting Standards page 7 (Remote Lighting Control). Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed). IHSA Lighting Standards page 7 (Remote Monitoring)

- G. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS and Android devices. IHSA Lighting Standards page 7 (Management Tools)

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

1. Cumulative hours: shall be tracked to show the total hours used by the facility.
2. Report hours saved by using early off and push buttons by users.

- H. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years. . IHSA Lighting Standards page 7 (Communication Costs)

- I. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

2.4 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2015 International Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 115 and exposure category C.
- B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).
- C. Foundation Design: The foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2018 IBC Table 1806.2.
- D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

- A. It shall be the Contractor’s responsibility to notify the Owner if soil conditions exist other than those

on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of Illinois for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

- B. Delivery Timing Equipment On-Site: The equipment must be on-site 8-12 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-22.
- B. Field Light Level Accountability
1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
 2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
 3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.
- C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, uplight for aerial visibility, and offsite candela readings are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers. IHSA Lighting Standards page 7 (Long-Term Warranty Features)
- B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage. IHSA Lighting Standards page 7 (Remote Monitoring)

PART 4 – DESIGN APPROVAL

4.1 PRE-BID SUBMITTAL REQUIREMENTS (Non-Musco)

- A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.1.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.
- B. Approved Product: Musco's Light-Structure System™ with TLC for LED® is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.
- D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner's representative. Bids received that do not utilize an approved system/design, will be rejected.

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. Submit checklist below with submittal.

Yes / No	Tab	Item	Description
	A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: <ul style="list-style-type: none"> a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience.
	F	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period.
	G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of Illinois, if required by owner. (May be supplied upon award).
	H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system and entertainment system. They will also provide ten (10) references of customers currently using proposed system in the state of Illinois.
	I	Electrical Distribution Plans	Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of Illinois.
	J	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10)

			references of customers currently under specified warranty in the state of Illinois.
	K	Project References	Manufacturer to provide a list of 10 projects where the technology and specific fixture proposed for this project has been installed in the state of Illinois. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
	L	Product Information	Complete bill of material and current brochures/cut sheets for all products being provided.
	M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
	N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
	O	Cost of Ownership	Document cost of ownership as defined in the specification. Identify energy costs for operating the luminaires. Maintenance cost for the system must be included. All costs should be based on 25 Years
	P	Environmental Light Control Design	Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area until 7500 candela or less is achieved.

The information supplied herein shall be used for the purpose of complying with the specifications for Cahokia High School Athletic Fields. By signing below, I agree that all requirements of the specifications have been met and that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in the Non-Compliance section.

Manufacturer: _____ Signature: _____

Contact Name: _____ Date: ____/____/____

Contractor: _____ Signature: _____

SECTION 32 18 23 – CONCRETE TENNIS COURT SURFACE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Concrete tennis court surface color coating system.

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete.

1.3 REFERENCE STANDARDS

- A. U.S. Tennis Court and Track Builders Association: Construction Guidelines.
- B. American Sports Builders Association (ASBA).
- C. United States Tennis Association (UTSA) Rules of Tennis.
- D. International Tennis Foundation (ITF).
- E. Illinois High School Athletic Association (IHSA).
- F. National Federation of State High School Associations (NFHS).

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer's product data, including surface and crack preparation and application instructions.
- C. Samples: Submit manufacturer's color samples of color coating.
- D. Test Reports:
 - 1. Submit independent test results for solar reflectance index.
 - 2. Submit independent test results for 2000 Hour ASTM G154, accelerated weathering UV test, to demonstrate long-term durability and fade resistance.
 - 3. Submit independent test results for 2000 Hour, accelerated weathering ASTM G1555 Xenon Arc test, to demonstrate long-term resistance and quality of pigment.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- F. Warranty Documentation: Submit manufacturer's standard warranty.
- G. Authorized Installer Certificate: Submit manufacturer's authorized installer certificate.

1.5 QUALITY ASSURANCE

- A. Manufacturer: Regularly engaged, for past 5 years, in manufacture of concrete tennis court surface color coating systems of similar type to that specified.
 - 1. United States owned company.
 - 2. Member: ASBA.
 - 3. Manufacturer has surfaces that are classified by the ITF's (International Tennis Federation) pace classification system.
- B. Applicator: Regularly engaged, for past 5 years, in application of tennis court surface color coating systems of similar type to that specified.
 - 1. Employed persons trained in tennis court surface color coating systems.
 - 2. Applicator must be authorized installer of the surfacing brand used.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- C. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until application.
 - 3. Store materials in clean, dry area indoors.
 - 4. Store materials out of direct sunlight.
 - 5. Keep materials from freezing.
 - 6. Protect materials during storage, handling, and application to prevent contamination or damage.
 - 7. Close containers when not in use.
 - 8. Retain manufacturer batch codes on each container and application dates, for warranty purposes.

1.7 AMBIENT CONDITIONS

- A. Do not apply concrete tennis court surface color coating system when air or surface temperatures are below 50°F during application or within 24 hours after application.
- B. Do not apply concrete tennis court surface color coating system when rain is expected during application or within 24 hours after application.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. SportMaster Sport Surfaces
 - 2. Substitutions: Section 01 60 00 - Product Requirements.

2.2 MATERIALS

- A. Concrete Tennis Court Surface Color Coating System: SportMaster Color Coating System.
- B. Crack Sealant: SportMaster “Crack Magic”.
 - 1. 100 percent acrylic emulsion elastomeric crack sealant.
 - 2. Seals cracks up to 1/2 inch wide in concrete pavement.
 - 3. Weight per Gallon at 77 Degrees F: 8.8 pounds, plus or minus 0.5 pound.
 - 4. Non-Volatile Material: 61 percent, plus or minus 5 percent.
 - 5. Color: Neutral.
- C. Crack Filler: SportMaster “Acrylic Crack Patch”.
 - 1. 100 percent acrylic emulsion trowel-grade crack filler.
 - 2. Fills cracks in concrete pavement up to 1 inch wide.
 - 3. Chemical Characteristics, by Weight, Minimum:
 - 4. Acrylic Emulsion: 10.0 percent.
 - 5. Hiding Pigment: 0.2 percent.
 - 6. Mineral Inert Fillers: 78.0 percent.
 - 7. Film Formers, Additives: 1.8 percent.
 - 8. Water: 8.5 percent.
 - 9. Weight per Gallon at 77 Degrees F: 15.2 pounds, plus or minus 1.0 pound.
 - 10. Non-Volatile Material: 80 percent, plus or minus 5 percent.
 - 11. Color: Neutral.
- D. Patch Binder: SportMaster “Acrylic Patch Binder”.
 - 1. 100 percent acrylic emulsion liquid binder.
 - 2. Mix on-site with sand and cement.
 - 3. Levels and repairs low spots and depressions up to 3/4-inch deep in concrete pavement.
 - 4. Fills Cracks in Asphalt up to 1 inch in width.
 - 5. Weight per Gallon at 77 degrees F: 8.8 pounds, plus or minus 0.5 pound.
- E. Adhesion Promoter: SportMaster “Acrylic Adhesion Promoter”.
 - 1. Acrylic emulsion primer.
 - 2. Primes concrete surface and promotes adhesion of color coating system materials.
 - 3. Weight per Gallon at 77 degrees F: 8.7 lbs., plus or minus 0.5 lbs.
- F. Filler Course: SportMaster “Acrylic Resurfacer”.
 - 1. 100 percent acrylic emulsion resurfacer.
 - 2. Mix on-site with silica sand.

3. Apply to adhesion promoter on previously colored acrylic surfaces in preparation of color coating system.
 4. Chemical Characteristics, by Weight, Minimum:
 - a. Acrylic Emulsion: 44.0 percent.
 - b. Hiding Pigment: 2.0 percent.
 - c. Mineral Inert Fillers: 5.0 percent.
 - d. Film Formers, Additives: 0.2 percent.
 - e. Water: 45.0 percent.
 5. Weight per Gallon at 77 degrees F: 8.5 pounds, plus or minus 0.5 pound.
 6. Non-Volatile Material: 27.5 percent, plus or minus 5.0 percent.
 7. Color: Neutral.
- G. Color Coating: SportMaster “ColorPlus System”.
1. 100 percent acrylic emulsion coating.
 2. Mix on-site with silica sand and water.
 3. Color coats tennis and multipurpose courts.
 4. Weight per Gallon at 77 Degrees F: 9.2 pounds, plus or minus 0.5 pound.
 5. Color: As selected by Architect / Engineer from manufacturer’s full range of color selections.
- H. Line Markings Primer: SportMaster “Stripe-Rite”.
1. 100 percent acrylic emulsion primer, clear drying.
 2. Primes line markings and prevents bleed-under for sharp lines.
 3. Chemical Characteristics, by Weight, Nominal:
 - a. Acrylic Emulsion: 38.0 percent.
 - b. Hiding Pigment: 0.0 percent.
 - c. Mineral Inert Fillers: 7.0 percent.
 - d. Film Formers, Additives: 1.5 percent.
 - e. Water: 50.0 percent.
 4. Weight per Gallon at 77 Degrees F: 8.9 pounds, plus or minus 0.5 pound.
 5. Non-Volatile Material: 29 percent, plus or minus 5 percent.
- I. Line Paint: SportMaster “Textured Line Paint”.
1. Pigmented, 100 percent acrylic emulsion line paint.
 2. Line marking on concrete tennis courts.
 3. Chemical Characteristics, by Weight, Nominal:
 - a. Acrylic Emulsion: 25.89 percent.
 - b. Pigment: 14.90 percent.
 - c. Mineral Inert Fillers: 13.12 percent.
 - d. Additives: 4.73 percent.
 - e. Water: 41.36 percent.
 4. Weight per Gallon at 77 Degrees F: 10.65 lbs., plus or minus 0.75 lbs.
 5. Non-Volatile Material: 45.17 percent, plus or minus 5 percent.
 6. Color: As selected by Architect / Engineer from manufacturer’s full range of color selections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine concrete tennis court surfaces to receive color coating system.
- B. Verify:
 - 1. Suitable vapor barrier beneath concrete slab.
 - 2. Perimeter drainage to prevent moisture accumulation beneath concrete surface.
 - 3. Curing compounds have not been used on concrete surface.
 - 4. Concrete tennis courts meet ASBA construction requirements.
- C. Notify Architect / Engineer of conditions that would adversely affect application or subsequent time.
- D. Do not begin surface preparation or application until acceptable conditions are corrected.

3.2 SURFACE PREPARATION

- A. Protection of In-Place Conditions: Protect adjacent surfaces and landscaping from contact with concrete tennis court surface color coating system.
- B. Prepare surfaces in accordance with manufacturer's instructions.
- C. New Concrete:
 - 1. Cure new concrete surfaces a minimum of 28 days before application of concrete tennis court surface color coating system.
 - 2. Provide medium broom finish or similar roughened texture.
 - 3. Do not steel trowel finish.
 - 4. Acid etch with phosphoric or muriatic acid and rinse thoroughly prior to application of color coating system.
- D. Remove dirt, dust, debris, oil, grease, vegetation, loose materials, and other surface contaminants which could adversely affect application of asphalt tennis court surface color coating system. Pressure wash entire surface.
- E. Repair cracks, depressions, and surface defects in accordance with manufacturer's instructions before application of filler course and color coating.
- F. Repair spalled areas and level depressions 1/8- inch and deeper with patch binder in accordance with manufacturer's instructions.
- G. Apply adhesion promoter over entire concrete surface in accordance with manufacturer's instructions.
- H. Apply 1 coat of filler course to provide smooth underlayment for application of color coating.
- I. Ensure surface repairs are flush and smooth to adjoining surfaces.

3.3 APPLICATION

- A. Apply concrete tennis court surface color coating system in accordance with manufacturer's instructions at locations indicated on Drawings.
- B. Mix materials in accordance with manufacturer's instructions.
- C. Apply Filler Course and Color Coating with a 50-60 durometer, soft rubber squeegee.
- D. Filler Course:
 - 1. Apply 1 coat on new concrete or existing acrylic surfaces with minimal repairs.
- E. Apply a minimum of 2 coats of color coating to prepared surfaces in accordance with manufacturer's instructions.
- F. Allow materials drying times in accordance with manufacturer's instructions before applying other materials or opening completed surface to foot traffic.

3.4 LINE MARKINGS

- A. Lay out tennis court line markings in accordance with UTSA Rules of Tennis.
- B. Apply line markings primer, after masking tape has been laid to seal voids between masking tape and tennis court surface to prevent bleed-under when line paint is applied.
- C. Apply a minimum of 1 coat of line paint in accordance with manufacturer's instructions.

3.5 PROTECTION

- A. Allow a minimum of 24 hours curing time before opening tennis courts for play.
- B. Protect applied concrete tennis court surface color coating system to ensure that, except for normal weathering, coating system will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 32 18 24 – ATHLETIC FIELD EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Tennis Court Equipment.

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00: Cast-in-Place Concrete.

1.3 REFERENCE STANDARDS

- A. U.S. Tennis Court and Track Builders Association: Construction Guidelines.
- B. American Sports Builders Association (ASBA).
- C. United States Tennis Association (UTSA) Rules of Tennis.
- D. International Tennis Foundation (ITF).
- E. Illinois High School Athletic Association (IHSA).
- F. National Federation of State High School Associations (NFHS).

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance and Operating Date: To include in maintenance manuals.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of equipment that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period:
 - a. Posts: Five years from date of Substantial Completion.
 - b. Nets: Four years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. Posts:
 - a. M. Putterman & Company, Inc., Chicago, IL, Model Maxi.
 - b. Douglas Industries, Inc., Elkridge, IA, Model Premier XS Round Post.
 - c. Substitutions: Section 01 60 00 - Product Requirements.
 - 2. Nets:
 - a. M. Putterman & Company, Inc., Chicago, IL, Model Maxi.
 - b. Douglas Industries, Inc., Elkridge, IA, Model Tournament Tapered.
 - c. Substitutions: Section 01 60 00 – Product Requirements.
- B. Net Posts: Round galvanized steel, aluminum, or coated iron; minimum 3 inches outside diameter.
 - 1. Minimum yield strength 1,100 pounds.
 - 2. Minimum tensile strength 1,500 pounds.
 - 3. Equipped with an internal tensioning device.
 - 4. Mechanical tensioning devices, worn gear, ratchet reel, or screw-type shall be limited in amount of force applied to net post, not to exceed 1/2 post yield strength.
 - 5. Net lacing rods shall be welded to net posts.
 - 6. Color finish: green acrylic urethane.
- C. Nets: Dense 3 mm minimum braided polyethylene body with heat sealed knots; double / two ply headband with minimum four (4) rows of locked 13 ounces minimum vinyl side tapes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all athletic equipment in strict accordance with manufacturer's written instructions and as indicated on the Drawings and specifications.
- B. Install concrete footing for athletic equipment in accordance with Section 03 30 00 – Cast-in-Place Concrete.
- C. Net Posts:
 - 1. Place net posts within net post sleeves having an inside dimension to accept net posts.
 - 2. Concrete footings: 3,000 pounds per square inch.
 - 3. Position net post sleeves in center of concrete footing, constructed as shown on Drawings. Net post sleeves shall be imbedded in concrete foundation as necessary to support net top at a height of 42 inches above court surface finish grade.
 - 4. Properly secure net posts inside sleeves and set plumb and true so as to support net top at a height of 42 inches above court surface finish grade.
 - 5. Net posts shall not exceed more than 1 inch above 42-inch net cable.

- D. Nets:
 - 1. Install nets per manufacturer's recommendations.
 - 2. Provide and install all necessary accessories (i.e. cables, tie-downs, side sticks, etc.).
- E. Install all athletic equipment in strict accordance with the latest rules, regulations, and specifications governing that sport or event for which it is being installed.

3.2 CLEANING

- A. Upon completion of work in any given area, remove all trash and debris from the work area and leave in clean condition.

END OF SECTION

SECTION 32 31 13 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fence framework, fabric, and accessories.
2. Excavation for post bases.
3. Concrete foundation for posts and center drops for gates.
4. Manual gates and related hardware.

1.2 REFERENCES

A. ASTM International:

1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
2. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
3. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
4. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
5. A1011/A1011M-07 Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
6. ASTM B429/B429M - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
7. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
8. ASTM F552 - Standard Terminology relating to Chain Link Fencing.
9. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
10. ASTM F626 - Standard Specification for Fence Fittings.
11. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
12. ASTM F934 - Standard Specification for Standard Colors for Polymer-Coated Chain Link Fence Materials.
13. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
14. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
15. ASTM F1183 - Standard Specification for Aluminum Alloy Chain Link Fence Fabric.
16. ASTM F1345 - Standard Specification for Zinc - 5% Aluminum -Mischmetal Alloy-Coated Steel Chain-Link Fence Fabric.

B. Chain Link Fence Manufacturers Institute:

1. CLFMI - Product Manual.

1.3 SYSTEM DESCRIPTION

- A. Fence Height: 12 feet as indicated on Drawings.
- B. Line Post Spacing: At intervals not exceeding 10 feet on center.
- C. Fence Post and Rail Strength: Conform to ASTM F1043 Light Industrial Fence quality.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
- C. Product Data: Submit data on fabric, posts, accessories, fittings, and hardware.
- D. Samples: Submit two 6-inch x 6-inch samples of fence fabric in size illustrating construction and colored finish.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines and easements.
- C. Operation and Maintenance Data: Procedures for submittals.

1.6 QUALITY ASSURANCE

- A. Supply material in accordance with CLFMI - Product Manual.
- B. Perform installation in accordance with ASTM F567.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years' documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three years' documented experience approved by manufacturer.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

- C. Identify each package with manufacturer's name.
- D. Store fence fabric and accessories in secure and dry place.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. Anchor Fence Inc.
 - 2. Cyclone Inc.
 - 3. Page Aluminized Steel Corp
 - 4. Substitutions: Section 01 60 00 - Product Requirements.

2.2 MATERIALS AND COMPONENTS

- A. Materials and Components: Conform to CLFMI Product Manual.
- B. Fabric Size: CLFMI Tennis Court service.
- C. Material shall be commercial grade.
- D. Enclosure at Tennis Courts: Material shall be 2-7/8-inch outside diameter line post, spaced at a maximum of 10 feet apart; 1-5/8-inch outside diameter top rail and middle rail.
- E. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round.

2.3 MATERIALS

- A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25 ksi coating conforming to ASTM F1043 Type A on pipe exterior and interior.
- B. Framing (Steel): ASTM A1011; hot rolled steel strip, cold formed to pipe configuration, longitudinally welded construction, minimum Grade 50; coating conforming to ASTM F1043 Type B on pipe exterior and interior.
- C. Fabric Wire (Steel): ASTM A491 aluminum coated steel wire.

2.4 COMPONENTS

- A. Line Posts: 2-7/8-inch diameter at a maximum of 10 feet on center.
- B. Corner and Terminal Posts: 2-7/8-inch at a maximum of 10 feet on center.
- C. Gate Posts: 2-7/8-inch diameter SS 40.
- D. Top, Mid and Bottom Rail: 1-5/8-inch diameter, plain end, sleeve coupled.

- E. Gate Frame: 1-5/8-inch diameter for welded fabrication.
- F. Fabric: 1-3/4" inch diamond mesh interwoven wire, 9 gage thick, top selvage knuckle end closed, bottom selvage knuckle end closed.
- G. Tie Wire: Aluminum alloy steel wire.

2.5 ACCESSORIES

- A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.
- B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners, and fittings; galvanized steel.
- C. Gate Hardware: Fork latch with gravity drop; three 180-degree gate hinges for each leaf and hardware for owner provided padlock.

2.6 GATES

- A. General:
 - 1. Gate Types, Opening Widths and Directions of Operation: As indicated on Drawings.
 - 2. Factory assemble gates.
 - 3. Design gates for operation by one person.
- B. Swing Gates:
 - 1. Fabricate gates to permit 180-degree swing.
 - 2. Gates Construction: ASTM F900 with welded corners. Use of corner fittings is not permitted.

2.7 FINISHES

- A. Components and Fabric: Vinyl coating, black in accordance with ASTM F934 as selected.
- B. Vinyl Components: black in color to match fabric.
- C. Hardware: Galvanized to ASTM A153/A153M, 1.8 oz/sq ft coating.
- D. Accessories: Same finish as fabric.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install framework, fabric, accessories, and gates in accordance with ASTM F567.
- B. Set intermediate, terminal, and gate posts plumb, in concrete as indicated on Drawings.

- C. Line Post Footing Depth Below Finish Grade: ASTM F567; as indicated on Drawings.
- D. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567; as indicated on Drawings.
- E. Brace each gate and corner post to adjacent line post with horizontal center brace rail. Install brace rail one bay from end and gate posts.
- F. Install top rail through line post tops and splice with 6-inch-long rail sleeves.
- G. Install center and bottom brace rail on corner gate leaves.
- H. Place fabric on inside of posts and rails.
- I. Do not stretch fabric until concrete foundation has cured 28 days.
- J. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.
- K. Position bottom of fabric 2 inches above finished grade.
- L. Fasten fabric to top rail, line posts, braces, and bottom rail with tie wire at maximum 12 inches on centers.
- M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- N. Support gates from gate posts. Do not attach hinged side of gate from building wall.
- O. Install gate with fabric to match fence. Install three hinges on each gate leaf and hardware owner provided padlock.
- P. Install posts with maximum clear opening 6 inches from end posts to buildings, fences and other structures.
- Q. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.
- R. Center and align posts. Place concrete around posts and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.
- S. Allow footings to cure minimum 7 days before installing fabric and other materials attached to posts.

3.2 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation from Plumb: 1/4 inch.
- C. Maximum Offset from Indicated Position: 1 inch.

D. Minimum distance from property line: 6 inches.

3.3 ALIGNMENT

A. Alignment and fence corner locations shall be in accordance with the Drawings.

3.4 CLEANUP

A. All unused chain link fencing, posts, gates, and accessories shall be removed from site at completion of the project.

END OF SECTION