ADDENDUM NO. 2

February 13, 2026

Michigan City Community Event Center
Michigan City, Indiana

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated January 16, 2026 by Fanning Howey Associates, Inc. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 2-1 through ADD 2-2 and attached Addendum No. 2 from Fanning Howey Associates, Inc. dated February 11, 2026 and consisting of 4 pages, added Specification Sections 27 15 11 – Conductors and Cables for Public Address and Mass Notification Systems and 27 51 16 – Public Address and Mass Notification Systems, revised Specification Sections 11 68 33 – Athletic Field Equipment, 12 93 00 – Site Furnishings and Amenities, 22 13 16 – Sanitary, Waste, and Vent Piping System, 26 56 68 – Exterior Athletic Lighting, 32 31 13 – Fences and Gates, and 24 drawings.

A. SPECIFICATION SECTION 00 00 10 – TABLE OF CONTENTS

1. **ADD:**

   a. Specification Section 27 15 11 – Conductors and Cables for Public Address and Mass Notification Systems
   b. Specification Section 27 51 16 – Public Address and Mass Notification Systems

B. SPECIFICATION SECTION 00 31 00 –BID FORM

1. **REPLACE:**
   a. Specification Section 00 31 00 - Bid Form with the attached revised section.

C. SPECIFICATION SECTION 01 12 00 – MULTIPLE CONTRACE SUMMARY

A. BID CATEGORY NO. 1 – SITEWORK

1. **ADD:**

a. Specification Section: 11 68 33- Athletic Field Equipment

b. Clarification No. 12
The **Bid Category No. 1 Contractor** shall provide a $30,000 allowance for the turf logo. Any unused amount will be credited back to the Owner as a deduct Change Order.

B. BID CATEGORY NO. 2 – GENERAL TRADES

1. **DELETE:**

a. Specification Section: 11 68 33- Athletic Field Equipment

D. BID CATEGORY NO. 4 – ELECTRICAL/TECHNOLOGY

1. **ADD:**

a. Specification Section 27 15 11 – Conductors and Cables for Public Address and Mass Notification Systems
b. Specification Section 27 51 16 – Public Address and Mass Notification Systems

D. SPECIFICATION SECTION 01 23 00 – BID ALTERNATES

1. **REPLACE:**

a. Specification Section 01 23 00 - Bid Alternates with the attached revised section.

CONTRACTOR'S BID FOR PUBLIC WORKS FORM NO. 96

Format (Revised 2013)
(Amended for MCAS)

Michigan City
Community Event Center

Michigan City Area Schools
Michigan City, IN

PART I

(To be completed for all bids. Please type or print)

Date (month, day, year):_____

BIDDER (Firm) _____

Address _____ P.O. Box _____

City/State/Zip _____

Telephone Number: _____ Email Address: _____

Person to contact regarding this Bid_____

Pursuant to notices given, the undersigned offers to furnish labor and/or materials necessary to complete the public works project of:

_____
Insert Category No. (s) and Name(s)

Of public works project, ***Michigan City Community Event Center***, in accordance with Plans and Specifications prepared by ***Fanning Howey Associates, 350 E. New York St., #300, Indianapolis, IN 46207***, as follows:

BASE BID

For the sum of _____
(Sum in words)

_____DOLLARS ($_____)
(Sum in figures)

The undersigned acknowledges receipt of the following Addenda:
Receipt of Addenda No. (s) _____

PROPOSAL TIME

Bidder agrees that this Bid shall remain in force for a period of sixty (60) consecutive calendar days from the due date, and Bids may be accepted or rejected during this period. Bids not accepted within said sixty (60) consecutive calendar days shall be deemed rejected.

Attended pre-bid conference YES _____ NO_____

Has visited the jobsite YES _____ NO_____

The Bidder has reviewed the Guideline Schedule in Section 01 32 00 and the intent Of the schedule can be met.

YES _____ NO_____

Bidder has included their Written Drug Testing Plan that covers all employees of the bidder who will perform work on the public work project and meets or exceeds the requirements set in IC 4-13-18-5 or IC 4-13-18-6.

YES _____ NO_____

The Skillman Corporation's diversity initiative is to create a program to encourage, assist and measure the active participation of Minority- Owned, Women-Owned, Veteran – Owned and Disabled Individual-Owned Businesses. The Program is to ensure that MWVDBEs are provided full and equal opportunity to participate in all Skillman Corporation's Projects.

Bidder has included:

DBE: YES _____% NO _____
MBE: YES _____% NO _____
WBE: YES _____% NO _____
VBE: YES _____% NO _____

The undersigned further agrees to furnish a bond or certified check with this Bid for an amount specified in the Notice to Bidders. If Alternate Bids apply, submit a proposal for each in accordance with the Plans and Specifications.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit bases, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS
(if applicable)

I, the undersigned bidder, or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ALTERNATE BIDS

A blank entry or an entry of "No Bid", "N/A", or similar entry on any Alternate will cause the bid to be rejected as non-responsive only if that Alternate is selected. If no change in the bid amount is required, indicate "No Change".

****MARK "ADD" OR "DEDUCT" FOR EACH ALTERNATE****

Alternate Bid No. 1 – Visitor Concessions Building B

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 2 – Tennis Courts

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

3

Alternate Bid No. 3 – Grandstands 1000 Additional Seating

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 4 – Grandstands 2000 Additional Seating

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 5 – Synthetic Rubber Track Surface

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 6 – Track Sub-drainage System

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

Alternate Bid No. 7 – Scoreboard

Change the Base Bid the sum of _____
(sum in words)

_____ DOLLARS ($_____) ADD / DEDUCT
(sum in figures)

PART II
(For projects of $150,000 or more – IC 36-1-12-4)

These statements to be submitted under oath by each bidder with and as a part of his bid. (Attach additional pages for each section as needed.)

SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in the process of construction by your organization?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you?_____If so, where and why?

_____

_____

_____

4. List references from private firms for which you have performed work.

_____

_____

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed Work. (Examples could include a narrative of when you could begin, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)

2. Please list the names and addresses of all subcontractors (i.e. persons or firms outside your own firm who have performed part of the work) that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

3. If you intend to sublet any portion of the work, state the name and addresses of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

4. What equipment do you have available to use for the proposed Project? Any equipment used by subcontractors may also be required to be listed by the governmental unit.

5. Have you into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which corroborate the process listed.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of Bidder's financial statement is mandatory. Any Bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the Contract must be specific enough in detail so that said governing body can make a proper determination of the Bidder's capability for completing the Project if awarded.

SECTION IV CONTRACTOR NON-COLLUSION AFFIDAVIT

The undersigned Bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this Bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporations has, have, or will receive directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of such contract.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT

Dated at _____this _____ day of _____, 20

_____
(Name of Organization)

By

_____

_____
(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
) SS:
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named

_____

Swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____,

_____
(Title)

_____
Notary Public

My Commission Expires: _____

County of Residence: _____

END OF SECTION 00 31 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 PURPOSE

A. The Bids for the Alternates described herein are required in order for the Owner to obtain information necessary for the proper consideration of the Project in its entirety.

1.03 ALTERNATES

A. Definitions: Alternates are defined as alternate products, materials, equipment, installations or systems for the Work, which may, at Owner's option and under terms established by Instructions to Bidders, be selected and recorded in the Owner-Contractor Agreement to either supplement or displace corresponding basic requirements of Contract Documents. Alternates may or may not substantially change scope and general character of the Work; and must not be confused with "allowances", "unit prices", "change orders", "substitutions", and other similar provisions.

1.04 SCHEDULE OF ALTERNATES

A. ALTERNATE NO. 1: State the cost to provide complete visitor concession/restroom building, Building B, as indicated on the various site, civil, structural, architectural, food service, plumbing, mechanical, electrical, and technology drawings. Base Bid: Shall be grading and seeding along with underground utilities to locations indicated.

B. ALTERNATE NO. 2: State the cost to provide complete tennis court complex construction as indicated on the various site, civil, electrical, and technology drawings. Base Bid: Shall be grading and seeding along with underground utilities to locations indicated.

C. ALTERNATE NO. 3: State the cost to provide additional approximately 1,000 seats (2,000 seats total) on main grandstand areas as indicated on Drawing Sheet A-113 and required structural, site, and civil layout modifications for the additional structure. Alternate shall include foundations for the additional grandstand assembly.

D. ALTERNATE NO. 4: State the cost to provide additional approximately 2,000 seats (3,000 seats total) on main grandstand areas as indicated on Drawing Sheet A-113 and required structural, site, and civil layout modifications for the additional structure. Alternate shall include foundations for the additional grandstand assembly. Note: This alternate includes the grandstand area defined in Alternate No. 3 plus an additional approximately 1,000 seats for the 3,000 seat total grandstand assembly.

E. ALTERNATE NO. 5: State the cost to provide synthetic rubber track surface as described in Specification Section 32 18 25 – Synthetic Track System in lieu of polyurethane track surface.

F. ALTERNATE NO. 6: State the cost to provide synthetic subdrainage below track extents as indicated on site and civil drawing sheets. Base Bid: Track perimeter trench drain and synthetic turf field subdrainage.

G. ALTERNATE NO. 7: State the cost to provide scoreboard units manufactured by Nevco as indicated on the Architectural Drawings and Specifications if not already included in your Base bid.

PART 2 - PRODUCTS, PART 3 - EXECUTION (Not Used)

END OF SECTION 01 23 00

A D D E N D U M N O. 2

Michigan City Community Event Center

Michigan City Area Schools
Michigan City, Indiana

Project No. 224177.01

Index of Contents

Addendum No. 2, 12 items, 2 pages
New Project Manual Sections: 27 15 11 – Cables and Conductors for PA and Mass Notification Systems and 27 51 16 – Public Address and Mass Notification Systems
Revised Project Manual Sections: 11 68 33 – Athletic Field Equipment, 12 93 00 – Site Furnishings and Amenities, 22 13 16 – Sanitary, Waste and Vent Piping System, 26 56 68 – Exterior Athletic Lighting, and 32 31 13 – Fences and Gates
Revised Drawing Sheets: G-001, C200, C310, L-201, L-401, S140, A-140, A-204, P-110, P-501, P-901, M-110, M-111, M-601, ES101, ES-102, ES-103, ESD-101, E-111, E-121, E-401, E-601, E-602, and T-501

Date: February 11, 2026

I hereby certify that this Addendum was prepared by me or under my direct supervision and that I am a duly registered Architect/Engineer under the Laws of the State of Indiana.

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS

Paul A. Miller, License No. AR10800161
Expiration Date: 12/31/2027

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 2 to Drawings and Project Manual, dated January 16, 2026, for Michigan City Community Event Center for Michigan City Area Schools, 408 S. Carroll Ave, Michigan City, IN 46360; as prepared by Fanning/Howey Associates, Inc., Crown Point, Indiana.
This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. PROJECT MANUAL, TABLE OF CONTENTS

A. Book 2, Page 00 01 10-3, DIVISION 27: Add Sections 27 15 11 – Cables and Conductors for PA and Mass Notification Systems and 27 51 16 – Public Address and Mass Notification Systems.

ITEM NO. 2. NEW PROJECT MANUAL SECTIONS

A. New Project Manual Sections 27 15 11 – Cables and Conductors for PA and Mass Notification Systems and 27 51 16 – Public Address and Mass Notification Systems is included with and hereby made a part of this Addendum.

ITEM NO. 3. REVISED PROJECT MANUAL SECTIONS

A. Project Manual Sections 11 68 33 – Athletic Field Equipment, 12 93 00 – Site Furnishings and Amenities, 22 13 16 – Sanitary, Waste and Vent Piping System, 26 56 68 – Exterior Athletic Lighting, and 32 31 13 – Fences and Gates have been revised, dated 2/11/26, and are included with and hereby made a part of this Addendum.

ITEM NO. 4. PROJECT MANUAL, SECTION 07 31 13 – ASPHALT SHINGLES

A. Change 2.2, A., 1., d., as follows:

"d. Vista AR; Malarkey Roofing Products."

ITEM NO. 5. PROJECT MANUAL, SECTION 09 96 00 – HIGH-PERFORMANCE COATINGS

A. Add 3.6, A., 1., d., 4) as follows:

"4) Exposed scoreboard assembly columns and support steel."

ITEM NO. 6. PROJECT MANUAL, SECTION 33 40 00 – STORM DRAINAGE

A. Add 1.1, A., 2., as follows:

"2. Downspout Boots"

B. Add 2.1, D., as follows:

"D. Downspout Boots: Manufactured cleanout tee, threaded plug and reducer. Size of adapter shall be coordinated with downspout sizes.
1. Manufacturer: Zurn.
2. Refer to Drawings for additional information.

ITEM NO. 7. ACCEPTABLE MANUFACTURERS

The following manufacturers are to be considered acceptable manufacturers (suppliers and fabricators) for the Sections of the Specifications listed. Listed manufacturers are required to bid on products equal in type and design, size, function, and quality to that originally specified. Final decision as to equality of products specified versus those proposed shall be made by the Architect.

Section 09 67 23 – Decorative Resinous Flooring
- ICP Building Solutions, Andover, Maryland (APF Polymer Surfaces, Armor-Rez)

Section 11 68 43 – Exterior Scoreboards
- Daktronics, Brookings, South Dakota (Alternate)

ITEM NO. 8. REVISED DRAWING SHEETS

A. Drawing Sheets: G-001, C200, C310, L-201, L-401, S140, A-140, A-204, P-110, P-501, P-901, M-110, M-111, M-601, ES101, ES-102, ES-103, ESD-101, E-111, E-121, E-401, E-601, E-602, and T-501 have been revised, dated 2/11/26, and is included with and hereby made a part of this Addendum. These Drawings supersede the original documents.

ITEM NO. 9. DRAWING SHEET NO. C200

A. Plan Notes: Change Keynotes Nos. 1, 2, 3 and 8 to read as follows:

"1. Salvage bleachers and turn over to Owner.
2. Disassemble and salvage existing building and turn all components over to Owner.
3. Remove existing wall complete. Salvage attached canopy assembly and turn over to Owner.
8. Remove existing chain link fence and gate. Salvage soccer backstop assembly and turn over to Owner."

ITEM NO. 10. DRAWING SHEET NO. A-110 and A-111

A. Architectural Plan Notes: Change Keynote No. 7 to read as follows:

"7. Stainless steel countertop by Division 06."

ITEM NO. 11. DRAWING SHEET NO. A-171 and A-172

A. Equipment Notes: Change Keynote No. 3 to read as follows:

"3. Stainless steel worksurface/countertop, 6 feet long x 16" wide mounted at 30 inches a.f.f. by Division 06."

ITEM NO. 12. DRAWING SHEET NO. E-001 ELECTRICAL SYMBOLS AND ABBREVIATIONS

A. Delete item 37 from electrical general notes.

ITEM NO. 13. DRAWING SHEET NO. E-501 ELECTRICAL DETAILS

A. Delete detail 2B without replacement.

END OF ADDENDUM

SECTION 116833 - ATHLETIC FIELD EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes: Playfields and equipment, including the following:
1. Monuments
2. Long jump pits & covers
3. Long jump take-off boards
4. Vaulting boxes
5. Pole vault landing system
6. Shot put toe board and pad
7. High school Shot Put safety cage
8. Combination Football/Soccer goals
9. Football/soccer goal posts
10. Protective pads
11. Concrete slabs and encasements
12. Discus pad
13. Discus safety cage
14. Tennis court equipment and accessories
15. Football/soccer ball netting

B. Related Sections include the following:
1. Division 03 Section “Cast-In-Place Concrete”: For concrete footings.
2. Division 31 Section “Earth Moving”: For excavation for installation of concrete footings.

1.3 SUBMITTALS

A. Shop Drawings: For items included in this Section. Include types of materials, construction details, sizes and layout, and complete information on hardware and accessories.

B. Quality Assurance/Control Submittals
1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.
2. Qualification Data: For installer.

1.4 QUALITY ASSURANCE

A. Standards: Provide athletic equipment complying with or exceeding requirements of the National Federation of State High School Associations.

B. Pre-Installation Conference: Meet with Installer, and installers of substrate construction, and other related work including penetrating work such as playground equipment, Architect and Owner.
1. Review requirements (Contract Documents), submittals, status of coordinating work, availability of materials, and installation facilities and establish preliminary installation schedule. Review requirements for inspections, tests, certifications, forecasted weather conditions, governing regulations, and proposed installation procedures.

C. Installer Qualifications An installer shall have a minimum of 5 years experience installing athletic equipment and be able to demonstrate successful completion of similar projects.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Where a model number is used on the Drawings, it refers to the manufacturer and product listed which is specified as the type, size, function, and quality required for this Project.

1. Tennis Net/Post: Post are to have interior wind mechanism, 3" sq posts. Each net is to have an adjustable center strap. Each court is to have 1 score reporter and 1 trash receptacle, mounted on the net post at each court. Provide products from one of the approved manufacturers listed below.

a. (Basis of Design) Equipment as manufactured by Douglas Tennis Systems

(Phone 1-800-553-8907) "Premier 3" square post; "TN-50" NET: "SR-357" Score Reporter; "Court Order Unit"; "OMP-9R" Windscreen with "TR-50" Tie-Rap Fasteners.

b. Equipment as manufactured by Court-1: Canada (Phone 1-800-363-3591) "RS-100" 3" Square Tennis Post; "TN-60" Net; "SK-10" Center Strap and Anchor; "VP-9/G(Grommets)" Tennis Court Windscreening "Open Mesh" Polyester with "PNT" TY-RAPS.

c. Equipment as manufacture by Ball Products, Inc. Sanford, Florida (Phone 1-800-767-Ball or 407-321-2122.) "Championship Internal Wind Post"; Duranet 3.5 Tournament"; Adjustable Center Strap and Anchor; "Poly Pro 80% Open Mesh Windscreen, 9' width; "TY-RAPS" 71/2"-50 lb. break strength.

d. Equipment as manufactured by J.A. Cissel MFG. CO., Lakewood, New Jersey (Phone 1-800-631-2234 or 908-901-0300.) "#245" Courtmaster Royal 3" sq. Internal-Wind Posts; "701CDH" Net with "735E" Center Strap complete with Pipe Anchor and Snaps; "298" Professional Tennis Score Card; "101" Air Master 1 Open Weave, 9' high Windscreening with "220" Self-Locking Tyraps.

e. Equipment as manufactured by Japro Sports, LLC., Waterford, CT (Phone 1-800-243-0533) "STP-200" Deluxe Square Wind Club Tennis Posts; "STPGS-2" Deluxe Square Tennis Post Ground Sleeve; "TTN-3" Tournament Tennis Net w/ Vinyl Headband; "CS-1" Tennis Center Strap; "A-2" Tennis Center Strap Anchor.

B. The Architect will consider for acceptance products of other manufacturers provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for Architect/Engineer's approval must be accompanied by the "Substitution Request Form" and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

1. Basis-of-Design: Douglas Tennis Systems…Subject to compliance with requirements, provide either the named products from one of the above manufactures or a comparable product by one of the following:

a. Sportsfield Specialties.
b. Porter Athletic Equipment Co.
c. Aalco Equipment
d. Schelde North America

2.2 MATERIALS

A. Monuments: Shall be as indicated.

1. Provide monuments at each corner of the football/soccer field.
2. Provide monuments locating centers of track radii.

B. Long / Triple Jump sand pit system.
1. Basis of Design: Preformed Long / Triple Jump sand pit with Sand Catchers #SP6020 ***& Panel Cover Set #SP6820*** as manufactured by Sportsfield Specialties, 888-975-3343,Delhi, NY.

C. Long Jump Pit sand mix
1. Pit Fill: Shall consist of 40 percent clean mason sand and 60 percent sawdust. Sawdust shall be a hardwood sawmill byproduct. Sawdust particles shall not exceed 1/4 inch in size, and shall be free of any chemical or petroleum treatments. Blend to a uniform mix throughout.
2. Pit Base: Shall consist of 4 inches of No. 6 gravel.

D. Long Jump Take-Off Board: Board shall be 16 inches wide by 48 inches long with 3/4 x 16 x 48 inch marine plywood attached to an aluminum take-off board body with a stainless steel tray.
1. Basis-of-Design: HTB 16; Aluminum Athletic Co., West Conshohocken, Pennsylvania. Subject to compliance with requirements, provide either the named product or a comparable product of one of the following:
   a. UCS, Kearny
   b. Gill Athletics
   c. Sportsfield Specialties

E. Vaulting Boxes: Stainless steel vaulting boxes with flared sides and tilted end. Provide plug which can be covered with track synthetic surface material, fitting flush with track surface.
1. Basis-of-Design: SSVB/SSVC; Aluminum Athletic Equipment Co., West Conshohocken, Pennsylvania. Subject to compliance with requirements, provide either the named product or a comparable product of one of the following:
   a. UCS
   b. Gill Athletics
   c. Sportsfield Specialties

F. Pole Vault landing system: Pole vault landing system shall be Durazone as manufactured by by Sportsfield Specialties, 888-975-3343,Delhi, NY

G. Discus Throw ring: Recessed throwing ring.
1. Basis-of-Design: #TFD099AL aluminum Discus throw ring as manufactured by Sportsfield Specialties Co. 888-975-3343, Delhi, NY Subject to compliance with requirements, provide either the named product or a comparable product of one of the following:
   a. UCS
   b. Gill Athletics
   c. Aluminum Athletic equipment Co

H. High School Discus cage:
1. Basis of Design: Portable Discus cage consisting of aluminum poles with 1 ¾" nylon mesh netting and associated hardware shall be model number DCHSPT as manufactured by Sportsfield Specialties Co., 888-975-3343, Delhi, NY.

I. Shot Put Toe Board: Heavy-duty cast aluminum toe board and recessed throwing ring.
1. Basis-of-Design: #TFSPH001AL aluminum Shot Put toe board and #TFSPH084AL throw ring as manufactured by Sportsfield Specialties Co. 888-975-3343, Delhi, NY Subject to compliance with requirements, provide either the named product or a comparable product of one of the following:
   a. UCS
   b. Gill Athletics
   c. Aluminum Athletic equipment Co

J. High school Shot Put safety cage: Portable Shot put safety cage with 1-3/4” nylon mesh netting and associated hardware shall be model number SPCPT as manufactured by Sportsfield Specialties Co., 888-975-3343, Delhi, NY.

K. Combination Goal for Football and Soccer: Goal posts shall be official 24 feet wide and 8 feet above grade. Soccer uprights and cross bars shall be constructed from heavy wall extruded aluminum. Football uprights shall 20 feet high and 23 feet 4 inches apart. Football cross bar to be 10 feet above grade. Provide intermediate support as required. Top of uprights shall be capped with a formed, plated metal cap. Include associated protective padding.
   a. Basis of Design: SG4985HS High school “GoalPak”; Sportsfield Specialties Subject to compliance with requirements.

L. Football/soccer ball netting: Football/soccer ball netting system shall be 40’ high x 50’ wide #FSNS64040 as manufactured by Sportsfield Specialties Co., 888-975-3343, Delhi, NY.

M. Concrete Slabs
   1. Provide concrete slabs for shot-put, discus, and also for high jump standards. Size, configuration, and locations of slabs shall be as indicated on approved shop drawings.
   2. Concrete shall conform to the requirements of Division 03 Section "Cast-in-Place Concrete" and the "Concrete Schedule".

N. Concrete Encasements
   1. Provide concrete encasement of monuments and football goal posts.
   2. Provide concrete consisting of portland cement, complying with ASTM C150, aggregates complying with ASTM C33, and with a minimum of 28-day compressive strength of 2500 psi, using at least 4 sacks of cement per cu.yd., 1 inch maximum size aggregate, maximum 3 inch slump, and 2 percent to 4 percent entrained air. Prepare to conform to ASTM C94.

O. Tennis Posts, Sleeves, Nets, Center Strap Tie Down, and Anchors:
   1. Tennis posts shall be PVC coated galvanized steel. One pair of posts shall consist of one reel post and one tie off post. Posts shall extend the required 3’-6” above the court to meet U.S.T.A. requirements. Post shall be 3” square min. and shall set into corresponding aluminum ground sleeves. Upper end of posts shall be provided with an integral cap assembly with tamper resistant attachment hardware to prevent vandalism or use by unauthorized individuals.
      a. Color: Green.
   2. Extruded post sections shall be provided with an internal channel/track system to accept both a cable length adjustment clamp and a unique tension assembly to provide for ease of net installations. Net tensioning mechanism is totally enclosed in the posts. Net tensioning assembly is furnished with an integral pulley and a spring loaded retaining ring for quick and easy cable attachments. Acme screw adjustment is provided with a roller thrust bearing to minimize friction to provide proper net tension. Net tensioning crank handle is removable. Net tie-off post provides an integral clamp for adjustment of nets with varying cable lengths.
   3. Courtside of posts is provided with a continuous slot as part of the extrusion design to accept twist-lock type retainers to support a vertical net attachment rod. Posts and caps shall be finished in a durable black, powder-coated finish. Internal tensioning mechanism and net clamp shall be zinc plated.
   4. Sleeve shall be of a high-tensile special aluminum extrusion, which is anodized for maximum corrosion resistance. Sleeve have a 1/2" diameter locating/anchor pin located 2’-0” below the playing surface. Bottom end of sleeve shall be open to allow drainage into gravel base beneath the concrete footing. Removable cover plate shall be of a solid zinc-type die-cast material, with a flat-head stainless steel locking bolt, for maximum corrosion resistance. Cover shall incorporate a special expansion-type toggle system to lock cover in place with a 5/16” allen wrench provided with each unit.

5. Size of net to be 42’-0” in length by 3’-3” in height. Netting to be tarred nylon with a durable vinyl covered polyester reinforced top binding. Heavy-duty bindings shall encase sides and bottom of net. Galvanized steel tension cable shall be encased in top binding with an attachment loop securely swaged at both ends.
6. Basis-of-Design: Douglas Tennis Systems.. Subject to compliance with requirements, provide either the named product or a comparable product by one of the following:
    a. Sportsfield Specialties.
    b. Porter Athletic Equipment Co.
    c. Aalco Equipment
    d. Schelde North America

P. Accessories:
1. Score Keeper: Steel construction with swivel base for rotation. Clamps easily to any post shape or size.
    a. Game Numbers: 4 inch by 7 inch (1-7) HD durable plastic.
        1) Provide two sets of game numbers and 2 sets of “sets won”.
    b. Name Plate with pen.
2. Cabana bench: Shaded cabana bench shall be a 6’ long cabana bench with canvas shade covering and direct burial foundation as manufactured by Douglas equipment, Eldridge, IA 52748, 800-553-8907.

Q. Product: Douglas Score Keeper:

PART 3 - EXECUTION

3.1 INSTALLATION

A. Monuments: Shall be properly installed to the required lines and grades, locating the exact points indicated.

B. Long Jump Pits: Shall be constructed and filled as indicated on the details and per manufacturers recommendations and as located on the plan.

C. Long jump take-off boards, vaulting boxes, and shot put toe board shall be installed in accordance with manufacturer's printed instructions at the locations indicated.
1. Dig a hole approximately 30 inch by 60 inch by 12 inch (consult local codes for concrete depth and drainage requirements) in the proper location for the long and triple jumps.
2. Position a wooden concrete form in the hole so that the top of the wooden frame is 1/2 inch below the top level of the finished synthetic runway surface.
3. Fill the void with concrete to establish a level of 1-3/4 inch below the top of the wooden concrete form. (Note: Overall 2-1/4 inch from finished runway surface).
4. While the concrete is still in a semi-pliable state, position and level the 16ST stainless steel tray with the 16TB take-off board in place, so that the top of the board is exactly the same level as the top of the finished synthetic runway surface. Check the level of the take-off board in both directions.
5. Make a cement mix (1:2). Pour this around the tray, beneath the curved edge and to the top of the tray.
6. After cement hardens, remove the wooden form and fill the void with asphalt.
7. The top of the tray is 1/4 inch below the top of the finished synthetic runway surface. Pour the synthetic surface on the runway so that it is flush and level with both the runway and the top of the take-off board.

D. Install vaulting boxes and pole vault landing systems in strict accordance with manufacturer's recommendations and as located on the plans.

E. Install shot put toe board and concrete pad in strict accordance with manufacturer's recommendations and as located on the plans.

F. Install discus throwing ring and pad in strict accordance with manufacturers recommendations and as located on the plans.

G. Football Goal Posts
   1. Do not begin prior to completion of final grading. Excavate holes for post footings in firm, undisturbed, or compacted soil. Holes shall have a depth as indicated on the shop drawings and as recommended by the manufacturer. Excavate deeper as required for adequate support in soft and loose soils.
   2. Place concrete around sleeves in a continuous pour, tamp for consolidation. Check each sleeve for vertical and top alignment and hold in position during placement and finishing operations.

H. Install soccer goals in strict accordance with manufacturer's recommendations and as located on the plans.

I. Install Football/soccer ball netting in strict accordance with manufacturers recommendations and as located on the plans.

J. Concrete Slabs: Shall be installed as shown on approved shop drawings, at the required locations and elevations, and in conformance with requirements of Division 03 Section "Cast-in-Place Concrete" and the "Concrete Schedule".

K. Install protective pads in strict accordance with manufacturer's recommendations and as located on the plans.

L. Install all Tennis court equipment and cabana benches in locations as noted on plans and details and per manufacturers recommendations.

END OF SECTION 116833

SECTION 12 93 00 – SITE FURNISHINGS AND AMENITIES

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Tree Grates

B. Related sections include the following:
   1. Division 03 Section "Cast-in-Place Concrete" for installation of pipe sleeves cast or anchor bolts cast in concrete footings.
   2. Division 31 Section "Earth Moving" for excavation for installation of concrete footings.

1.3 SUBMITTALS

A. Samples for Initial Selection: For units with factory-applied color finishes.

B. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
   1. Size: Not less than 6-inch-long linear components and 4-inch-square sheet components.

C. Quality Assurance/Control Submittals
   1. Product Data: For each type of product indicated.

D. Closeout Submittals
   1. Maintenance Data: For site furnishings to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes and complying with the following:
   1. Rolled or Cold-Finished Bars, Rods, and Wire: ASTM B 211.
   2. Extruded Bars, Rods, Wire, Profiles, and Tubes: ASTM B 221.
   3. Structural Pipe and Tube: ASTM B 429.
   4. Sheet and Plate: ASTM B 209.
   5. Castings: ASTM B 26.

B. Steel and Iron: Free of surface blemishes and complying with the following:
   1. Plates, Shapes, and Bars: ASTM A 36.
   2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
   3. Tubing: Cold-formed steel tubing complying with ASTM A 500.
   4. Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513, or steel tubing fabricated from steel complying with ASTM A 1011 and complying with dimensional tolerances in ASTM A 500; zinc coated internally and externally.
   5. Sheet: Commercial steel sheet complying with ASTM A 1011.
   6. Perforated Metal: From steel sheet not less than 0.0897-inch nominal thickness; manufacturer's standard perforation pattern.
   7. Expanded Metal: Carbon-steel sheets, deburred after expansion, and complying with ASTM F 1267.

8. Malleable-Iron Castings: ASTM A 47, grade as recommended by fabricator for type of use intended.
9. Gray-Iron Castings: ASTM A 48, Class 200.
10. Welded metal grid

C. Stainless Steel: Free of surface blemishes and complying with the following:
1. Sheet, Strip, Plate, and Flat Bars: ASTM A 666.
2. Pipe: Schedule 40 steel pipe complying with ASTM A 312.
3. Tubing: ASTM A 554.

D. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials; commercial quality, tamperproof, vandal and theft resistant, or concealed, recessed, and capped or plugged. Provide one of the following:
1. Angle Anchors: For inconspicuously bolting legs of site furnishings to on-grade substrate; one per leg, unless otherwise noted.
2. Antitheft Hold-Down Brackets: For securing site furnishings to substrate; minimum two per unit or as required by manufacturer.

E. Erosion-Resistant Anchoring Cement: Factory-packaged, non-shrink, non-staining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound; resistant to erosion from water exposure without needing protection by a sealer or waterproof coating; recommended in writing by manufacturer, for exterior applications.

F. Galvanizing: Where indicated for steel and iron components, provide the following protective zinc coating applied to components after fabrication:
1. Zinc-Coated Tubing: External, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, polymer film. Internal, same as external or consisting of 81 percent zinc pigmented coating, not less than 0.3 mil thick.
2. Hot-Dip Galvanizing: According to ASTM A 123, ASTM A 153, or ASTM A 924.

2.2 TREE GRATES

A. Tree Grates: Supply and install 4’ round Fan Series tree grates in locations where tree plantings are located within concrete on the drawings. Finish to be Raw Iron.
1. Basis of Design: as manufactured by Urban Accessories, 877-487-0488, Tacoma, WA.
2. Or Approved Equal

2.3 FABRICATION

A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.

B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.

D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.

E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

2.4 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.5 STEEL AND GALVANIZED STEEL FINISHES

A. Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Provide all necessary parts and equipment needed to successfully install specified manufactured site furnishings per manuf. Written instructions. Complete field assembly of site furnishings where required.

B. Install all site furnishings with embedment type mounting prior to paving and landscaping. All other surface style mounted site furnishings to be installed after landscaping and paving have been completed.

C. Install site furnishings level, plumb, true, and securely anchored at locations by Approved plans.

3.3 CLEANING

A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 12 93 00

SECTION 22 13 16 – SANITARY, WASTE, AND VENT PIPING SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following for soil, waste, and vent piping inside the building:
   1. Pipe, tube, and fittings.
   2. Floor drains.
   3. Cleanouts.
   4. Adapter fittings.

B. Related Sections include the following:
   1. Division 22 Section "Sanitary Sewerage Pumps."
   2. Division 22 Section "Acid Waste and Vent Systems" for chemical-waste and vent piping systems.

1.2 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure, unless otherwise indicated:
   1. Soil, Waste, and Vent Piping: 10-foot head of water.
   2. Sanitary Sewer, Force-Main Piping: 150 psig.

B. Seismic Performance: Soil, waste, and vent piping and support and installation shall be capable of withstanding the effects of seismic events determined according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures."

1.3 ACTION SUBMITTALS

A. Product Data: For pipe, tube, fittings, couplings, floor drains, and trench drains.

B. Shop Drawings:
   1. Design Calculations: Signed and sealed by a qualified professional engineer for selecting seismic restraints.

1.4 INFORMATIONAL/QUALITY ASSURANCE/CONTROL SUBMITTALS

B. Field quality-control inspection and test reports.

1.5 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. All cast iron soil piping and fittings shall comply with ASTM A 888 (or A 74) and be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and be listed by NSF International.

C. Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-dwv" for plastic drain, waste, and vent piping; "NSF-drain" for plastic drain piping; "NSF-tubular" for plastic continuous waste piping; and "NSF-sewer" for plastic sewer piping.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acceptable Manufacturers
   1. Cleanouts and Floor Drains: Zurn, Wade, Josam Company, J. R. Smith, Mifab, Watts
   2. Adapter Fittings: Fernco
   3. Trench Drains: Zurn, Aco, Polydrain, Josam/MEA)
   4. Pipe Tube and Fittings: Tyler, Charlotte, AB&I

2.2 CLEANOUTS

A. Floor: Cast iron, inside caulking, with adjustable nickel-bronze round tops; ZN1400-BZ. Provide Zurn “-CF” carpet cleanout flange in carpeted areas. Review Finish Schedule for locations.
   1. Acid waste floor cleanouts shall be Orion FCO corrosion resistant finished floor cleanout. Manufactured from fire retardant polypropylene material, ferrule supplied with countersunk plug and adjustable top with round nickel bronze cover with “AWCO” cast in cover.

B. Wall: Concealed screw plug with countersunk wrench hole and stainless steel screwed flush cover and frame. Zurn ZS1468.

C. Review Finish Schedule for locations.

2.3 ADAPTER FITTINGS

A. Adaptor fittings shall be used where changing from one type of material to another such as: "DWV" to cast iron soil pipe shall be with an approved brass adapter ferrule and caulk "DWV" into cast iron hub. Leaded joint against "DWV" copper is not permitted. Cast iron soil pipe to vitrified tile connection shall be made using ABS "Fernco Donut" gasket.

2.4 FLOOR DRAINS

A. Floor Drain (all finished areas on or above grade conditions). **Floor Drains installed in floor slabs above grade shall include anchor flange and weepage hole option.**

B. Floor Drain "FD-1": Ground floor and above ground floor conditions. Cast iron body and flashing color, nickel bronze square adjustable strainer head with secured square hole grate; Zurn ZN415-6SZ.

C. Floor Drain “FD-2” (Mechanical Equipment Rooms on or above grade conditions): Cast iron body and flashing collar with square cast iron grate and slotted sediment bucket, provided with deep seal ‘P’ trap; Zurn Z610-DG.

D. Floor Drain “FD-3”: Same FD-1 but with a 4 inch x 9 inch oval funnel Zurn ZN415-6SZ with ZN329-9 funnel.

E. Floor Drain “FD-4”: Provide a 12 inch by 12 inch by 8 inch floor drain sink with a square nickel bronze top with deep seal ‘P’ trap, 1/2 grate, aluminum sediment bucket. Zurn ZN1901-P-23-2-KC.

F. Floor Drain “FD-4SS”: Provide a 12 inch by 12 inch by 8 inch stainless steel floor drain sink with a square top with deep seal ‘P’ trap. Zurn ZS1810-8S.

G. Floor drain “FD-5”: (Acid Waste Floor Drain on Grade) Orion AWFDPT (integral trap) corrosion resistant floor drain manufactured from fire retardant polypropylene material. Grate, plug, and covers are to be made from fiber filled polypropylene.

H. Floor Drain “FD-6”: (Acid Waste Floor Drain Above Grade) Orion AWFDSTD corrosion resistant floor drain manufactured from PVDF (UL listed for return air plenums). Grate, plug, and covers are to be made from fiber filled PVDF. Provide Orion UTP PVDF “P”-trap.

I. Floor Drain “FD-7”: Cast iron body with deep seal ‘P’ trap and floor cleanout, flashing collar, nickel bronze dome strainer head; Zurn ZN415-6G.

J. Floor Drain “FD-8”: Cast iron body with flashing collar, nickel bronze dome strainer head, Zurn ZN415-6G with Z1099 backwater valve.

K. Floor Drain “FD-9”: Sioux Chief 832 series Finish Line adjustable on-grade floor drain shall be used where necessary in drainage systems. Floor drain shall allow adjustment of 1.25 inches before the concrete pour, and 1.25 inches after the concrete pour. Floor drain shall have a Schedule 40 hub connection, which conforms to ASTM D2665 (PVC) or D2661 (ABS). Connection to drainage system shall be made with a solvent weld joint to ABS/PVC pipe. Strainer of floor drain shall be cast nickel or brass, and shall fasten into female threaded brass inserts. Strainer shall meet load requirements for Medium Duty, and have 9.5 in^2 free area. Trap primer port shall be pre-threaded 1/2 inch FIP for knockout connection.

L. Floor Drain “FD-10”: Sioux Chief 832 series Finish Line adjustable on-grade flashing drain shall be used where necessary in drainage systems. Flashing drain shall allow adjustment of 1.25 inches before the concrete pour, and 1.25 inches after the concrete pour. Flashing drain shall have an invertible flashing collar which fastens into female threaded brass inserts, and a Schedule 40 hub connection (ABS/PVC), or no-hub or push-joint connection (cast iron). Connection to drainage system shall be made with a solvent weld joint to ABS/PVC pipe. Strainer of floor drain shall be cast nickel or brass, and shall fasten into female threaded brass inserts. Strainer shall meet load requirements for Medium Duty, and have 9.5 in^2 free area. Trap primer port shall be pre-threaded 1/2 inch FIP for knockout connection.

M. Size: As described on the Drawings.

N. Tops: Adjustable nickel-bronze.

O. Strainers: 6 inch square. All strainers shall be adjustable nonclog style. (Exception: FD-4)

P. Bodies: Cast iron, double drainage type.

Q. Flashing Rings: Nonpuncture clamping rings are required wherever membrane waterproofing occurs.

R. Traps: All traps shall be cast iron, deep seal (4 inches minimum seal).

S. Cleanouts: As shown and as required by Code.

T. Trap seal primer valve shall conform to ASSE 1018, 1072 or ASSE 1044 equal to SureSeal or Green Drain.

U. Trap Primers: Prime-Time Electronic Trap Priming Manifold Kit as manufactured by PPP Products shall be installed in the vertical cold water piping serving the hose bibb(s) in the mechanical mezzanines at +48 inches AFF. Trap primer water service shall then be extended and connected to the floor drain traps as indicated on the Drawings. Prime-Time Electronic Trap Priming Manifold Kit as manufactured by PPP Products shall be provided in the cold water supply piping to the science rooms for trap primer service to the emergency shower floor drain traps. Refer to Drawings for location of trap primer valve assembly.

2.5 SANITARY, WASTE, AND VENT PIPING

A. Aboveground Piping:
1. Pipe size 1-1/2 inches through 15 inches: Hubless cast iron soil pipe, service weight; hubless cast iron soil pipe fittings, hubless joints, ASTM A-74; CISPI 301. All cast iron soil pipe and fittings shall bear the collective mark of the cast iron soil pipe institute. Copper D.W.V., ASTM B306 piping and fittings is also acceptable.
2. Hubless cast iron soil pipe shall be joined using “Heavy Weight” couplings torqued to 80 inch/lbs meeting the requirements of ASTM by Clamp-All, Mission or Husky. Couplings shall be constructed of type 304 stainless steel with 305 Stainless Steel worm drive screws; 4 bands 4 inch and below, 6 bands 5 inch and above. The gasket material shall be neoprene and conform to ASTM C-564.
3. Heavy Duty couplings as described above may be provided by the pipe manufacturer for fitting locations only. All straight runs of pipe must be joined.
4. **Solid wall PVC pipe (ASTM D 2665) is acceptable if pipe location is isolated from return air plenum limited to above floor applications concealed within walls.**

B. Underground Piping:
1. Pipe size 2 inches through 15 inches: Cast iron hub and spigot soil pipe service weight; Cast iron hub and spigot soil pip fittings, ASTM A-74; CISPI 301; compression gasket joints, ASTM C564-70, or lead and oakum joints are acceptable. All cast iron soil pipe and fittings shall bear the collective mark of the cast iron soil pipe institute.
2. An option shall be Schedule 40 PVC with solvent joints per ASTM per D2665/D2564. Installation shall be per ASTM D2321. Cast Iron shall be provided for Kitchens and other areas subject to high temperature waste water conditions.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Refer to Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

A. Flanges and unions may be used on aboveground pressure piping, unless otherwise indicated.

3.3 INSTALLATION

A. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:
1. Size same as drainage piping up to 4 inches. Use 4 inches for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping.
4. Locate at base of each vertical soil and waste stack.

B. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

C. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

D. Install floor drains as noted on the Drawings. Set grates of drains 1/2 inch below finished floor, unless otherwise indicated.
   1. Position floor drains for easy access and maintenance.
   2. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
   3. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.

E. Install through-penetration firestop assemblies in plastic conductors and stacks at floor penetrations.

F. Install deep-seal traps on floor drains and other waste outlets.

G. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.

H. Install sleeve flashing device with each riser and stack passing through floors with waterproof membrane.

I. Install traps on plumbing specialty drain outlets.

J. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.

K. All sanitary vent piping, including acid vent piping, which terminates to any exterior point, shall extend to a point 2’-0” above any outdoor air intake which are located within 10’-0” of the intake opening.

3.4 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment to allow service and maintenance.

3.5 PIPING INSTALLATION

A. Sanitary sewer piping outside the building is specified in Division 22 Section "Facility Sanitary Sewers."

B. Basic piping installation requirements are specified in Division 22 Section "Common Work Results for Plumbing."

C. Install seismic restraints on piping. Seismic-restraint devices are specified in Division 22 Section "Vibration and Seismic Controls for Plumbing Piping and Equipment."

D. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers.

E. Install cleanout fitting with closure plug inside the building in sanitary force-main piping.

F. Install mechanical sleeve (in basement conditions). Select number of interlocking rubber links required to make installation watertight. Sleeves and mechanical sleeve seals are specified in Division 22 Section "Common Work Results for Plumbing."

G. Install wall-penetration fitting at each service pipe penetration through foundation wall. Make installation watertight.

H. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

I. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

J. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

K. Install soil and waste drainage and vent piping at the following minimum slopes, unless otherwise indicated:
   1. Building Sanitary Drain: 1/4 inch per foot downward in direction of flow for piping 2 inches and smaller; 1/8 inch per foot downward in direction of flow for piping 3 inches and larger.
   2. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.

L. Install underground soil and waste drainage piping according to ASTM D 2321.

M. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

3.6 JOINT CONSTRUCTION

A. Basic piping joint construction requirements are specified in Division 22 Section "Common Work Results for Plumbing."

B. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.

C. Join hubless cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-coupling joints.

D. Soldered Joints: Use ASTM B 813, water-flushable, lead-free flux; ASTM B 32, lead-free-alloy solder; and ASTM B 828 procedure, unless otherwise indicated.

E. PVC Nonpressure Piping Joints Below Underground Slab: Join piping according to ASTM D 2665.

3.7 HANGER AND SUPPORT INSTALLATION

A. Seismic-restraint devices are specified in Division 22 Section "Vibration and Seismic Controls for Plumbing Piping and Equipment."

B. Pipe hangers and supports are specified in Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment." Install the following:
   1. Vertical Piping: MSS Type 8 or Type 42, clamps.
   2. Install individual, straight, horizontal piping runs according to the following:
      a. MSS Type 1, adjustable, steel clevis hangers.
   3. Support stacks at each floor with two-piece risers clamps.

C. Install supports according to Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment."

3.8 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect drainage and vent piping to the following:
   1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
   2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
   3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.

3.9 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
   1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
   2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:
   1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
   2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.

3. Roughing-in Plumbing Test Procedure: Test drainage and vent piping, except outside leaders, on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.
4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg. Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

E. Test force-main piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:
1. Leave uncovered and unconcealed new, altered, extended, or replaced force-main piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
2. Cap and subject piping to static-water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
3. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
4. Prepare reports for tests and required corrective action.

3.10 CLEANING

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.11 PROTECTION

A. Underground Slab PVC Piping: Protect plumbing vents exposed to sunlight with two coats of water-based latex paint.

END OF SECTION 22 13 16

SECTION 26 56 68 - EXTERIOR ATHLETIC LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes lighting for the following outdoor sports venues, specified primarily by illumination performance:
   1. Soccer field with track.
   2. Outdoor tennis courts.

B. Related Sections include the following:
   1. Division 0 Section "Information Available to Bidders; Geotechnical Data" for report on subsurface soils.
   2. Division 26 Section "Lighting Control Devices" for multipole lighting relays and contactors.

1.2 DEFINITIONS

A. CV: Coefficient of variation; a statistical measure of the weighted average of all relevant illumination values for the playing area, expressed as the ratio of the standard deviation for all illuminance values to the mean illuminance value.

B. Delegated-Design Submittals: Documents, including drawings, calculations, and material and product specifications prepared as a responsibility of Contractor to obtain acceptance by Owner and authorities having jurisdiction.

C. Horizontal Illuminance: Measurement in foot-candles, on a horizontal surface 36 inches above ground, unless otherwise indicated.

D. LLD: Lamp lumen depreciation.

E. LLF: Light loss factor.

F. Luminaire: Complete lighting fixture, including ballast housing if provided.

G. Target Illuminance: Average maintained illuminance level, calculated by multiplying initial illuminance by LLF.

H. UG: Uniformity gradient; the rate of change of illuminance on the playing field, expressed as a ratio between the illuminances of adjacent measuring points on a uniform grid.

I. Vertical Illuminance: Measurement in foot-candles, in four directions on a vertical surface, at an elevation coinciding with plane height of horizontal measurements.

1.3 PERFORMANCE REQUIREMENTS

A. Facility Type: High school.

B. Illumination Criteria: Comply with criteria in IESNA RP-6 for the following:
   1. Minimum average maintained illuminance level for each lighted area for each sports venue and for the indicated class of play.
   2. CV and maximum-to-minimum uniformity ratios for each lighted area equal to or less than those listed in IESNA RP-6 for the indicated class of play.
   3. UG levels within each lighted area and between adjacent lighted areas equal to or less than those listed in IESNA RP-6 for the indicated speed of sport.

C. Illumination Calculations: Computer-analyzed point method complying with IESNA RP-6 to optimize selection, location, and aiming of luminaires.
   1. Grid Pattern Dimensions: For playing areas of each sport and areas of concern for spill-light control, correlate and reference calculated parameters to the grid areas and intersection points of the indicated grid pattern.
   2. Spill-Light Control: Minimize spill light for each playing area on adjacent and nearby areas.
      a. Prevent light trespass on properties near Project as defined by authorities having jurisdiction.
      b. For areas indicated on Drawings as "spill-light critical," limit the level of illuminance directed into the area from any luminaire or group of luminaires, and measured 36 inches above grade to the following:
         1) Maximum Horizontal Illuminance: 1 fc.
         2) Maximum Vertical Illuminance from the Direction of the Greatest Contribution of Light: 3 fc.
      c. Calculate the horizontal and vertical illuminance due to spill light for points spaced 20 feet apart in areas indicated on Drawings as "spill-light critical," to ensure that design meets the above limits.
   3. Glare Control: Design illumination for each playing area to minimize direct glare in adjacent and nearby areas.
      a. Design source intensity of luminaires that may be observed at an elevation of 60 inches above finished grade from nearby properties to be less than 12,000 candela when so observed.
   4. Use a field factor of 15 percent according to IESNA RP-6, in establishing initial illuminance.
   5. Determine LLF according to IESNA RP-6; use LLD at 70 percent of rated lamp life.
   6. Luminaire Mounting Height: Comply with recommendations in IESNA RP-6, with consideration for requirements to minimize spill light and glare.

D. Soccer Fields:
   1. IESNA RP-6, Class of Play: III
   2. Average target illumination level – 50 fc.
   3. Speed of Sport: Moderate.
   4. Grid Pattern Dimensions: 30 by 30 feet.

E. Outdoor Tennis Courts:
   1. IESNA RP-6, Class of Play: III.
   2. Average target illumination level – 50 fc.
   3. Speed of Sport: Fast.
   4. Grid Pattern Dimensions: 20 by 20 feet.

F. Track and Field:
   1. Track:
      a. IESNA RP-6, Class of Play: II.
      b. Speed of Sport: Slow.
      c. Grid Pattern Dimensions: 30 by 30 feet.

G. Electric Power Distribution Requirements:
   1. Electric Power: 480 V, 3 phase.
      a. Balance load between phases. Install wiring to balance three phases at each support structure.
      b. Include required overcurrent protective devices and individual lighting control for each sports field or venue.

H. Maximum Total Load: 76 A.
   1. Maximum Total Voltage Drop from Source to Load: 5 percent, including voltage drops in branch circuit, subfeeder, and feeder.

1.4 SUBMITTALS

A. Quality Assurance/Control Submittals:
   1. Product Data: For each type of lighting product; include the following:
      a. Lamp life, output, and energy-efficiency data. Energy data shall comply with IESNA LM-47.
      b. Photometric data based on laboratory tests of each luminaire type, complete with lamps, ballasts, and accessories.
         1) Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
   2. Delegated-Design Submittals: The following documents, signed and sealed by a qualified professional engineer:
      a. Drawings and specifications for construction of lighting system.
      b. Manufacturer's determination of LLF used in design calculations.
      c. Structural analysis data and calculations used for pole selection.
         1) Manufacturer Wind-Load Strength Certification: Submit certification that selected total support system, including poles, complies with Part 2 Article “Support Structures” and AASHTO LTS-5 for location of Project
      d. Design calculations for the following:
         1) Target illuminance.
         2) Point calculations of horizontal and vertical illuminance, CV, and UG at minimum grid size and area.
         3) Point calculations of horizontal and vertical illuminance in indicated areas of concern for spill light.
         4) Calculations of source intensity of luminaires observed at eye level from indicated properties nearby the playing fields.
         5) Short-circuit current calculations for rating of panelboards.
         6) Total connected and estimated peak-demand electrical load, in kilowatts, of lighting system.
         7) Capacity of feeder(s) required to supply the lighting system.
      e. Wiring requirements, including required conductors and cables and wiring methods.
   3. Manufacturer Certificates: Signed by manufacturers certifying that support structures, including brackets, arms, appurtenances, bases, anchorages, and foundations, comply with requirements.
   4. Qualification Data: For installer, manufacturer, and professional engineer.
   5. Field quality-control test reports.

1.5 CLOSEOUT DOCUMENTS

A. General: Closeout Submittals are to be submitted with O and M Manuals only. Do not submit with other ACTION and INFORMATIONAL Submittals:
   1. Operation and Maintenance Data: For sports lighting system components to include in emergency, operation, and maintenance manuals.
   2. Warranty: Special warranty specified in this Section.
   3. Extra Materials: Receipt for extra materials.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Manufacturer Qualifications: A qualified manufacturer. Maintain, within 100 miles of Project site, a service center capable of providing training, parts, and emergency maintenance repairs.
   1. Manufacturer's responsibilities include fabricating sports lighting and providing professional engineering services needed to assume engineering responsibility.
   2. Engineering Responsibility: Preparation of delegated-design submittals and comprehensive engineering analysis by a qualified professional engineer.

C. Luminaire Photometric Data Testing Laboratory: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of luminaires, lamps, and luminaire alignment products and to correct misalignment that occurs subsequent to successful acceptance tests. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, and unauthorized repairs and alterations from special warranty coverage. Manufacturer may assume 250 hours per year of operation.
   1. Luminaire Warranty: Luminaire and luminaire assembly (excluding fuses) shall be free from defects in materials and workmanship for a period of twenty five years from date of Substantial Completion.
   2. Alignment Warranty: Accuracy of alignment of luminaires shall remain within specified illuminance uniformity ratios for a period of ten years from date of successful completion of acceptance tests.
      a. Realign luminaires that become misaligned during the warranty period.
      b. Replace alignment products that fail within the warranty period.
      c. Verify successful realignment of luminaires by retesting as specified in Part 3 "Field Quality Control" Article.
   3. Illumination Level Warranty: Illumination level shall be at least specified target illuminance for a period of twenty five years from date of successful completion of acceptance tests.
      a. Clean fixtures as specified in Annex D of IESNA RP-6 and as recommended by manufacturer to restore specified target illuminance within the warranty period.
      b. Verify illumination levels have been restored by retesting as specified in Part 3 "Field Quality Control" Article.
   4. Illumination Uniformity Warranty: Illumination uniformity shall be at least specified CV and UG in primary playing area for a period of ten years from date of successful completion of acceptance tests.

1.8 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, provide 10 years' full maintenance by skilled employees of manufacturer's designated service organization. Include annual inspection. Include routine preventive maintenance as recommended by manufacturer and adjusting as required for proper operation. Provide parts and supplies same as those used in the manufacture and installation of original equipment.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Fuses: Equal to 10 percent of amount installed for each size indicated, but no fewer than 3 units.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Basis of design is Musco Lighting.

B. Products of other manufacturers will be considered for acceptance only when allowed in Section 260050, General Electrical Requirements.

2.2 LUMINAIRES, LAMPS, AND BALLASTS

A. Luminaires: Listed and labeled, by an NRTL acceptable to authorities having jurisdiction, for compliance with UL 1598 for installation in wet locations.
   1. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit access without using tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent their accidental falling when secured in operating position. Door shall be removable for cleaning or replacing lens.
   2. Exposed Hardware: Stainless-steel latches, fasteners, and hinges.
   3. Spill-Light Control Devices: Internal louvers and external baffles furnished by manufacturer and designed for secure attachment to specific luminaire.

B. Driver Mounting: Grouped in cabinets attached to pole at ladder height, remote from location of associated luminaires, unless otherwise indicated.

2.3 ENTERTAINMENT FIXTURES

A. Provide entertainment fixture on soccer poles for pre-programmed light shows such as wave, random, marquee and chase. Provide control touchscreen utilizing wireless control, to be located in pressbox.

B. Driver Mounting: Grouped in cabinets attached to pole at ladder height, remote from location of associated luminaires, unless otherwise indicated.

2.4 SUPPORT STRUCTURES

A. Foundation Material: Provide one of the following:
   1. Pre-stressed, centrifugally cast, reinforced concrete stub-base, direct embedded.

B. Support-Structure Wind-Load Strength: Poles and other support structures, brackets, arms, appurtenances, bases, anchorages, and foundations shall comply with AASHTO LTS-5 and shall be certified by manufacturers to withstand steady winds up to 100 mph with a 3-s gust effect factor of 1.14 without permanent deflection or whipping.
   1. Support structures shall be certified to accommodate video surveillance cameras and loudspeakers indicated.

C. Pole information: Provide as follows:
   1. Soccer field – west side – two (2) – 80’ pole height.
   2. Soccer field – east side – three (3) – 70’ pole height.
   3. Tennis – Eight (8) poles - 60’ pole height.

D. Mountings, Fasteners, and Appurtenances:
   1. Corrosion resistant, compatible with support components, and shall not cause galvanic action at contact points.
      a. Steel Components: Hot-dip galvanized after fabrication, complying with ASTM A 123/A 123M.
      b. Mounting Hardware Fasteners: Hot-dip galvanized, complying with ASTM A 153/A 153M.

E. Provisions for Other Systems: Where video surveillance cameras or exterior loudspeakers are indicated, provide the following:
   1. 1 inch threaded hub at height of camera or loudspeaker.
   2. Hand hole opposite threaded hub.
   3. Mounting loops.
   4. Concrete Poles: Provide 1 inch rigid non-metallic conduit spun into pole instead of hand hole and mounting loops.
   5. For video surveillance cameras, provide NEMA 250, Type 4X enclosure at 10 feet above Grade for use by others.

F. Concrete for Pole Foundations: 3000-psi, 28-day minimum compressive strength. Concrete, reinforcement, and formwork are specified in Division 03 Section "Cast-in-Place Concrete."

G. Lightning Protection: Provide air terminal, down conductor, and ground terminal. Comply with NFPA 780.

2.5 POWER DISTRIBUTION

A. Wiring Method for Feeders, Subfeeders, Branch Circuits, and Control Wiring: Underground nonmetallic raceway; No. 10 AWG minimum conductor size for power wiring.

B. Electrical Enclosures Exposed to Weather: NEMA 250, Type 4 with hinged doors fitted with padlock hasps.

C. Relay / control panels: Provide NEMA 1 enclosures for relay panels. Provide with wireless, cellular radios for maintenance and wireless activation utilizing Android and Apple based operation software provided as part of package.

2.6 SURGE PROTECTION

A. Surge Protection: Comply with requirements in Division 26 Section "Transient-Voltage Suppression for Low-Voltage Electrical Power Circuits" and include surge suppressors with the following requirements:
   1. Panelboard type.
   2. Nonmodular, with LED indicator lights.
   3. Peak Single-Impulse Surge Current Rating: 160 kA per phase.

2.7 POLE AND BASE PROTECTION

A. Pole Pads: Wraparound pad, with 4 inches of extra-firm polyfoam, 360-degree coverage of ground-mounted poles and supports, continuous hook-and-loop fastening, and not less than 72 inches high.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 501.

B. Use web fabric slings (not chain or cable) to raise and set structural members.

C. Install poles and other structural units level, plumb, and square.

D. Except for embedded structural members, grout void between pole base and foundation. Use nonshrinking or expanding concrete grout firmly packed in entire void space. Use a short piece of 1/2-inch-diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole. Nonshrink grout is specified in Division 05 Section "Metal Fabrications."

E. Install pole pads at all poles inside playing field boundaries and fences.

F. Extend cast-in-place bolted base foundations 36 inches above grade, minimum.

G. Baffles and Louvers for Spill-Light Correction: Install on luminaires with fasteners provided by manufacturer. Install and adjust to correct out-of-limit spill-light and glare measurements.

H. Install controls and ballast housings in cabinets mounted on support structure at least 10 feet above finished grade.

3.2 FIELD QUALITY CONTROL

A. Perform the following field quality-control tests, inspections, and analysis according to IESNA RP-6 and IESNA LM-5, and prepare test reports:
   1. After installing sports lighting system and after electrical circuits have been energized, perform proof-of-performance field measurements and analysis for compliance with requirements.
   2. Playing and Other Designated Areas: Make field measurements at intersections of grids, dimensioned and located as specified in Part 1 "Performance Requirements" Article and as described below.
      a. Soccer: Lighted area is 210 by 370 feet. Measure at least 91 points.
      b. Tennis: Measure at least 30 points for a double court.
      c. Track and Field:
         1) Track: Measure at least 48 points.
   3. Make field measurements at established test points in areas of concern for spill light and glare.
   4. Perform analysis to demonstrate correlation of field measurements with specified illumination quality and quantity values and corresponding computer-generated values that were submitted with engineered design documents, and submit a report of the analysis. For computer-generated values, use manufacturer's lamp lumens that are adjusted to lamp age at time of field testing.

B. Correction of Illumination Deficiencies for Playing Areas: Make corrections to illumination quality or quantity measured in field quality-control tests that vary from specified illumination criteria by plus or minus 10 percent or more; add or replace luminaires, or change mounting height, revise aiming, or install louvers, shields, or baffles. If luminaires are added or mounting height is changed, revise aiming and recalculate and modify or replace support structures, if indicated. Retest as specified above after repairs, adjustments, or replacements are made. Report results in writing.

C. Correction of Excessive Illumination in Spill-Light-Critical Areas: If measurements indicate that specified limits for spill light are exceeded, make corrections to illumination quantity measured in field quality-control tests that reduce levels to within specified maximum values. Replace luminaires, or change mounting heights, revise aiming, or install louvers, shields, or baffles. If mounting height is changed, revise aiming and recalculate and modify or replace support structures, if indicated. Retest as specified above after repairs, adjustments, or replacements are made. Report results in writing.

3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sports lighting. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 26 56 68

SECTION 27 15 11 – CONDUCTORS AND CABLES PUBLIC ADDRESS AND MASS NOTIFICATION SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section but not limited to the following:
   1. Cables and connectors
   2. System consolidation panels
   3. Miscellaneous sound items

B. Related Sections include the following:
   1. Division 01 General Requirements
   2. Division 26 Electrical
   3. Division 27 Communications
   4. Division 28 Safety and Security

1.3 DESCRIPTION OF WORK

A. Provide labor, material, equipment, terminations, and accessories necessary for a complete and operational cable infrastructure for Public Address and Mass Notification System as indicated on the Drawings and specified herein.

1.4 DEFINITIONS

A. BNC: Bayonet Neill Concelman.

B. NICET: National Institute for Certification in Engineering Technologies; Alexandria, Virginia.

C. NSCA: National Systems Contractors Association; Cedar Rapids, Iowa.

D. PVC: Polyvinylchloride.

E. TNC: Threaded Neill Concelman.

F. UTP: Unshielded twisted pair.

G. Zone: Separate group of loudspeakers and associated supply wiring that may be arranged for selective switching between different channels.

1.5 SUBMITTALS

A. Quality Assurance/Control Submittals:
   1. Product Data: Manufacturer cut sheet of each type of product indicated and intended to be installed.
   2. Qualification Data: For Installer, qualified layout technician, installation supervisor, and field inspector.
   3. Field quality-control test reports.
   4. See Section 27 05 00 - Common Work Results for Communications for more information.

B. Closeout Submittals:

1. Operation and Maintenance Data: For cables and connectors [and loudspeakers] to include in emergency, operation, and maintenance manuals.

C. See Common Work Results for Communications section 270500 for more submittal requirements.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
   1. Maintenance Proximity: Not more than 2 hours' normal travel time from Installer's place of business to Project site.
   2. Cable installer must have on staff a registered communication distribution designer certified by Building Industry Consulting Service International.
   3. Installation shall be by persons with one of the following certifications:
      a. NICET-certified audio technician, Level I minimum. (Level II or III, as required)
      b. NSCA-certified systems installer, C-SI minimum.
      c. InfoComm International-certified technology specialist, CTS minimum.

B. Source Limitations: Obtain public address and music equipment through a single source authorized by manufacturer to distribute their product.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Comply with NFPA 70 – National Electrical Code.

E. Comply with UL 50.

F. TIA/EIA-607 Telecommunications grounding.

G. Latest edition of BISCI – TDMM – manual

H. Americans with Disabilities Act (ADA)

I. Federal Communications Commission, Part 15

J. Sound System Engineering (Davis and Patronis) 3rd Edition 2006.

K. Audio System Design and Installation (Giddings) 1990.

L. Provide labeling per ANSI/EIA/TIA-606 requirement and in accordance with the owner and the technology consultant.

1.7 COORDINATION

A. Coordinate layout and installation of system components and suspension system with other construction trades that penetrate ceilings or is supported by them including light fixtures, HVAC equipment, fire-suppression system, and partition or sport assemblies.

1.8 WARRANTY

A. The public address and mass notification systems cabling shall carry a warranty as specified in Section 27 01 11 - Demonstration, Training and Warranty of Communications Systems.

1.9 TRAINING

A. Provide training per Section "Demonstration and Training of Communications Systems".

1.10 RECORD DRAWINGS/OPERATION AND MAINTENANCE MANUALS

A. Provide record drawings and operation and maintenance manuals as described in Sections 27 01 11 - Operation and Maintenance of Communications and 27 05 00 - Common Works Results for Communication Systems.

PART 2 - PRODUCTS

2.1 **Approved Sound Cable Manufacturers**: Belden, Carol Brand, Coleman Cable, West Penn Wire, Windy City Wire

Approved Connector or Faceplate Manufacturers: Amphenol Australia Pty Ltd., Amphenol RF, Neutrik USA, Inc, Pro Co Sound, Inc, Switchcraft, Inc, Whirlwind.

Approved System Panel Manufacturers: Ace Backstage Co., Mystery Electronics, LLC., Panel Authority, Inc., Pro Co Sound, Inc.

2.2 PATHWAYS

A. Support of Open Cabling: NRTL labeled for support of 4 PR UTP cabling, designed to prevent degradation of cable performance and pinch points that could damage cable.
   1. Support brackets with cable tie slots for fastening cable ties to brackets.
   2. Lacing bars, spools, J-hooks, and D-rings with saddles.
   3. Velcro straps and other devices.
   4. Cable Ties: Comply with Division 27 Section "Identification of Communications Systems."

B. Conduit and Boxes: Comply with requirements in Division 26 Section "Raceway and Boxes for Electrical Systems."

2.3 CABLES

A. Provide low impedance (4 or 8 Ohm) loudspeaker cables, as follows:
   1. Standard Cable: NFPA 70, Type CL2.
      a. Two conductors, No. 10 AWG, stranded
      b. Polyolefin insulation.
      c. Unshielded.
      d. PVC jacket.
      e. Flame Resistance: Comply with UL 1581.
   2. Plenum-rated cable: NFPA 70, Type CL2P.
      a. Two conductors, No. 10 AWG, stranded.
      b. Fluoropolymer insulation.
      c. Unshielded.
      d. Plenum jacket.
      e. Flame Resistance: Comply with NFPA 262.

B. Provide high impedance (25 or 70 Volt) loudspeaker cables, as follows:
   1. Standard Cable: NFPA 70, Type CL2.
      a. Two conductors, No. 12 AWG, stranded.
      b. Polyolefin insulation.
      c. Unshielded.
      d. PVC jacket.
      e. Flame Resistance: Comply with UL 1581.
   2. Plenum-Rated Cable: NFPA 70, Type CL3P.
      a. Two conductors, No. 14 AWG, stranded.
      b. Insulated.

c. Unshielded.
d. Plenum jacket.
e. Flame Resistance: Comply with NFPA 262.

C. Provide microphone and line level (Auxiliary) cables:
1. Standard Cable: NFPA 70, Type CM.
a. Paired, 1 pair, No. 22 AWG, stranded.
b. Polyolefin insulation.
c. Individual aluminum foil-polyester tape shielded pairs with 100 percent shield coverage.
d. PVC jacket.
e. Pairs are cabled on common axis No. 22 AWG, stranded (7x30) copper drain wire.
f. Flame Resistance: Comply with UL 1581.
2. Plenum-Rated Cable: NFPA 70, Type CMP.
a. Paired, 1 pair, No. 22 AWG, stranded (7x30) copper conductors.
b. Fluoropolymer insulation.
c. Individual aluminum foil-polyester tape shielded pairs with 100 percent shield coverage.
d. Plenum jacket.
e. Pairs are cabled on common axis No. 22 AWG, stranded (7x30) copper drain wire.
f. Flame Resistance: Comply with NFPA 262.

D. Provide control circuit conductors as follows:
1. Class 1 Control Circuits: Stranded copper, Type THHN-THWN, in raceway complying with UL 8 or UL44.
2. Class 2 Control Circuits: Stranded copper, Type THHN-THWN, in raceway; power-limited cable, concealed in building finishes; or power-limited tray cable, in cable tray complying with UL 83; or UL44.
3. Class 3 Remote-Control and Signal Circuits: Stranded copper, Type TW or TF, complying with UL 83.

E. Provide antenna cables, as follows:
1. AM/FM Antenna Cables: 75-ohm nominal impedance.
2. Wireless Microphone Antenna Cables: 50-ohm nominal impedance.
3. Assistive Listening Antenna Cables: 50-ohm nominal impedance.
4. Wireless Production Intercom Antenna Cables: 50-ohm nominal impedance.
5. Comply with section 27 15 33 - Communications Coaxial Horizontal Cabling

F. Provide cables installed in underground ducts, as follows:
1. Water and sunlight resistant cable specifically designed for outdoor use, listed for weatherproof installations.
2. Comply with TIA 455-82-B.

2.4 COMPONENTS

A. Provide volume attenuator station, as follows:
1. Wall-plate-mounted autotransformer type with paging priority feature.
2. Wattage Rating: 10 W, unless otherwise indicated.
3. Attenuation per Step: 3 dB, with positive off position.
4. Insertion Loss: 0.4 dB maximum.
5. Attenuation Bypass Relay: Single pole, double throw. Connected to operate and bypass attenuation when all-call, paging, program signal, or prerecorded message features are used. Relay returns to normal position at end of priority transmission.
6. Label accordingly: "PA Volume."

2.5 CONNECTORS/OUTLETS (quantity indicated on drawings)

A. Provide microphone outlets, as follows:
1. Three-pole, polarized, locking-type, Type XLR connector in single-gang boxes.

2. Provide wall microphone outlet with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor microphone outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

B. Provide stereo microphone outlet, as follows:
1. Five-pole, polarized, locking-type, Type XLR connector in single-gang boxes.
2. Provide wall microphone outlets with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor microphone outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

C. Provide line level (auxiliary) phono pin jack outlet, as follows:
1. Two-pole, polarized, phono (RCA) pin -type jack in single-gang boxes.
2. Provide two per box.
3. Provide wall line level outlets with brushed stainless-steel device plates with engraved and filled labels.
4. Provide floor line level outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

D. Provide line level (auxiliary) 3.5mm jack outlet, as follows:
1. Three-pole, polarized, 3.5-mm, mini phone -type jack in single-gang boxes.
2. Provide wall line level outlets with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor line level outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

E. Provide tip/sleeve 1/4-inch telephone jack outlet:
1. Two-pole, polarized, 1/4-inch, phone-type jack in single-gang boxes.
2. Provide wall outlets with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

F. Provide tip/ting/sleeve phone outlet, as follows:
1. Three-pole, polarized, 1/4-inch, phone-type jack in single-gang boxes.
2. Provide wall outlets with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

G. Provide loudspeaker outlet cable connector, as follows:
1. Four-pole, polarized, locking-type, weatherproof, Neutrik speakON type connectors in dual-gang boxes.
2. Provide wall outlets with brushed stainless-steel device plates with engraved and filled labels.

H. Provide loudspeaker connectors as follows:
1. Four pole, lockable, Neutrik speakON type cable connector.
2. Must handle audio current of 40 A continuous Ω MS.
3. One piece strain relief.

I. Provide AM/FM radio antenna outlet, as follows:
1. Two-pole, polarized, threaded-type, 75-ohm, Type F connector in single-gang boxes.
2. Provide wall outlets with brushed stainless-steel device plates with engraved and filled labels.
3. Provide floor outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

J. Provide wireless microphone, assistive listening, and production intercom antenna outlets (BNC/TNC):
   1. Two-pole, polarized, locking-type, 50-ohm, Type BNC connector in single-gang boxes.
   2. Provide wall outlets with brushed stainless-steel device plates with engraved and filled labels.
   3. Provide floor outlets with gray tapered rubber or plastic cable nozzles and fixed outlet covers and lamacoid plastic engraved labels.

K. Provide multi-pin connector outlet, as follows:
   1. [48 contacts; up to 16 pair] cable, polarized, locking-type, crimp type pin/socket multi-pin receptacle with dust cap in two-gang boxes.
   2. [84 contacts; up to 28 pair] cable, polarized, locking-type, crimp type pin/socket multi-pin receptacle with dust cap in two-gang boxes.
   3. [122 contacts; up to 40 pair] cable, polarized, locking-type, crimp type pin/socket multi-pin receptacle with dust cap in two-gang boxes.
   4. [176 contacts; up to 58 pair] cable, polarized, locking-type, crimp type pin/socket multi-pin receptacle with dust cap in two-gang boxes.
   5. Provide wall outlets with brushed stainless-steel device plates.

2.6 SYSTEM PANELS

A. Provide consolidation system panel for wiring to field devices and connection to future public address and music equipment electronics, as follows:
   1. Aluminum alloy sheet, 0.125-inch thick.
   2. Machined audio connector openings.
   3. Audio connectors.
   4. Black powder coated painted finish.
   5. Uniquely labeled connectors to match field devices. Engraved and filled labels.
   6. Signal ground lug suitable for No. 6 AWG conductor.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Wiring Method: Install wiring in raceways except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces where cable wiring method may be used. Use plenum cable in environmental air spaces, including plenum ceilings.

B. Install exposed cables, in conduits or approved raceways, parallel and perpendicular to surfaces or exposed structural members, and follow surface contours. Support cables as required.

C. Wiring Terminations: Terminate wiring in consolidation system panel. Do not terminate any cabling above accessible ceilings or exposed in finished spaces.

D. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess. Use lacing bars in cabinets.

E. Control-Circuit Wiring: Install number and size of conductors as recommended by system manufacturer for control functions indicated.

F. Separation of Wires: Separate speaker, microphone, line-level, speaker-level, and power wiring runs. Install wiring in separate raceways or where wiring is exposed or in the same enclosure, separate conductors at least 12 inches for speaker microphones and adjacent parallel power, fire alarm and telephone wiring. Separate other school intercom and program equipment conductors as recommended by equipment manufacturer.

G. Splices, Taps, and Terminations: Arrange on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

H. Match input and output impedances and signal levels at signal interfaces. Provide matching epuipment where required.

I. Identification of Conductors and Cables: Color-code conductors and apply wire and cable marking tape to designate wires and cables so they identify media in coordination with system wiring diagrams.

J. Weatherproof Equipment: For units that are mounted outdoors, in damp locations, or where exposed to weather, install consistent with requirements of weatherproof rating.

K. Wall-Mounting Outlets: Flush mounted.

L. Floor-Mounting Outlets: Conceal in floor and install cable nozzles through outlet covers. Secure outlet covers in place. Trim with carpet in carpeted areas.

M. Speaker-Line Matching Transformer Connections: Make initial connections using tap settings indicated.

N. Coordinate connecting needed power wiring with Division 26 Electrical contractor.

O. UTP Cable Installation: Comply with requirements in section 27 15 15 - Communications Copper Horizontal Cabling.

P. Mounting Heights: See Plans and Specifications

3.2 INSTALLATION OF SHIELDED TWISTED-PAIR CABLE

A. Prepare shielded twisted-pair cables for termination as follows:
1. Install cable marker 6 inches from end of cable.
2. Remove 1 inch of outer jacket without nicking conductors.
3. Remove 1 inch of foil shield without nicking conductors, leaving drain wire exposed.
4. Install 3/4-inch long, 3/64-inch diameter Teflon tubing over drain wire.
5. Install 3/4-inch long heat shrink or elastic tubing over end of jacket so half lies on jacket and half on twisted-pair and drain wire tubing.
6. Trim drain wire so 1/8-inch protrudes from tubing installed in step 4.
7. Trim twisted-pair conductors slightly longer than drain wire.
8. Remove 1/8-inch insulation from twisted-pair conductors.
9. Tin conductors.

3.3 INSTALLATION OF UNSHIELDED CABLE

A. Prepare unshielded cables for termination as follows:
1. Install cable marker 6 inches from end of cable.
2. Remove 1 inch of outer jacket without nicking conductors.
3. Install 3/4-inch long heat shrink or elastic tubing over end of jacket so half lies on jacket and half on conductors.
4. Remove 1/8-inch insulation from conductors.
5. Tin conductors.

3.4 CONTROL-CIRCUIT CONDUCTORS

A. Control-Circuit Wiring: Install number and size of conductors as recommended by system manufacturer for control functions indicated.

B. Minimum Conductor Sizes:
1. Class 1 remote-control and signal circuits, No. 14 AWG.
2. Class 2 low-energy, remote-control and signal circuits, No. 16 AWG.
3. Class 3 low-energy, remote-control, alarm and signal circuits, No. 14 AWG.

3.5 FIRESTOPPING

A. Comply with requirements in Division 07 Section "Firestopping."

3.6 GROUNDING

A. Ground cable shields and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.

B. Signal Ground Terminal: Locate at system panel. Isolate from power system and equipment grounding.

C. Comply with requirements in Division 26 Section "Grounding and Bonding for Electrical Systems."

3.7 IDENTIFICATION

A. Identification of Conductors and Cables: Color-code conductors and apply wire and cable markers to designate wires and cables so they identify media in coordination with system wiring diagrams.
   1. Use machine printed slide-on or tubular cable markers. Stick-on cable markers are not permitted. Install cable markers before terminating cable.

B. Comply with requirements for identification specified in section 27 27 05 53 - Identification for Communications Systems.

3.8 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:
   1. Visually inspect cable placement, cable termination, grounding and bonding, and labeling of all components.
   2. Test cables after termination for shorts, opens, intermittent faults, and polarity between conductors.
   3. Signal Ground Test: Measure and report ground resistance at system panel signal ground. Comply with testing requirements specified in Division 26 Section "Grounding and Bonding for Electrical Systems."
   4. UTP Cable Tests: Comply with requirement in Division 27 Section "Communications Copper Horizontal Cabling."
   5. Loudspeaker Operational Test: Use sine wave oscillator and power amplifier. Feed signals at frequencies of 50, 200, 400, 1000, 3000, 8000, and 12,000 Hz into each zone. Verify that each loudspeaker is operating. Listen for mechanical defects, loose hardware, and other sources of noise and distortion. Correct deficiencies so that system is free of noise and distortion.
   6. Acoustic Coverage Test: Feed pink noise into system using octaves centered at 500 and 4000 Hz. Use sound-level meter with octave-band filters to measure level at five locations in each zone. For spaces with seated audiences, maximum permissible variation in level is plus or minus 2 dB. In addition, the levels between locations in the same zone and between locations in adjacent zones must not vary more than plus or minus 3 dB.

B. Retesting: Correct deficiencies, revising tap settings of speaker-line matching transformers where necessary to optimize volume and uniformity of sound levels, and retest. Prepare a written record of tests.

C. Inspection: Verify that units and controls are properly labeled and interconnecting wires and terminals are identified. Prepare a list of final tap settings of paging speaker-line matching transformers.

D. Cable test results shall be stored and presented to the architect/engineers in PDF format for approval, and cable tester records designations shall match the associated cable labels and

associated patch panel label designations. These test results should also be included in close out documents for the customer’s future reference.

3.9 PA SPEAKER WIRING SCHEDULE

A. Provide the following outlets:
   1. High-impedance loudspeaker outlets: Quantity as shown on drawings.
      a. Label: "70 V PA LOUDSPEAKER."

B. Provide one system panel with the following connectors:
   1. High-impedance loudspeaker connectors: Quantity of as shown on drawings.
      a. Label: "70 V PA LOUDSPEAKER."

END OF SECTION 27 15 11

SECTION 27 51 16 - PUBLIC ADDRESS AND MASS NOTIFICATION SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes but is not limited to the following:
1. PA loudspeakers.
2. Wireless microphones.
3. Sound system equipment cabinets and its accessories.
4. Miscellaneous sound equipment, cables, hardware, etc.

B. Related section includes the following:
1. Division 01 – General Requirements
2. Division 26 – Electrical
3. Division 27 – Communications Sections.
4. Division 28 – Electronic Safety and Security

1.3 SECTION DEFINITIONS

A. CD: Compact disc.

B. HF: High frequency.

C. IR: Infrared.

D. LAN: Local area network.

E. LF: Low frequency.

F. SPL: Sound Pressure Level.

G. VU: Volume unit.

H. Channels: Separate parallel signal paths, from sources to loudspeakers or loudspeaker zones, with separate amplification and switching that permit selection between paths for speaker alternative program signals.

I. Zone: Separate group of loudspeakers and associated supply wiring that may be arranged for selective switching between different channels.

1.4 SUBMITTALS

A. Shop Drawings: Signed and sealed by a qualified sound system engineer.
1. Design Calculations: Calculate requirements for selecting seismic restraints for central control cabinets.
2. Equipment Details: Detail equipment assemblies and indicate dimensions, weights, required clearances, method of field assembly, components, and location of each field connection.
3. Console layouts.
4. Control panels.
5. Rack arrangements.
6. Wiring Diagrams: Power, signal, and control wiring. Include the following:

a). Identify terminals to facilitate installation, operation, and maintenance.
b). Single-line diagram showing interconnection of components.
c). Cabling diagram showing cable routing.

7. Loudspeakers mounting details.
8. Loudspeakers locations and aiming details.

B. Quality Assurance/Control Submittals:
1. Product Data: For each item specified.
2. Calculations: For sizing backup battery.
3. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
a). Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.

C. Closeout Submittals:
1. Operation and Maintenance Data: For public address and music equipment to include in emergency, operation, and maintenance manuals.
2. Extra Materials: Receipt for extra materials.
3. Loose Equipment: Receipt for loose materials not fastened in place.

D. See Common Work Results for Communications section 270500 for more submittal requirements.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
1. Maintenance Proximity: Not more than 2 hours' normal travel time from Installer's place of business to Project site.
2. Cable installer must have on staff a registered communication distribution designer certified by Building Industry Consulting Service International.
3. Installation shall be by personnel certified by National Institute for Certification in Engineering Technologies as audio systems Level III technician.

B. Source Limitations: Obtain public address and music equipment through a single source authorized by manufacturer to distribute each product.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Comply with NFPA 70 – National Electrical Code.

E. Comply with UL 50.

F. TIA/EIA-607 Telecommunications grounding.

G. Latest edition of BISCI – TDMM – manual

H. Americans with Disabilities Act (ADA)

I. Federal Communications Commission, Part 15

J. Sound System Engineering (Davis and Patronics) 3rd Edition 2006.

K. NSCA – Certified Systems Installer, C-SI

L. InfoComm International – Certified Technology Specialist, CTS.

M. Provide labeling per ANSI/EIA/TIA-606 requirement and in accordance with the Owner and Technology Consultant.

1.6 COORDINATION

A. Coordinate layout and installation of system components and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.7 WARRANTY

A. The public address and mass notifications system shall carry a warranty as specified in Section "Demonstration and Training of Communications Systems".

1.8 TRAINING

A. Provide training per Section "Demonstration and Training of Communications Systems".

1.9 RECORD DRAWINGS/OPERATION AND MAINTENANCE MANUALS

A. Provide record drawings and operation and maintenance manuals as described in Sections "Operation and Maintenance of Communications" and "Common Works Results for Communication Systems".

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The following manufacturers and their products are approved products to be used, shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
1. AKG Acoustics; A Harman International Company (AKG).
2. AMK
3. Allen & Heath Limited (A&H).
4. Ashly Audio, Inc. (Ashly).
5. Atlas Soundolier; Atlas Sound (Atlas).
6. Audio Technica, U.S., Inc.
7. Bogen Communications International, Inc. (Bogen)
8. Crown Audio, Inc.; A Harman International Company (Crown).
9. D & M Professional; Denon Professional products (Denon).
10. D & M Professional; Marantz Professional products (Marantz).
11. Dynacord
12. Eastern Acoustic Works (EAW).
13. Electro-Voice, Inc.; Telex Communications, Inc. (EV).
14. Intelix, LLC (Intelix).
15. JBL Professional; A Harman International Company (JBL).
16. Lab Gruppen
17. Listen Technologies Corporation.
18. LOUD Technologies, Inc.; Mackie products (Mackie).
19. Lowell Manufacturing Company (Lowell).
20. Meyer Sound Laboratories Inc. (Meyer).
21. Midas
22. Music Tribe
23. Peavey Electronics Corporation; Architectural Acoustics by Peavey products. (Peavey).
24. ONE Systems
25. QSC Audio Products, Inc. (QSC).
26. Quam Nichols Company (Quam).
27. Rane Corporation (Rane).
28. Rauland-Borg Corporation (Rauland).

29. Renkus-Heinz, Inc.
30. Sennheiser Electronic Corporation.
31. Shure Incorporated (Shure).
32. Soundcraft; A Harman International Company (Soundcraft).
33. Symetrix, Inc. (Symetrix).
34. TASCAM; a division of TEAC America, Inc. (TASCAM).
35. Telex Communications, Inc. (Telex).
36. TOA Electronics, Inc. (TOA).
37. Turbosound
38. Yamaha Corporation of America (Yamaha).

2.2 EQUIPMENT AND MATERIALS

A. Coordinate features to form an integrated system. Match components and interconnections for optimum performance of specified functions.

B. Equipment: Modular type using solid-state components, fully rated for continuous duty, unless otherwise indicated. Select equipment for normal operation on input power usually supplied at 110 to 130 V, 60 Hz.

C. Waterproof Equipment: Listed and labeled for outdoor use.

2.3 LOUDSPEAKERS – **PA SPEAKER SYSTEM**

A. PA Horn Type Loudspeaker:
1. Provide a minimum 30 watt, wide angle horn weatherproof loudspeaker as follows:
   a). Dispersion Angle: 70˚ x 95˚ (-6dB, 2kHz octave band)
   b). Sensitivity (SPL): 109dB at 1W/1M, 119dB at 30W/1M
   c). Frequency Response: 300 to 12,000 Hz, (nominal), 400Hz–3kHz (+5dB)
   d). Input Impedance: 8 ohms with available 70V transformer
   e). Transformer with impedance selection via seven-position switch: 2500,1300, 666, 333, 167, 89 and 45Ω
   f). Power taps: 0.9, 1.8, 3.7, 7.5, 15 Watts on 25V line, 2, 3.8, 7.5, 15, 30 Watts on 70.7V line and 4, 7.7, 15, 30 Watts on 100V line
   g). Finish: Grey Baked Epoxy
2. Accessories:
   a). Provide all required mounting hardware and connectors.
3. Approved Manufacturer:
   a). Atlas Sound APC-30T or equivalent by approved manufacturer.

2.4 POWER AMPLIFIERS – **PA SPEAKER SYSTEM**

A. Provide power amplifier, as shown, that meets to the following requirements:
1. Comply with TIA/EIA SE-101-A.
2. Mounting: TIA/EIA-310-D, standard 19-inch rack mounted (with kit)
3. Output Power: As indicated on the system wiring diagram, balanced lines (minimum 100 watts at 70.7V).
4. Frequency Response: 30Hz – 20kHz (±3dB) / with hi-pass engaged: 100Hz – 20kHz (±3dB)
5. Minimum Signal-to-Noise Ratio: -100dB Below Rated Output
6. Total Harmonic Distortion: 0.002
7. Input Sensitivity:
   a). RCA Unbalanced: 50mV – 320mV Adjustable
   b). Balanced: 320mv
8. Input Impedance:
   a). RCA Unbalanced: 10k
   b). Balanced: 20k
   c).
9. Outputs: 8 ohms at 25 / 70V balanced

B. Accessories
   1. Rack-mount kit
   2. Power cable

C. Approved Manufacturers:
   1. Crown Audio, Inc. Ct or Cdi- series.
   2. Electro-Voice, Inc. Q- series
   3. Peavey Electronics Corporation IPA Series.
   4. QSC Audio Products, Inc., CX- series
   5. TOA Electronics, Inc. 900-series
   6. Crest Audio, Pro- series
   7. Dynacord C Series
   8. Basis of design: Atlas Sound PA1001G

2.5 MISCELLANEOUS COMPONENTS – **PA SPEAKER SYSTEM**

A. Provide consolidation system panel for wiring to field devices and connection to future public address and music equipment electronics, as follows:
   1. Aluminum alloy sheet, 0.125-inch thick.
   2. Machined audio connector openings.
   3. Audio connectors.
   4. Black powder coated painted finish.
   5. Uniquely labeled connectors to match field devices. Engraved and filled labels.
   6. Signal ground lug suitable for No. 6 AWG conductor.

B. Paging Horn Crossover/Limiter: Horn driver protection from low frequency signal damage.
   1. 1 x 1 Paging Horn Crossover and Limiter
   2. Selectable Hi-Pass and Lo-Pass Filter
   3. Balanced and Unbalanced Inputs
      a). 500mV (-6dB) Balanced
      b). 316mV (-10dB) Unbalanced
   4. Input and Output Trim Controls
   5. Variable Limiter
   6. Removable Phoenix Style I/O Connectors
   7. Line Input Impedance: 10kΩ
   8. THD: .2% @ 1kHz
   9. Frequency Response: 20Hz - 15kHz
   10. Hi Cut Filter: 15kHz 18dB / Octave (Fixed)
   11. Low Cut Filter: 200Hz, 300Hz, & 400Hz @ 18dB / Octave (Dip Switch Selectable)
   12. Provide power supply and all accessories and hardware to rack mount.
   13. Label: "PA Limiter"
   14. Approved Manufacturer:
      a). Atlas Sound TSD-HF11 or equivalent by approved manufacturer.

C. Conductors and Cables: Jacketed, twisted pair and twisted multi-pair, untinned solid copper.
   1. Insulation for Wire in Conduit: Thermoplastic, not less than 1/32 inch thick.
   2. Microphone Cables: Neoprene jacketed, not less than 2/64 inch thick, over shield with filled interstices. Shield No. 34 AWG tinned, soft-copper strands formed into a braid or approved equivalent foil. Shielding coverage on conductors is not less than 60 percent.
   3. Plenum Cable: Listed and labeled for plenum installation.

2.6 PORTABLE SOUND SYSTEM - **SOUND SYSTEM - TENNIS COURTS (ALT #2)**

A. General description: Provide a portable sound system to be used at outdoor tennis courts. Basis of design - Anchor Audio BEA2-U2 Beacon 2 Portable Line Array Tower with Bluetooth & Dual Mic Receiver, (x1) Anchor Audio WH-LINK Wireless Handheld Microphone (1.9 GHz), (x1) Anchor Audio WB-LINK Wireless Bodypack Transmitter (1.9 GHz) with Anchor Audio LM-LINK Cardioid Lavalier Microphone (3.5mm Connector).

1. Manufacturers:
    a). Anchor Audio
    b). Equivalent by approved manufacturer.

B. All-In-One Portable PA Sound System with integrated wireless and Bluetooth connectivity, built in rechargeable batteries and line array speakers compatible with outdoor use.
1. Amplifier power rating: 150 W (AC Power), 125W (Battery Power)
2. Full-Range Driver: 8x 4" / 10.2 cm
3. LF Driver: 3x 8" / 20.3 cm Woofer
4. Frequency Response: 60 Hz to 15 kHz ±3 dB
5. Maximum SPL: 120 dB
6. Wireless Transmission: 1.9 GHz, RF Wireless Range: 300’ (line of sight)
7. Audio I/O:
    a). 2x Combo XLR-1/4" TRS Balanced Mic Input
    b). 1x 1/4" TS Unbalanced Line Input
    c). 1x 1/8" / 3.5 mm TRS Unbalanced Line Input
    d). 1x 1/4" TRS Balanced Line Output
8. Power:
    a). Battery Type: 2x Built-In Rechargeable 12 V Lithium-Ion
    b). Approximate Battery Life: 8 Hours
    c). Internal Battery Capacity: 7 Ah
    d). AC Input Power: 100 to 240 VAC, 50 / 60 Hz
    e). Power Consumption: 250 W (Max)
9. Wireless handheld microphone:
    a). 1.9GHz frequency band, 300’ wireless range, battery powered
    b). Anchor Audio WH-LINK or equivalent by approved manufacturer.
10. Wireless bodypack transmitter with belt clip:
    a). 1.9GHz frequency band, 300’ wireless range, battery powered
    b). 1/8” / 3.5mm input connector
    c). Anchor Audio WB-LINK or equivalent by approved manufacturer
11. Wireless lavalier microphone with clip and foam windscreen:
    a). Cardioid polar pattern
    b). 1/8” / 3.5mm connector
    c). Anchor Audio LM-LINK or equivalent by approved manufacturer

C. Approved manufacturers:
1. Anchor Audio BEA2-U2 Beacon 2 Portable Line Array Tower with Bluetooth & Dual Mic Receiver
2. Or equivalent by approved manufacturer.

2.7 POWER STRIPS

A. Provide horizontal power strip in each 4-post rack.
1. 6 – 20 amp receptacles
2. Cord with NEMA 5 – 20 plug
3. Single circuit
4. UL listed 1419

B. Unit shall be rack mounted.

C. Approved manufacturers:
1. Middle Atlantic PDS-620R
2. Hubbell PR1020
3. Panduit CMRPSHD20

PART 3 - EXECUTION

3.1 INSTALLATION

A. Wiring Method: Install wiring in raceways unless otherwise noted.

B. Wiring Method: Install wiring in raceways except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces where cable wiring method may be used. Use plenum cable in environmental air spaces including plenum ceilings.

C. Install exposed cables in finished areas parallel and perpendicular to surfaces or exposed structural members, and follow surface contours. Secure and support cables by straps, staples, or similar fittings so designed and installed to avoid damage to cables. Secure cable at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, or fittings.

D. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess. Use lacing bars in cabinets.

E. Control-Circuit Wiring: Install number and size of conductors as recommended by system manufacturer for control functions indicated.

F. Separation of Wires: Separate speaker-microphone, line-level, speaker-level, and power wiring runs. Install in separate raceways or, where exposed or in same enclosure, separate conductors at least 12 inches for speaker microphones and adjacent parallel power and telephone wiring. Separate other intercommunication equipment conductors as recommended by equipment manufacturer.

G. Splices, Taps, and Terminations: Arrange on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

H. Match input and output impedances and signal levels at signal interfaces. Provide matching networks where required.

I. Identification of Conductors and Cables: Color-code conductors and apply wire and cable marking tape to designate wires and cables so they identify media in coordination with system wiring diagrams.

J. Wall-Mounting Outlets: Flush mounted.

K. Floor-Mounting Outlets: Conceal in floor and install cable nozzles through outlet covers. Secure outlet covers in place. Trim with carpet in carpeted areas.

L. Conductor Sizing: Unless otherwise indicated, size speaker circuit conductors from racks to loudspeaker outlets not smaller than No. 18 AWG and conductors from microphone receptacles to amplifiers not smaller than No. 22 AWG.

M. Weatherproof Equipment: For units that are mounted outdoors, in damp locations, or where exposed to weather, install consistent with requirements of weatherproof rating.

N. Speaker-Line Matching Transformer Connections: Make initial connections using tap settings indicated on Drawings.

O. Connect wiring according to local and national codes.

3.2 GROUNDING

A. Ground cable shields and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.

B. Signal Ground Terminal: Locate at main equipment cabinet. Isolate from power system and equipment grounding.

C. Install grounding electrodes as specified in Division 26 Section "Grounding and Bonding for Electrical Systems."

3.3 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:
1. Schedule tests with at least seven days' advance notice of test performance.
2. After installing public address and music equipment and after electrical circuitry has been energized, test for compliance with requirements.
3. Operational Test: Perform tests that include originating program and page messages at microphone outlets, preamplifier program inputs, and other inputs. Verify proper routing and volume levels and that system is free of noise and distortion.
4. Signal-to-Noise Ratio Test: Measure signal-to-noise ratio of complete system at normal gain settings as follows:
   a). Disconnect microphone at connector or jack closest to it and replace it in the circuit with a signal generator using a 1000-Hz signal. Replace all other microphones at corresponding connectors with dummy loads, each equal in impedance to microphone it replaces. Measure signal-to-noise ratio.
   b). Repeat test for each separately controlled zone of loudspeakers.
   c). Minimum acceptance ratio is 50 dB.
5. Distortion Test: Measure distortion at normal gain settings and rated power. Feed signals at frequencies of 50, 200, 400, 1000, 3000, 8000, and 12,000 Hz into each preamplifier channel. For each frequency, measure distortion in the paging and all-call amplifier outputs. Maximum acceptable distortion at any frequency is 3 percent total harmonics.
6. Acoustic Coverage Test: Feed pink noise into system using octaves centered at 500 and 4000 Hz. Use sound-level meter with octave-band filters to measure level at five locations in each zone. For spaces with seated audiences, maximum permissible variation in level is plus or minus 2 dB. In addition, the levels between locations in the same zone and between locations in adjacent zones must not vary more than plus or minus 3 dB.
7. Power Output Test: Measure electrical power output of each power amplifier at normal gain settings of 50, 1000, and 12,000 Hz. Maximum variation in power output at these frequencies must not exceed plus or minus 1 dB.
8. Signal Ground Test: Measure and report ground resistance at public address equipment signal ground. Comply with testing requirements specified in Division 26 Section "Grounding and Bonding for Electrical Systems."

B. Retesting: Correct deficiencies, revising tap settings of speaker-line matching transformers where necessary to optimize volume and uniformity of sound levels, and retest. Prepare a written record of tests.

C. Inspection: Verify that units and controls are properly labeled and interconnecting wires and terminals are identified. Prepare a list of final tap settings of paging speaker-line matching transformers.

3.4 STARTUP SERVICE

A. Complete installation and startup checks according to manufacturer's written instructions.

B. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.

C. Engage a factory-authorized service representative to perform on-site startup service. On-site startup service is to include but is not limited to:

1. Acoustically tune all aspects of the system to the space
2. Physically position all speakers, horns, speaker elements for optimal output patterns
3. Reposition installed microphones to correct position for application
4. Full program of all Digital Signal processor(s)
5. Program and tune all feedback attenuator(s)
6. Coordinate with room controller contractor to interface room controller(s) with system to meet all occupancy conditions
7. Adjust sound levels, transformer taps, and controls to meet occupancy conditions

3.5 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to site outside normal occupancy hours for this purpose, without additional cost.

3.6 FIELDHOUSE SCHEDULE

A. Provide the following:
1. Type 1 loudspeakers as shown on the drawings.
2. Equipment Cabinet : Freestanding equipment cabinet to house the following:
   a). Amplifiers.
   b). Digital Signal Processors.
   c). Mic/Line Mixers.
   d). Wireless Microphones Combo System: Quantity of two (2) complete systems.
   e). Remote Antennas distribution systems: Quantity of two (2).
   f). Wireless Head Set Microphones: Quantity of two (2).
   g). Transmitter and receiver for each wireless microphone.
   h). Assistive Listening System.
   i). CD/MP3/BT Player.
   j). All mounting hardware, shelves, vented panels, blanks etc.
   k). Power strips and illuminated power distribution unit.
   l). All patch cords and connectors, and label each end.
   m). Volume control.
3. Provide one (1) portable equipment case to house the following:
   a). Mic/Line Mixer.
   b). Wireless Microphones Combo Systems: Quantity of one (1) complete system.
   c). Transmitter and receiver for each wireless microphone.
   d). Wireless Head Set Microphones: Quantity of one (1).
   e). CD/MP3/BT Player.
   f). All mounting hardware, shelves, vented panels, blanks etc.
   g). All miscellaneous patch cables, connectors, etc.
   h). Power strips and universal power sequence unit.
   i). Provide all patch cords and connectors, and label each end.

3.7 WEIGHT ROOM SCHEDULE

A. Provide the following:
1. Eight inch coaxial loudspeakers as shown on the drawings – basis of design – JBL Control 47C/T.
2. Twelve inch ceiling subwoofer, basis of design – JBL Control 312CS with 3 cubic foot backbox and 12” square ceiling grille.
3. Equipment Cabinet : Freestanding equipment cabinet to house the following:
   a). Amplifiers.
   b). Digital Signal Processors.
   c). Mic/Line Mixers.

d). Wireless Microphone Combo Systems: Quantity as indicated on drawings.
e). Transmitter and receiver for each wireless microphone.
f). Remote Antennas distribution system.
g). Wireless Microphones: Quantity of one (1) handheld, one (1) headset style.
h). Assistive Listening System.
i). CD/MP3/BT Player.
j). All mounting hardware, shelves, vented panels, blanks etc.
k). Power strips and power distribution unit.
l). All patch cords and connectors, and label each end.
m). Volume control.

END OF SECTION

SECTION 323113 - FENCES AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. 4-foot-high Chain-Link Fencing with gates
   2. 10-foot-high Chain Link Fencing (around Tennis only)
   3. 8-foot-high by 14-foot-long chain-link Slide Gates with all other required equipment.
   4. 30’ long x 4’ high aluminum access gates

1.3 -PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide chain-link fences and gates capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
   1. Minimum Post Size and Maximum Spacing for Wind Velocity Pressure: Determine based on mesh size and pattern specified, and on the following minimum design wind pressures and according to CLFMI WLG 2445:
      a. Wind Speed: 90 mph minimum.
   2. Determine minimum post size, group, and section according to ASTM F 1043 for framework up to 12 feet high, and post spacing not to exceed 10 feet.

B. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

1.4 SUBMITTALS

A. Shop Drawings: Show locations of fences, gates, posts, rails, tension wires, details of extended posts, extension arms, gate swing, or other operation, hardware, accessories. Shop drawings shall also be submitted for the complete slide gate system including electrical layout and all associated equipment along with the fabricated metal trash enclosure gates. Indicate materials, dimensions, sizes, weights, and finishes of components. Include plans, gate elevations, sections, details of post anchorage, attachment, bracing, equipment, electrical connections] and other required installation and operational clearances.

B. Quality Assurance/Control Submittals:
   1. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for fences and gates.
      a. Fence and gate posts, rails, and fittings.
      b. Chain-link fabric, reinforcements, and attachments.
      c. Gates and hardware.
      d. Accessories: Privacy slats
   2. Product Certificates: For each type of chain-link fence and gate, signed by product manufacturer.
      a. Strength test results for framing according to ASTM F 1043.
   3. Qualification Data: For Installer.

C. Closeout Submittals:
   1. Maintenance Data: For the following to include in maintenance manuals:
      a. Polymer finishes.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

B. Interruption of Existing Utility Service: Do not interrupt utility services to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify Architect no fewer than two days in advance of proposed interruption of utility services.
   2. Do not proceed with interruption of utility services without Architect's written permission.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 Articles where titles below introduce lists, the following requirements apply to product selection:
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

B. Products of other manufacturers will be considered for acceptance provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for Architect’s approval must be accompanied by the “Substitution Request Form” and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.

2.2 CHAIN-LINK FENCE FABRIC

A. General: Height indicated on Drawings. Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with ASTM A 392, CLFMI CLF 2445, and requirements indicated below:
   1. Steel Wire Fabric and Mesh Size: 2-inch mesh, metallic-coated wire with a diameter of 0.148 inch
      a. Provide 1-3/4-inch mesh, 0.120 inch diameter at tennis courts only.
      b. Provide 2-inch, 0.192-inch diameter at 8’ high site perimeter fencing.
      c. Weight of Aluminum Coating: ASTM A 491, Type I, 0.4 oz./sq. ft.
      d. Polymer Coating: Where called for, ASTM D 668, Class 2b over metallic-coated steel wire.
         1) Color: Black, As selected by Architect from manufacturer's full range, complying with ASTM F 934.
      e. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.

   2. Selvage: Knuckled at both selvages, unless otherwise noted.
      a. Twisted top and knuckled bottom, at mechanical yard enclosures.

2.3 INDUSTRIAL FENCE FRAMING

A. Posts and Rails: Comply with ASTM F 1043 for framing, ASTM F 1083 for Group IC round pipe and the following:

1. Group: Provide either IA, round steel pipe, Schedule 40 or IC, round steel pipe, yield strength 50,000 psi.
2. Fence Height: As indicated.
3. Post Size and Thickness: According to ASTM F 1043.
    a. Intermediate Posts
        1) Fabric 10 feet and under:
            a) IA: 2.375-inch o.d. with .154-inch wall thickness, 3.65 lbs. per foot.
            b) IC: 2.375-inch o.d. with .130-inch wall thickness, 3.12 lbs. per foot.
        2) Fabric over 10 feet high:
            a) IA: 2.875-inch o.d. with .203-inch wall thickness, 5.79 lbs. per foot.
            b) IC: 2.875-inch o.d. with .160-inch wall thickness, 4.64 lbs. per foot.
    b. End, Corner, and Pull Posts
        1) General
            a) End post will be used to refer to terminal posts.
            b) Corner post will be installed where all changes in direction occur in the fence line of 30 degrees or more.
            c) Pull post shall be installed at all abrupt changes in grade or at locations directed by the Architect with a maximum spacing between pull posts not to exceed 500 feet.
        2) Fabric 10 feet and under
            a) IA: 2.875-inch o.d., with .203-inch wall thickness, 5.79 lbs. per foot.
            b) IC: 2.875-inch o.d., with .160-inch wall thickness, 4.64 lbs. per foot.
        3) Fabric over 10 feet high
            a) IA: 4.0-inch o.d. with .226-inch wall thickness, 9.12 lbs. per foot.
            b) IC: 4.0-inch o.d. with .160-inch wall thickness, 6.56 lbs. per foot.
        4) Softball backstop
            a) IA: 4.0-inch o.d. with .226-inch wall thickness, 9.12 lbs. per foot.

4. Coating for Steel Framing:
    a. Metallic Coating, unless otherwise noted.
        1) IA: Type B, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film.
        2) IC: Type C, Zn-5-A1-MM alloy, consisting of not less than 1.8 oz./sq. ft. coating.
    b. Polymer coating over metallic coating, black.
5. Posts shall have sufficient length to meet the following embedment requirements:
    a. Intermediate Posts: 36 inches (into concrete).
    b. End, Corner, and Pull Posts:
        1) Fabric 10 feet and under: 36 inches.
        2) Fabric over 10 feet: 44 inches.
    c. Gate Posts: 48 inches.
    d. Tennis Court Fencing, baseball and softball backstops: 60 inches.

B. Post Brace Rails: Match top rail for coating and strength and stiffness requirements. Provide brace rail with truss rod assembly for each gate, end, and pull post. Provide two brace rails extending in opposing directions, each with truss rod assembly, for each corner post and for pull posts. Provide rail ends and clamps for attaching rails to posts.
    1. Provide for fences with fabric 6 feet or more in height.

C. Top Rails: Fabricate top rail from lengths 21 feet or longer, with swedged-end or fabricated for expansion-type coupling, forming a continuous rail along top of chain-link fabric.
    1. The top rail shall be 1.660 inches o.d. pipe, provided in lengths not less than 18 feet unless otherwise noted, and fitted with couplings for connecting the lengths into a continuous run.
        a. IA: .140-inch wall thickness, 2.27 lbs. per lineal foot.
        b. IC: .111-inch wall thickness, 1.836 lbs. per lineal foot.
    2. Couplings: Top rail couplings shall be a minimum of 6 inches long and at 21 feet maximum intervals, providing a substantial connection and allowing for expansion and connection of the rail.

3. The top rail shall pass through the line post tops and form a continuous brace from end to end of each stretch of fence.
4. The top rail shall securely fasten to the terminal posts by heavy pressed steel brace bands and malleable rail end connections.

D. Intermediate Rails: Match top rail for coating and strength and stiffness requirements.
1. Provide for fences with fabric 8 feet and over, unless otherwise noted.

E. Bottom Rails: Match top rail for coating and strength and stiffness requirements.
1. Provide only if indicated.

2.4 TENSION WIRE

A. General: Provide horizontal tension wire at the following locations:
1. Location: Extended along bottom of fence fabric, unless otherwise noted.

B. Metallic-Coated Steel Wire: 0.177-inch diameter, marcelled tension wire complying with ASTM A 817/A 824 and the following:
1. Coating: Type I, aluminum coated (aluminized)
a. Class 2: Not less than 1.2 oz./sq. ft. of uncoated wire surface.

2.5 SWING GATES (CHAIN-LINK)

A. General: Comply with ASTM F 900 for the following swing-gate types:
1. Single gate.
2. Double gate.

B. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F 1083 and ASTM F 1043 for materials and protective coatings.

C. Frames and Bracing: Fabricate members from round tubing with outside dimension and weight according to ASTM F 900.

D. Frame Corner Construction: As follows:
1. Welded.

E. Gate Posts: Fabricate members from round galvanized steel pipe with outside dimension and weight according to ASTM F 900 for the following gate fabric heights and leaf widths:
1. Gate leaf up to 6 feet wide.
a. IA: 2.875-inch o.d. with 0.203-inch wall, 5.79 lbs. per lineal foot.
b. IC: 2.875-inch o.d. with 0.160-inch wall, 4.64 lbs. per lineal foot.
2. Gate leaf over 6 to 13 feet wide
a. IA: 4-inch o.d. with 0.226-inch wall, 9.10 lbs. per foot.
b. IC: 4-inch o.d. with 0.160-inch wall, 6.56 lbs. per foot.
3. Gate leaf over 13 to 18 feet wide.
a. IA: 6.625-inch o.d. with 0.280-inch wall, 18.97 lbs. per foot.
4. Gateposts shall be equipped with tops so designed to exclude moisture from the post.

F. Hardware: Latches permitting operation from both sides of gate, hinges, center gate stops and, for each gate leaf more than 5 feet wide, keepers. Fabricate latches with integral eye openings for padlocking, padlock accessible from both sides of gate.
1. Hinges: Shall be adequate strength for gate, and with large bearing surfaces for clamping in position. The hinges shall not turn or twist under that action of the gate. The gates shall be capable of being opened and closed easily by one person. Hinges will be designed with offset arms to permit a 180-degree swing. Provide one pair hinge for each gate leaf.

2. Latch: Shall have a padlock eye or provision for padlocking (one padlock for locking both gate leaves) and shall permit single gate to swing only in one direction. Latches shall be forked-type for single gates and forked-type plunger bar for double gates to permit operation from both sides of gate. The plunger rod shall be a minimum 1-3/8-inch o.d. The center of the latch is to be 3 feet above grade.
3. Stops: Center stops for double gates shall consist of a device arranged to be set in concrete and to engage the plunger bar of the latch. Stop is to be a mushroom type or flush plate with anchors.
4. Keeper: Provide keepers for each gate leaf over 5 feet wide, which shall consist of a mechanical device for securing the free end of the gate when in a fully open position. All vehicle or drive gates shall be equipped with "semi-automatic" outer catches to secure gate in open position (automatically holds gate in the open position until manually released).

2.6 CHAIN LINK SLIDE GATES

A. Provide manual sliding gate systems for three 12’ min. openings. System shall include but not be limited to the following components and all others as required
1. 14’ x 8’+- Chain link gates constructed of welded, galvanized and PVC coated steel pipe with 2-1/2” top and bottom rails, 2” dia. Uprights and 1-5/8” cross bracing and supports.

2.7 ALUMINUM ACCESS GATES

A. Provide manual swinging double gate systems for two 30’ openings. System shall include but not be limited to the following components and all others as required
1. (2) 15’ long x 4’ high gates constructed of aluminum and PVC coated steel pipe with 2” O.D. (1-7/8” actual) Schedule 40.
2. Basis of Design:, Model #HCG-S-4X30DB-KIT-A as manufactured by Hoover Fence Company, 800-355-2335, Newton Falls, OH

2.8 CAST-IN-PLACE CONCRETE

A. General: Comply with ACI 301 for cast-in-place concrete.

B. Materials: Portland cement complying with ASTM C 150 Type I or III, aggregates complying with ASTM C 33, and potable water for ready-mixed concrete complying with ASTM C 94. Measure, batch, and mix Project-site-mixed concrete according to ASTM C 94.
1. Concrete Mixes: Normal-weight concrete air entrained with not less than 3000-psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

2.9 FENCE GROUNDING

A. Conductors: Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.
1. Material Above Finished Grade: Copper or aluminum.
2. Material On or Below Finished Grade: Copper.
3. Bonding Jumpers: Braided copper tape, 1 inch wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.

2.10 POLYMER FINISHES

A. Supplemental Color Coating: In addition to specified metallic coatings for steel where called for, provide fence components with polymer coating (black).

B. Metallic-Coated Steel Tension Wire: PVC-coated wire complying with ASTM F 1664, Class 2b.

C. Fittings, Post and Line Caps, Rail and Brace Ends, Top Rail Sleeves, Tension and Brace Bands, Tension Bars, Truss Rod Assemblies, Barbed Wire Arms, Clips, and Fasteners: Comply with ASTM F 626 for polymer coating applied to exterior surfaces and, except inside cap shapes, to exposed interior surfaces.

1. Polymer Coating: Not less than 10 mil thick PVC.

D. Color: Black To match chain-link fabric complying with ASTM F 934, unless otherwise noted.

2.11 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.

B. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

2.12 FENCE GROUNDING

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting performance.
1. Do not begin installation before final grading is completed, unless otherwise permitted by Architect.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water, unless otherwise noted.
b. Concealed Concrete, where indicated: Top 2 inches below grade as indicated on Drawings to allow covering with surface material.
c. Posts Set into Concrete in Sleeves, where indicated only: Use PVC pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

d. Posts Set into Voids in Concrete, Contractor's option: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

3. Dimensions and Profile: As indicated hereinafter, unless otherwise noted on Drawings.
   a. Size of Footings: Concrete is to extend a minimum of 6 inches below bottom of post. Typical footings shall be as follows (see note under Installation for deeper excavations as required in loose soils and for posts with heavy lateral loads).
      1) Intermediate posts up to 10 feet high: minimum 12-inch diameter by 3'-6" below grade.
      2) Intermediate posts 10 feet high and above: minimum 14-inch diameter by 3'-6" below grade.
      3) End, corner, pull posts under 6 feet: minimum 14-inch diameter by 3'-6" below grade.
      4) End, corner, pull posts 6 feet to 10 feet: minimum 18-inch diameter by 3'-6" below grade.
      5) End, corner, pull posts above 10 feet: minimum 18-inch diameter by 4'-2" below grade.
      6) Gate posts under 6 feet wide leaf: minimum 14-inch diameter by 4'-6" below grade.
      7) Gate posts 6 feet to 13 feet wide leaf: minimum 18-inch diameter by 4'-6" below grade.
      8) Softball backstop (22 feet high back): minimum 18-inch diameter by 5' below grade.

C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more, unless otherwise indicated.

D. Line Posts: Space line posts uniformly at 10 feet max. o.c., unless otherwise noted.

E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts.
   1. Locate horizontal braces at mid height of fabric 6 feet or higher, on fences with top rail and at 2/3 fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.
   1. Bottom Tension Wire: Install tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

G. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

H. Intermediate and Bottom Rails: Install, spanning between posts, where indicated or required for performance.

I. Chain-Link Fabric: Apply fabric to outside of enclosing framework, unless otherwise indicated. Leave 1 ½ inches between finish grade or surface and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

J. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

K. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at 1 end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.
1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

L. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

M. Privacy Slats: Install slats in locations noted vertical and securely locked in place.
1. Vertically, for minimum privacy factor of 70 to 75.

3.5 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 GROUNDING AND BONDING

A. Fence Grounding: Install at fences 10 feet and over, at maximum intervals of 1500 feet except as follows:
1. Fences within 100 Feet of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of 750 feet.
a. Gates and Other Fence Openings: Ground fence on each side of opening.
1) Bond metal gates to gate posts.
2) Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches below finished grade.

B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 150 feet on each side of crossing.

C. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at the grounding location.

D. Bonding Method for Gates: Connect bonding jumper between gate post and gate frame.

E. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

F. Bonding to Lightning Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor complying with NFPA 780.

3.7 ADJUSTING

A. Gate: Adjust gate to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

3.8 TRASH ENCLOSURE GATE INSTALLATION

A. Construct and install mechanical yard gates as detailed and as located on the plans, level, plumb, and secure for full opening without interference. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary. Coordinate installation with all other work trades.

3.9 SLIDE GATE INSTALLATION

A. Construct and Install sliding gate system as detailed and as located on the plans and per manufacturer’s instructions, level, plumb, and secure for full opening without interference. Install grounding set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary. Coordinate installation with all other work trades.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain fencing and gates. Refer to Division 01 Section "Closeout Procedures."

END OF SECTION 323113

ARCHITECTURAL/SITE ABBREVIATIONS

ABBREVIATIONS USED ON THE CONTRACT DOCUMENTS, INCLUDE BUT ARE NOT LIMITED TO THOSE LISTED BELOW

@	AT
AC	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFP	ACCORDION FOLDING PARTITION
AGG	AGGREGATE
ALT	ALTERNATIVE
AL	ALUMINUM
AP	ACCESS PANEL
APROX	APPROXIMATE
AR	ACID RESISTANT
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
AV	AUDIO-VISUAL
AWG	AMERICAN WIRE GUAGE
AWT	ACCOUSTICAL WALL TREATMENT
L	ANGLE
&	AND
BIT	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCH MARK / BEAM
B.O.	BOTTOM OF
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
BUR	BUILT-UP ROOF
CAB	CABINET
CAR	CARPET
CAT	CATALOG
CB	CHALKBOARD / CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CLG	CEILING
CMP	CORRUGATED METAL PIPE
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMP	COMPACTED
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS/CONTINUE
CONTR	CONTRACTOR
CORR	CORRUGATED
CT	CERAMIC TILE
C TO C	CENTER TO CENTER
CSK	COUNTER SINK
CU FT/CF	CUBIC FEET
CU IN/CI	CUBIC INCH
CU YD/CY	CUBIC YARD
CUSP	CUSPIDOR
CW	COLD WATER
CWF	CEMENTITIOUS WOOD FIBER
d	PENNY (NAILS, ETC.)
D	DEPTH/DEEP
°	DEGREE
DC	DISPLAY CASE
DEPT	DEPT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA Ø	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DL	DEAD LOAD
DWG	DRAWING
DS	DOWNSPOUT
DWC	DRINKING WATER COOLER
E	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
ENGR	ENGINEER
EP	ELECTRICAL PANELBOARD
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EFS (or DEFS)	DIRECT APPLIED EXTERIOR FINISH SYSTEM
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EXTN	EXTENSION
FD	FLOOR DRAIN
FHC	FIRE HOSE CABINET
FIN	FINISH
FIN FL	FINISH FLOOR
FLR	FLOOR
FDN	FOUNDATION
FSR	FLEXIBLE SHEET ROOFING
FSSK	FLOOR SERVICE SINK
FT	FEET
FTG	FOOTING
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
GA	GAUGE
GALV	GALVANIZED(D)
GB	GRAB BAR
GFCMU	GROUND FACE CONCRETE MASONRY UNIT
GFRGU	GLASS FIBER REINFORCED GYPSUM UNIT
GL	GLASS
GWB	GYPSUM WALLBOARD
H	HEIGHT/HIGH
HB	HOSE BIB
HDWE	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HPT	HIGH POINT
HS	HIGH STRENGTH
HTG	HEATING
HVAC	HEATING/VENTILATING/AIR CONDITIONING
HW	HOT WATER
HWY	HIGHWAY
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE(D), (ING)
INFO	INFORMATION
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
JS	JOIST SUBSTITUTE
JST	JOIST
JT	JOINT
KIT	KITCHEN
L	LENGTH
LAM	LAMINATE(D)
LAV	LAVATORY
LB#	POUND
LKR	LOCKER
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LVR	LOUVER
LW	LONG WAY
M	METER
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MOP HOLDER
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETER
MO	MASONRY OPENING
MTL	METAL
N	NORTH
NIC	NOT IN CONTRACT
NO#	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
O.H.	OPPOSITE HAND
O TO O	OUT TO OUT
OW	OPERABLE WALL
OZ	OUNCE
P	PAINT
PA	PUBLIC ADDRESS
PERF	PERFORATED
PLAS	PLASTIC
PL	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PREFAB	PREFABRICATED
PS	PROJECTION SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSS	PENCIL SHARPENER SUPPORT
PT	PORCELAIN TILA
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QT	QUARRY TILE
R	RISER
RA	RETURN AIR
RAD/R	RADIUS
RB	RESILIENT BASE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION(S)
RM	ROOM
R.O.	ROUGH OPENING
ROW	RIGHT-OF-WAY
S	SOUTH
SA	SUPPLY AIR
SAN	SANITARY
SCHED	SCHEDULE
SD	STORM DRAIN / SMOKE DETECTOR
SECT	SECTION
SEW	SEWER
SQFT	STRUCTURAL GLAZED FACING TILE
SHT	SHEET
SIM	SIMILAR
SP	SPACE
SPEC(S)	SPECIFICATION(S)
SPKR	SPEAKER
SQ	SQUARE
SQ FT/SF	SQUARE FEET
SQ IN/SI	SQUARE INCHES
SQ YD/SY	SQUARE YARDS
SS	STAINLESS STEEL
ST	STORM/STREET
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SW	SHORT WAY / SIDEWALK
SYMM	SYMMETRY(ICAL)
SYNTH	SYNTHETIC
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TA	TOILET ACCESSORY(IES)
TB	TACKBOARD
TC	TOP OF CURB
TEL	TELEPHONE
TERR	TERRAZZO
T.O	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TV	TELEVISION
TYP	TYPICAL
TWS	TACKABLE WALL SURFACE
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UR	URINAL
VCT	VINYL COMPOSITE TILE
VCGWB	VINYL COVERED GYPSUM WALLBOARD
VERT	VERTICAL
VFWC	VINYL FABRIC WALLCOVERING
VIF	VERIFY IN FIELD
VIT	VITREOUS
VOL	VOLUME
VR	VAPOR RETARDER
VRB	VENTED RESILIENT BASE
VS	VENT STACK
VT	VINYL STACK
W	WEST / WIDE / WIDTH
W/	WITH
W/O	WITHOUT
WA	WARDROBE ACCESSORIES
WB	WOOD BASE
WC	WATER CLOSET / WIND COLUMN
WD	WOOD
WH	WATER HEATER
WP	WORKING POINT
WSSK	WALL SERVICE SINK
WWF	WELDED WIRE FABRIC
YD	YARD / YARD DRAIN

MATERIAL SYMBOLS LEGEND

MATERIAL SYMBOLS USED ON THE CONTRACT DOCUMENTS, INCLUDE BUT ARE NOT LIMITED TO THOSE LISTED BELOW

- ASPHALT
- EARTH
- GRAVEL, STONE, OR DRAINAGE FILL
- SAND, GROUT, PLASTER, GWB, OR PLAN VIEW OF SIDEWALK
- CONCRETE
- TERRAZZO
- CUT STONE
- MARBLE
- SLATE
- FACE BRICK (PLAN)
- GLAZED BRICK
- CONCRETE MASONRY UNIT (PLAN)
- CONCRETE MASONRY UNIT (SECTION)
- CONCRETE MASONRY UNIT (SOLID, IN SECTION)
- SPRAY-ON INSULATION OR FIRE PROTECTION
- WIRE FENCE OR PARTITION
- METAL ROOF DECK
- LAMINATED WOOD BEAM (SMALL SCALE, SECTION)
- BATT INSULATION
- RIGID INSULATION
- ROUGH WOOD
- FINISH WOOD
- WOOD OTHER THAN NOMINAL
- PLYWOOD
- GYPSUM WALLBOARD (LARGE SCALE)
- STUD WALL (PLAN) - DIMENSIONS TAKEN TO FINISH FACE OF WALL - SEE WALL TYPES
- SOLID PANEL FOLDING PARTITION OR OPERABLE WALL
- FABRIC ACCORDION FOLDING PARTITION
- ACOUSTICAL TILE CEILING
- EXTERIOR INSULATION FINISH SYSTEM

DRAWING SYMBOLS LEGEND

DRAWING SYMBOLS USED ON THE CONTRACT DOCUMENTS, INCLUDE BUT ARE NOT LIMITED TO THOSE LISTED BELOW

- SIM / 1A / A-400 — CALLOUT
- 1t — EQUIPMENT TAG
- X1 — CEILING TAG
- ? — KEY NOTE TAG
- XXXX — DOOR TAG
- X / X / AX.XX / X / X — EXTERIOR ELEVATION
- X Ref / X Ref / AX.XX / X Ref / X Ref — INTERIOR ELEVATION
- X — GRID HEAD
- Name / EL XXX'-XX" — LEVEL LINE
- 1 — REVISION TAG
- A — ROOF TYPE TAG
- SIM / 1A / A-300 — BUILDING/WALL SECTION
- SIM / 1A / A-300 — DETAIL SECTION
- SLOPE / 1/12 — ROOF SLOPE TAG
- X / X#### / X / X#### — MATCHLINE VIEW REFERENCE
- W##X — WALL TAG
- 1t — STOREFRONT TAG
- XX — WINDOW TAG
- 101 — ROOM TAG
- 811 — EXISTING CONTOUR
- 811 — NEW CONTOUR
- TB#1 — TEST BORING & NO.
- 811.9 — EXISTING POINT ELEVATION
- 811.9 — NEW POINT ELEVATION
- STORM SEWER INLETS

SHEET INDEX

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

PAUL A. MILLER — REGISTERED — No. AR10800161 — STATE OF INDIANA — ARCHITECT

PROJECT MANAGER: DS
DRAWN BY: BMD
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

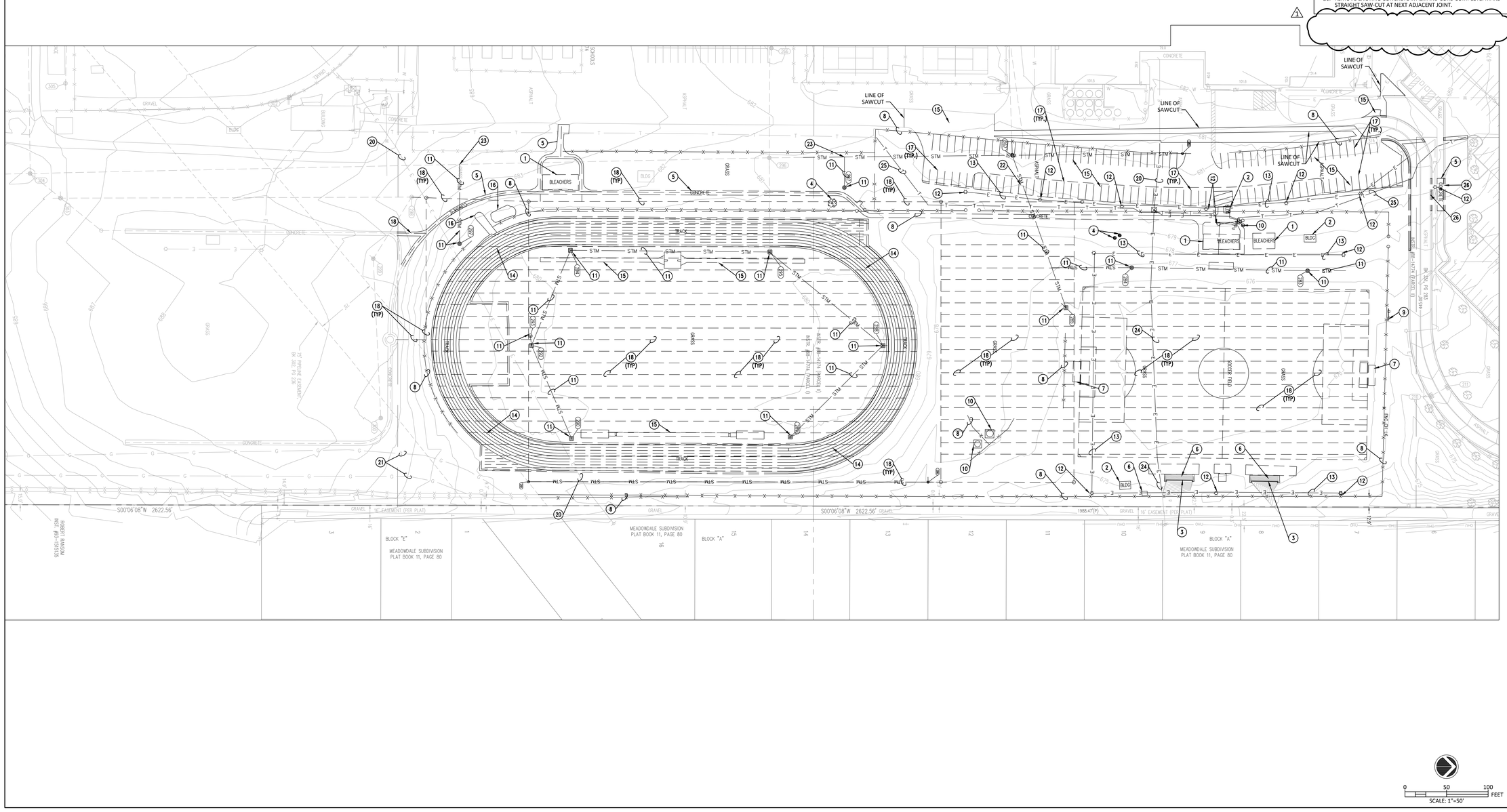
REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

ABBREVIATIONS & INDEX

G-001

PLAN NOTES

1. REMOVE EXISTING BLEACHERS.
2. REMOVE EXISTING BUILDING.
3. REMOVE EXISTING WALL COMPLETE.
4. REMOVE EXISTING PLANTINGS COMPLETE.
5. REMOVE EXISTING CONCRETE WALK COMPLETE.
6. REMOVE EXISTING CONCRETE COMPLETE.
7. REMOVE SOCCER GOAL COMPLETE.
8. REMOVE EXISTING CHAIN LINK FENCE AND GATE.
9. REMOVE SIGN. STORE FOR FUTURE USE.
10. REMOVE ELECTRICAL EQUIPMENT.
11. REMOVE EXISTING STORM PIPE AND STRUCTURES COMPLETE.
12. EXISTING LIGHT POLE TO BE REMOVED BY UTILITY COMPANY.
13. REMOVE ELECTRICAL LINE. COORDINATE WITH MEP PLANS.
14. REMOVE EXISTING TRACK.
15. REMOVE ASPHALT.
16. REMOVE GRAVEL.
17. REMOVE PAINTED PARKING STRIPES AND MARKINGS.
18. REMOVE UNDERDRAINS AND ASSOCIATED STRUCTURES COMPLETE.
19. REMOVE EXISTING FLAGPOLE AND FOUNDATION.
20. PROTECT EXISTING BURIED POWER DURING CONSTRUCTION.
21. MARK WITH EXISTING LOCATION AND PROTECT EXISTING GAS PIPELINES DURING CONSTRUCTION.
22. CAP END OF PIPE AND ABANDON TO MANHOLE.
23. PLUG HOLE IN PIPE AT BLIND TAP.
24. REMOVE EXISTING ELECTRIC PRIMARY AFTER IT HAS BEEN RELOCATED. COORDINATE WITH MEP PLANS AND UTILITY COMPANY.
25. RELOCATE TELCOM. COORDINATE WITH MEP PLANS AND UTILITY CO.
26. REMOVE EXISTING CONCRETE WALK AND CURB COMPLETE. MAKE STRAIGHT SAW-CUT AT NEXT ADJACENT JOINT.



0 50 100 FEET
SCALE: 1"=50'

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350 East New York Street, Suite 300, Indianapolis, IN 46204

JPS CONSULTING ENGINEERS

11 Municipal Drive, Ste. 300
Fishers, IN 46038
317.617.4270
jpsconsultingengineers.com

CONSTRUCTION DOCUMENTS

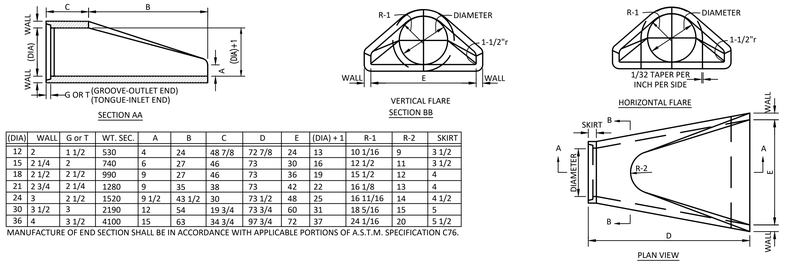
LEE R. BISCHOFF
REGISTERED
No. PE19900168
STATE OF INDIANA
PROFESSIONAL ENGINEER

PROJECT MANAGER: JRB
DRAWN BY: CLM
PROJECT NUMBER: 224177.01
PROJECT CONSTRUCTION ISSUE DATE: 01-15-2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	02/11/26

SITE DEMOLITION PLAN

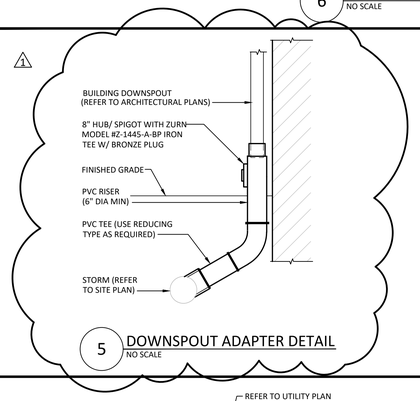
C200



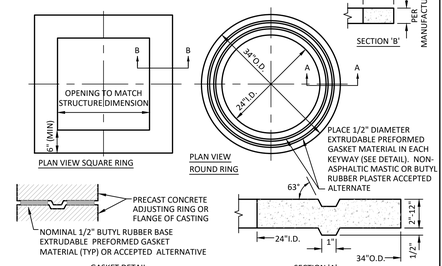
(DIA)	WALL	G or T	WT. SEC.	A	B	C	D	E	(DIA) + 1	R-1	R-2	SKIRT
12	2	1 1/2	530	4	24	48 7/8	72 7/8	24	13	10 1/16	9	3 1/2
15	2 1/4	2	740	6	27	46	73	30	16	12 1/2	11	3 1/2
18	2 1/2	2 1/2	990	9	27	46	73	36	19	15 1/2	12	4
21	2 3/4	2 1/4	1280	9	35	38	73	42	22	16 1/8	13	4
24	3	2 1/2	1520	9 1/2	43 3/2	30	73 1/2	48	25	16 11/16	14	4 1/2
30	3 1/2	3	2190	12	54	19 3/4	73 3/4	60	31	18 5/16	15	5
36	4	3 1/2	4100	15	63	34 3/4	97 3/4	72	37	24 1/16	20	5 1/2

MANUFACTURE OF END SECTION SHALL BE IN ACCORDANCE WITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.

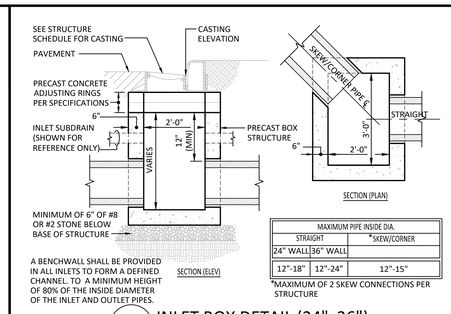
6 CONCRETE FLARED END SECTION
NO SCALE



5 DOWNSPOUT ADAPTER DETAIL
NO SCALE



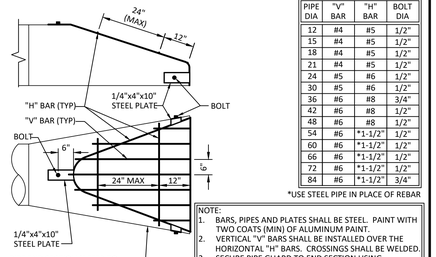
3 PRECAST CONCRETE ADJUSTING RING DETAIL
NO SCALE



MAXIMUM PIPE INSIDE DIA.		
STRAIGHT		*SKEW/CORNER
24" WALL	36" WALL	
12"-18"	12"-24"	12"-15"

*MAXIMUM OF 2 SKEW CONNECTIONS PER STRUCTURE

12 INLET BOX DETAIL (24"x36")
NO SCALE

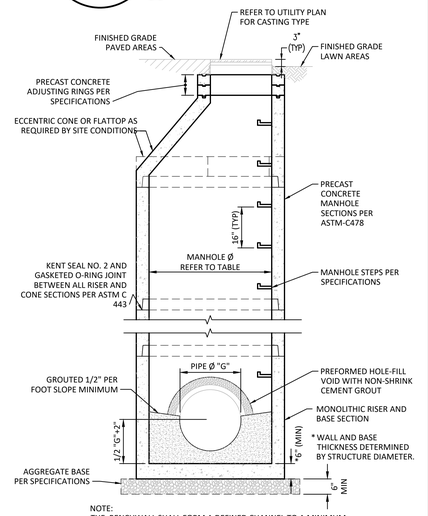


PIPE DIA	"V" BAR	"H" BAR	BOLT DIA
12	#4	#5	1/2"
15	#4	#5	1/2"
18	#4	#5	1/2"
21	#4	#5	1/2"
24	#5	#6	1/2"
30	#5	#6	1/2"
36	#6	#8	3/4"
42	#6	#8	1/2"
48	#6	#8	1/2"
54	#6	*1-1/2"	1/2"
60	#6	*1-1/2"	1/2"
66	#6	*1-1/2"	1/2"
72	#6	*1-1/2"	1/2"
84	#6	*1-1/2"	3/4"

*USE STEEL PIPE IN PLACE OF REBAR

NOTE:
1. BARS, PIPES AND PLATES SHALL BE STEEL. PAINT WITH TWO COATS (MIN) OF ALUMINUM PAINT.
2. VERTICAL "V" BARS SHALL BE INSTALLED OVER THE HORIZONTAL "H" BARS. CROSSINGS SHALL BE WELDED.
3. SECURE PIPE GUARD TO END SECTION USING REMOVABLE GALVANIZED NUTS AND BOLTS.

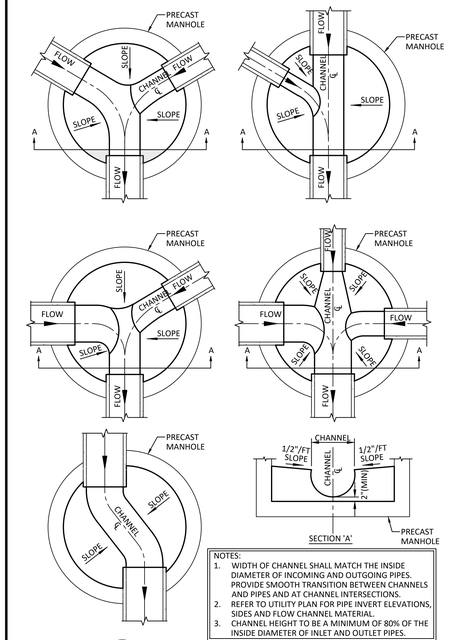
8 PIPE GUARD DETAIL
NO SCALE



NOTE:
THE BENCHWALL SHALL FORM A DEFINED CHANNEL,TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2" PER FOOT SLOPE TO THE MANHOLE WALL.

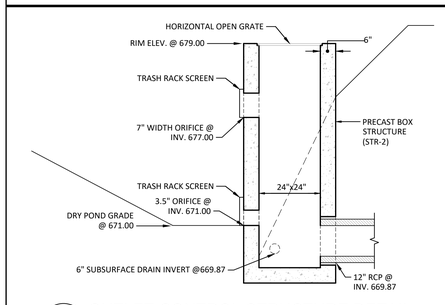
STORM MANHOLE DIAMETER TABLE		
PIPE DIA "G"	PIPES ENTERING OR LEAVING AT A 0°-45° ANGLE	PIPES ENTERING OR LEAVING AT A 46°-90° ANGLE
12"-21"	48"	48"
24"	48"	60"
27"-30"	60"	60"
30"-36"	60"	72"

4 STORM MANHOLE DETAIL
NO SCALE

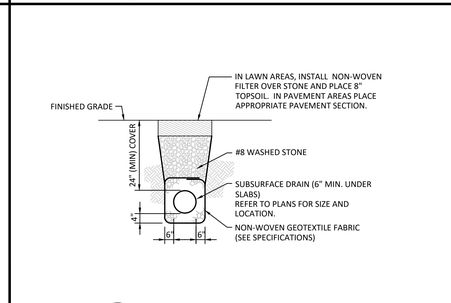


NOTES:
1. WIDTH OF CHANNEL SHALL MATCH THE INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. PROVIDE SMOOTH TRANSITION BETWEEN CHANNELS AND PIPES AND AT CHANNEL INTERSECTIONS.
2. REFER TO UTILITY PLAN FOR PIPE INVERT ELEVATIONS, SIDES AND FLOW CHANNEL MATERIAL.
3. CHANNEL HEIGHT TO BE A MINIMUM OF 80% OF THE INSIDE DIAMETER OF INLET AND OUTLET PIPES.

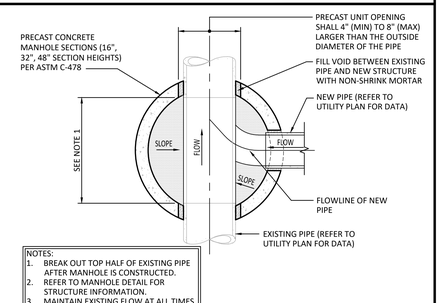
2 MANHOLE BENCHWALL DETAIL
NO SCALE



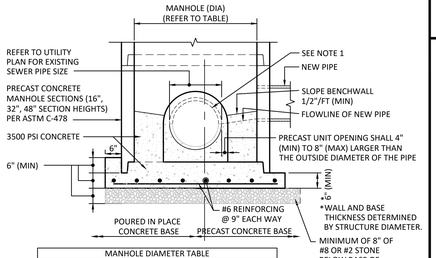
10 OUTLET CONTROL STRUCTURE DETAIL
NO SCALE



11 SUBSURFACE DRAIN DETAIL
NO SCALE



NOTES:
1. BREAK OUT TOP HALF OF EXISTING PIPE AFTER MANHOLE IS CONSTRUCTED.
2. REFER TO MANHOLE DETAIL FOR STRUCTURE INFORMATION.
3. MAINTAIN EXISTING FLOW AT ALL TIMES.



MANHOLE DIAMETER TABLE		
EXIST. PIPE SIZE "D"	PIPES ENTERING OR LEAVING AT A 0°- 45° ANGLE	PIPES ENTERING OR LEAVING AT A 46°- 90° ANGLE
12"-21"	48"	48"
24"	48"	48"
27"-30"	60"	60"

7 NEW MANHOLE OVER EXISTING PIPE DETAIL
(FOR EXISTING PIPE DIAMETERS 8" TO 30")

9 TRACK TRENCH DRAIN AT EDGE OF PAVEMENT DETAIL
NO SCALE

DEPTH OF BEDDING MATERIAL BELOW PIPE	
D	(d) (MIN)
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

LEGEND	
O.D. = OUTSIDE DIAMETER	
D = INSIDE DIAMETER	
d =	DEPTH OF BEDDING MATERIAL BELOW PIPE

NOTES:
1. ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED 6" TO 12" BALANCED LIFTS.
2. A MINIMUM OF 9" CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.
3. BEDDING SHALL BE SHAPED TO RECEIVE THE PIPE BELL SO THAT THE PIPE BARREL IS UNIFORMLY SUPPORTED.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.

1 RIGID PIPE (RCP) BEDDING DETAIL
NO SCALE

Michigan City Community Event Center

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ARCHITECT

FANNING HOWEY
317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300, Indianapolis, IN 46204

JPS CONSULTING ENGINEERS
11 Municipal Drive, Ste. 300
Fishers, IN 46038
317.617.4270
jpsconsultingengineers.com

CONSTRUCTION DOCUMENTS

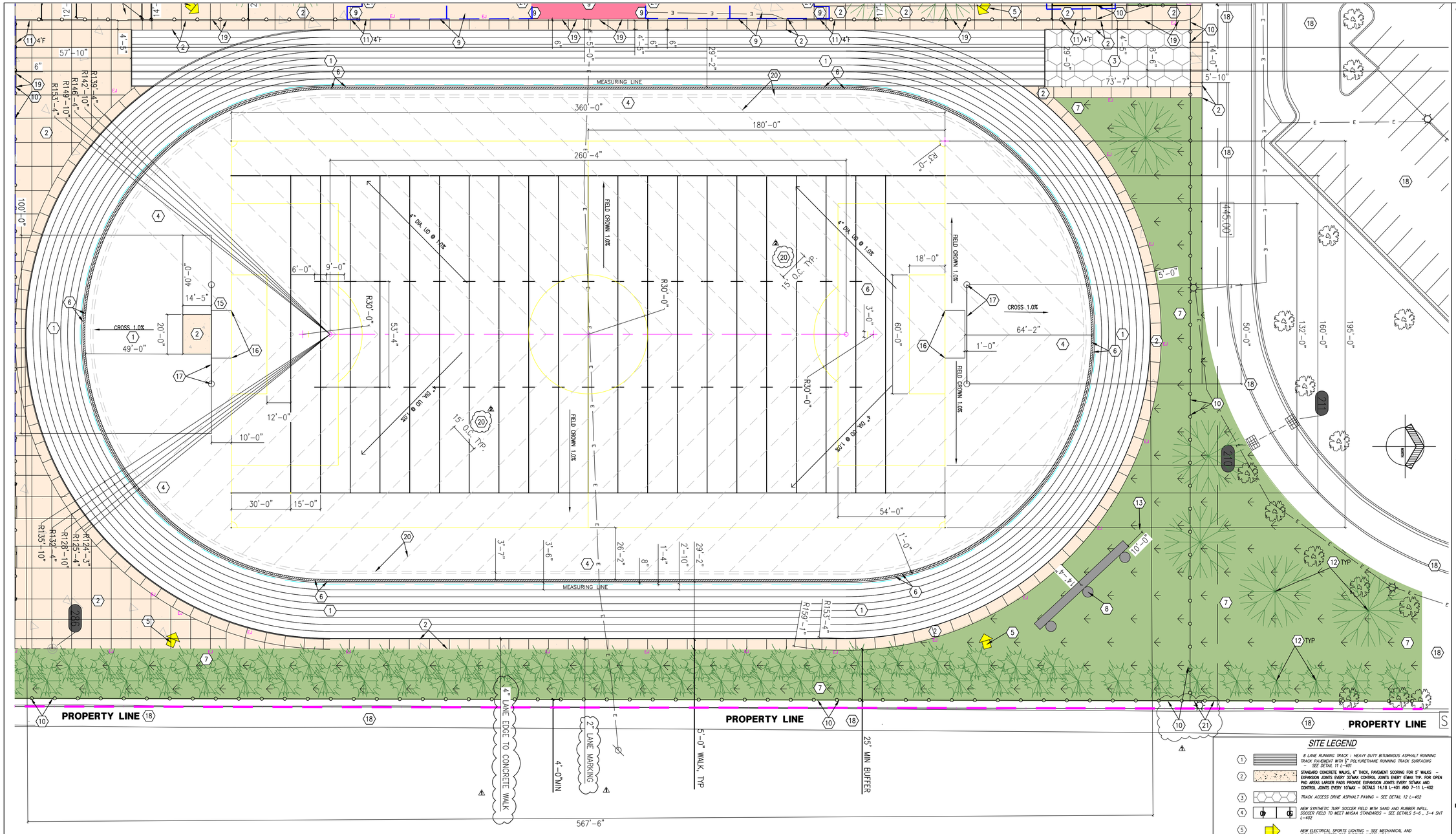
JEFFREY R. BROOKSHIRE REGISTERED NO. PE19900168 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: JRB
DRAWN BY: CLM
PROJECT NUMBER: 224177.01
PROJECT CONSTRUCTION ISSUE DATE: 01-15-2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	02/11/26

SITE GRADING & DRAINAGE DETAILS

C310



CITY GENERAL NOTES

1. NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORMWATER MANAGEMENT PERMIT.
2. UTILITY RELOCATIONS REQUIRED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER. UTILITY LINE RELOCATIONS REQUIRED FOR ROAD PROJECTS THAT RESULT IN A CONFLICT WITH PROPOSED DEVELOPMENT SHALL BE THE OWNER'S RESPONSIBILITY TO RESOLVE WITH THE UTILITY. EXISTING POLE LINES REQUIRED TO BE RELOCATED TO WITHIN ONE FOOT OF PROPOSED RIGHT-OF-WAY LINE.
3. DAMAGE TO THE EXISTING RIGHT-OF-WAY SHALL BE RESTORED/REPAIRED TO THE SATISFACTION OF THE CITY AT THE COMPLETION OF THE PROJECT. THE CONTRACTOR IS ENCOURAGED TO INSPECT THE RIGHT-OF-WAY WITH THE CITY PRIOR TO THE START OF CONSTRUCTION TO DOCUMENT THE EXISTING CONDITION OF THE RIGHT-OF-WAY.

GENERAL SITE NOTES

THE SITE SHALL BE STRIPPED OF EXISTING IMPROVEMENTS AS NOTED. ALL THE REMOVED MATERIALS SHALL BE REMOVED FROM THE SITE BY THE GENERAL CONTRACTOR OR SUBCONTRACTOR

REMOVAL OF THE EXISTING IMPROVEMENTS ARE AS NOTED ON THE PLANS OR AS REQUIRED BY THE PROJECT. THE MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN A PROPER AND LEGAL MANNER PER FEDERAL, STATE, AND OR LOCAL LAWS AND ORDINANCES.

EXISTING PAVEMENT, SIDEWALKS CURBS DRIVEWAYS, ELECTRICAL TRANSFORMER, DITCHES, DRAINAGE PIPES AND STRUCTURES, FENCES, LAWNS, TREES, BUSHES, MAILBOXES, SIGNS, POWER POLES ETC., TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. ANY DAMAGE DURING CONSTRUCTION SHALL BE RESTORED, RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE. ALL DAMAGES SHALL BE RESTORED OR REPLACED TO AT LEAST THEIR ORIGINAL CONDITION OR AS REQUIRED OR DICTATED BY FEDERAL, STATE, COUNTY, CITY OR LOCAL

SAW CUT THE EDGES OF PAVED AREAS CLEAN, NEAT AND TRUE TO LINE SO NO UNWANTED CHIPPING OR BREAKING OF EXISTING PAVEMENT TO REMAIN WILL OCCUR.

GENERAL SITE NOTES: CONTINUED

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT EACH DAY AND REMOVE ALL MUD, DIRT, GRAVEL AND LOOSE MATERIALS TRACKED, DUMPED, SPILLED OR WIND BLOWN FROM THIS SITE ONTO OTHER SITES, RIGHT OF WAYS, PUBLIC OR PRIVATE STREETS OR ROADS, DRIVEWAYS, YARDS OR SIDEWALKS. THE CONTRACTOR MUST CLEAN OR PICK UP DAILY IF NECESSARY. THE CONTRACTOR SHALL REDUCE THE AIRBORNE DUST DURING THE ENTIRE DEMOLITION SCHEDULE. WATER MAY BE USED AS A REDUCER.

THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL DEVICES AS SPECIFIED OR AS REQUIRED DURING DEMOLITION BY CITY OF CARMEL IN

IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE UTILITY COMPANIES AND DEPARTMENTS 72 HOURS BEFORE DEMOLITION IS TO START TO VERIFY ANY UTILITIES THAT MAY BE PRESENT ON SITE. ALL VERIFICATIONS, LOCATIONS, SIZE AND DEPTHS SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES OR DEPARTMENTS. WHEN EXCAVATING AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTIVE OF THE UTILITY MAY BE PRESENT DURING THE EXCAVATION TO INSTRUCT AND OBSERVE DURING THE EXCAVATION.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR CONTRACTORS TO OBTAIN ALL FEDERAL, STATE, COUNTY, CITY, AND LOCAL PERMITS FOR ANY AND ALL WORK REQUIRED UNLESS OTHERWISE NOTED. THIS SHALL INCLUDE ALL SUBMITTALS AS REQUIRED INCLUDING STORMWATER RUNOFF CONTROL (RULE 5). THE CONTRACTOR OR CONTRACTORS ARE RESPONSIBLE TO PAY FOR ALL REQUIRED PERMITS BY ANY OR ALL AGENIES MENTIONED ABOVE UNLESS OTHERWISE NOTED BY THE CONTRACT OR SPECIFICATIONS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WITH EACH UTILITY COMPANY AND OR AGENT WHO IS RESPONSIBLE TO REMOVE OR RELOCATE EACH EXISTING UTILITY. IT FURTHER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BEAR THE COST FOR THE REMOVAL, TERMINATION OR RELOCATION OF UTILITIES IF THE RESPONSIBILITY IS NOT COVERED BY THE UTILITY COMPANY.

THE UTILITIES INDICATED ON THESE PLANS AND ON THE SURVEY MAY NOT BE A COMPLETE INVENTORY OF ALL THE EXISTING UTILITIES PRESENT ON AND AROUND THIS SITE. THE LOCATIONS AND SIZE OF THESE UTILITIES ARE APPROXIMATE. THIS INFORMATION WAS GATHERED OR SUPPLIED FROM OTHERS AND USED BY THE ARCHITECT AND OR ENGINEER AND MAY NOT BE ACTUAL. THE ARCHITECT AND OR ENGINEER MAY NOT BE HELD LIABLE FOR ANY INCORRECT OR MISLEADING UTILITY INFORMATION INDICATED, IMPLIED OR NOT INDICATED ON THESE PLANS.

GENERAL SITE NOTES: CONTINUED

ALL CONTRACTORS MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. ACTUAL FIELD LOCATIONS OF ALL THE EXISTING UTILITIES ARE THE CONTRACTORS RESPONSIBILITY AND MUST BE LOCATED EITHER BY THE REPRESENTIVE OF THE UTILITY COMPANY OR BY A PRIVATE UNDERGROUND UTILITY LOCATING COMPANY PRIOR TO THE START OF DEMOLITION ACTIVITIES.

REMOVAL OF EXISTING CONCRETE OR OTHER PAVED AREAS INDICATED ON THE PLANS SHALL DOES NOT INCLUDE EXISTING AGGREGATE BASE MATERIALS. AREAS TO BE REMOVED SHALL BE SAW CUT CLEAN, NEAT AND TRUE TO LINE. REMOVE ALL NONE ORGANIC MATTER THAT WOULD INTERFERE WITH THE GROWTH OF TURF OR PLANT MATERIAL.

THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO COMMENCEMENT OF DEMOLITION OPERATIONS. NO DEMOLITION, GRADING OR OTHER WORK SHALL COMMENCE WITHIN EASEMENTS ON ADJACENT PROPERTIES UNTIL A COORDINATION MEETING HAS BEEN HELD BETWEEN THE CITY, SCHOOL CORP. REPRESENTATIVE, ARCHITECT AND ADJACENT PROPERTY OWNERS.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AT HIS EXPENSE ALL AUTOMOBILE AND PEDESTRAIN TRAFFIC CONTROL DEVICES REQUIRED BY FEDERAL, STATE, COUNTY, CITY OR LOCAL AGENCIES.

ENLARGED LAYOUT PLAN: MCHS

SCALE: 1" = 20'-0"

SITE LEGEND

1. 8 LANE RUNNING TRACK - HEAVY DUTY BITUMINOUS ASPHALT RUNNING TRACK PAVEMENT WITH 1/4" POLYURETHANE RUNNING TRACK SURFACING – SEE DETAIL 11 L-401
2. STANDARD CONCRETE WALKS, 6" THICK, PAVEMENT SCORING FOR 5' WALKS – EXPANSION JOINTS EVERY 30'MAX CONTROL JOINTS EVERY 6'MAX TYP. FOR OPEN PAD AREAS LARGER PADS PROVIDE EXPANSION JOINTS EVERY 50'MAX AND CONTROL JOINTS EVERY 10'MAX – DETAILS 14,1B L-401 AND 7-11 L-402
3. TRACK ACCESS DRIVE ASPHALT PAVING – SEE DETAIL 12 L-402
4. NEW SYNTHETIC TURF SOCCER FIELD WITH SAND AND RUBBER INFILL. SOCCER FIELD TO MEET MHSAA STANDARDS – SEE DETAILS 5–6 , 3–4 SHT L–402
5. NEW ELECTRICAL SPORTS LIGHTING – SEE MECHANICAL AND ELECTRICAL SHEETS FOR FURTHER INFORMATION
6. NEW ACO SLOT DRAIN SET WITHIN NEW 12" WIDE CONC. CURB – SEE PLAN FOR WIDTH REQUIRED – SEE DETAIL 3–4 L–402
7. NEW SEEDED LAWN – SEE PROJECT MANUAL AND L–302 FOR FURTHER INFORMATION
8. NEW VIDEO SCOREBOARD ASSEMBLY – SEE ARCHITECTURE PLANS FOR MORE INFORMATION.
9. NEW ELEVATED HOME/VISTOR GRANDSTAND SEATING WITH NEW PRESS BOX – SEE A–113 AND S–140
10. NEW PERIMETER 8' TALL CHAIN LINK FENCING (BLACK) PVC WITH NEW (DOUBLE 12' WIDE AND SINGLE GATES 6' WIDE AS SHOWN ON PLANS – SEE PLAN FOR TOTALS) HARDWARE AND ACCESSORIES AS REQUIRED FOR PROPER INSTALL –SEE DETAILS 1–2 AND 12–13 L–401
11. NEW 4' TALL CHAIN LINK FENCING – SEE PLANS FOR HEIGHT LOCATIONS – (BLACK) PVC WITH NEW (SINGLE GATES 6' WIDE) HARDWARE AND ACCESSORIES AS REQUIRED FOR PROPER INSTALL –SEE DETAILS DETAILS 1–2,12–13 L–401
12. PROPOSED LANDSCAPING – SEE L–301 FOR FURTHER INFORMATION
13. PROPOSED 30' TALL FLAGPOLE – (COLOR TO MATCH SCORE BOARD) – SEE PROJECT MANUAL FOR FURTHER INFORMATION – DETAIL 3 L–401
14. NEW ENTRY PLAZA 6' TALL ORNAMENTAL FENCING / DOUBLE WIDE GATES 12' WIDE (BLACK) WITH ARCH. COLUMNS @ MIDPOINTS AND CORNERS WHERE SHOWN ON PLANS AND @ CORNERS OF GATE LOCATIONS SHOWN ON PLANS – SEE DETAIL ___ AND ARCH DETAILS FOR FURTHER INFORMATION
15. ASPHALT RUNNING TRACK MEASURING LINE – SEE DETAIL 11 L–401
16. FOOTBALL/SOCCER GOALPACK SYSTEM WITH FOOTINGS PER LOCAL CITY/STATE ORDINANCES – INSTALL PER MANUF. WRITTEN RECOMMENDATIONS – SEE DETAIL 1 L–402
17. BALL SAFETY NETTING TENSION NETTING SYSTEM WITH FOOTINGS PER LOCAL CITY/STATE ORDINANCES – INSTALL PER MANUF. WRITTEN RECOMMENDATIONS – SEE DETAIL 2 L–402
18. EXISTING LAWN AND PAVED AREAS TO REMAIN – PROTECT DURING CONSTRUCTION
19. 6" CONC. CURB – SEE DETAIL 15 L–401 AND CIVIL DRAWINGS
20. SYNTHETIC TURF UNDER–DRAINAGE SYSTEM – (ADS) 1313 FLAT–PIPE SYSTEM @ 15' MAX SPACING AS SHOWN ON PLAN ATTACHED TO PERIMETER 15" COLLECTOR PIPE – SEE CIVIL DRAWINGS AND DETAILS 3–5 L–402
21. EXISTING PERIMETER CHAIN LINK FENCE TO REMAIN – PROPOSED FENCE INTERSECTION

CAUTION !!

811 Know what's below. Call before you dig.
Call 811 or 1-800-382-5544 (Indiana Statewide Utility Protection Service) at least two (2) but not more than ten (10) working days before you dig.
It's Free. It's Easy and It's the Law in the state of Indiana

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY THE UTILITY COMPANIES) MAY NOT BE COMPLETE. THERE ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH THE OWNER HAS NO RECORDS. THEREFORE, THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

LOCATIONS GIVEN ARE APPROXIMATE AND ARE TO BE SITE VERIFIED PRIOR TO THE START OF CONSTRUCTION. ALL ASPHALT PAVING NOT NOTED FOR WORK IS TO REMAIN – PROTECT DURING CONSTRUCTION TYP. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT EX. SITE CONDITIONS PRIOR TO THE START OF CONSTRUCTIONS AND BRING ISSUES WHICH EX. / PROPOSED CONDITIONS TO ARCHITECTS / ENGINEERS PRIOR TO THE START OF CONSTRUCTION TYP

224177.01
MICHIGAN CITY COMMUNITY EVENTS CENTER

MICHIGAN CITY AREA SCHOOLS SCHOOL DISTRICT
408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT
FANNING HOWEY
317-848-0966 WWW.FHAI.COM

KEY PLAN

BID DOCUMENTS

PAUL A. MILLER REGISTERED No. A 20000161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: DS
DRAWN BY: LH/EB
PROJECT NUMBER: 224177.01
PROJECT CONSTRUCTION ISSUE DATE: 01/16/2026

REV. NO.	DESCRIPTION	DATE
	100% SCHEMATIC DESIGN	06/30/25
	75% DESIGN DEVELOPMENT	08/19/25
	90% DESIGN DEVELOPMENT	10/16/25
	100% DESIGN DEVELOPMENT	10/30/25
	ZONING REVIEW	12/09/25
	COORDINATION	12/17/25
	BID DOCUMENTS	01/16/26
1	ADDENDMDUM #1	02/04/26
2	ADDENDMDUM #2	02/11/26

ENLARGED LAYOUT PLAN TRACK AND SOCCER FIELD

L-201

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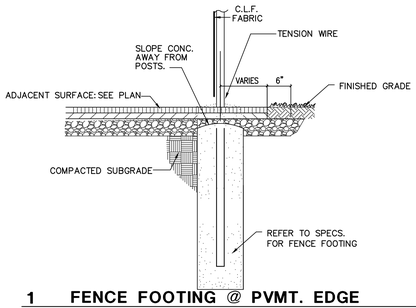
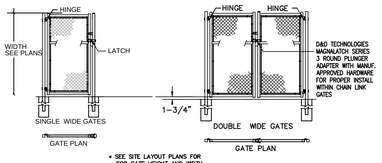


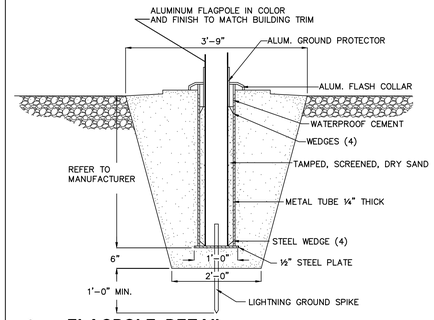
1 FENCE FOOTING @ PVMT. EDGE

NTS



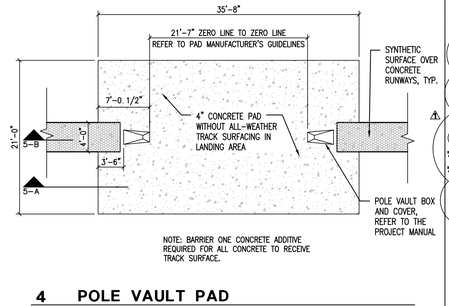
2 DOUBLE MAN GATE DETAIL

NTS



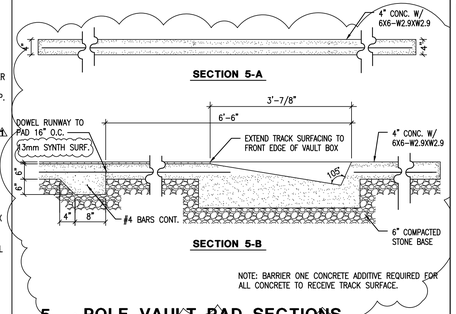
3 FLAGPOLE DETAIL

NTS



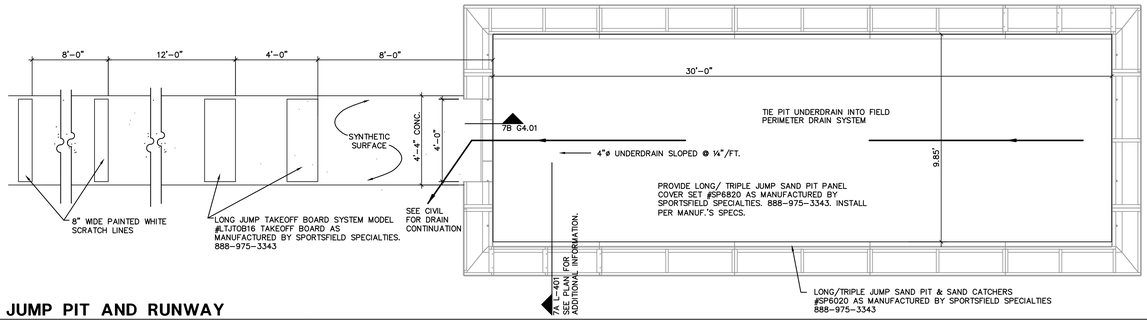
4 POLE VAULT PAD

NTS



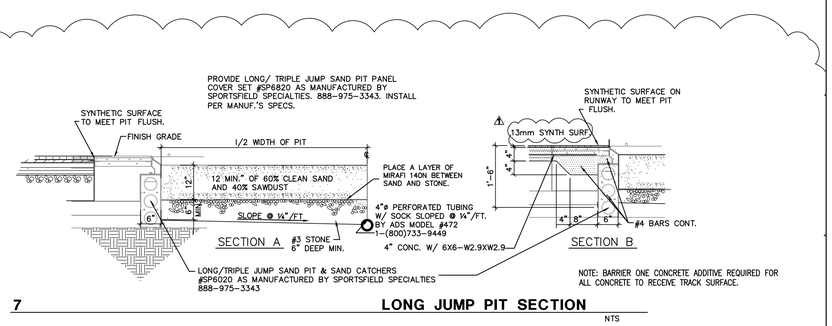
5 POLE VAULT PAD SECTIONS

NTS



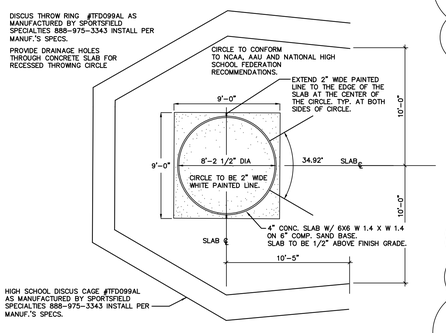
6 LONG JUMP PIT AND RUNWAY

NTS



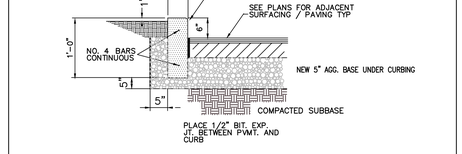
7 LONG JUMP PIT SECTION

NTS



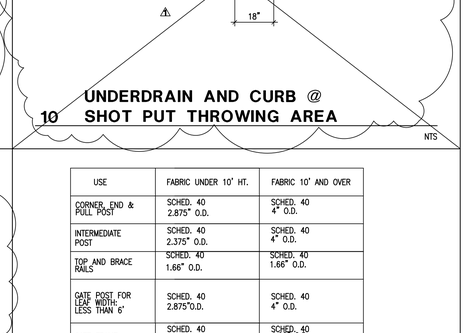
8 DISCUS PAD AND ENCLOSURE

NTS



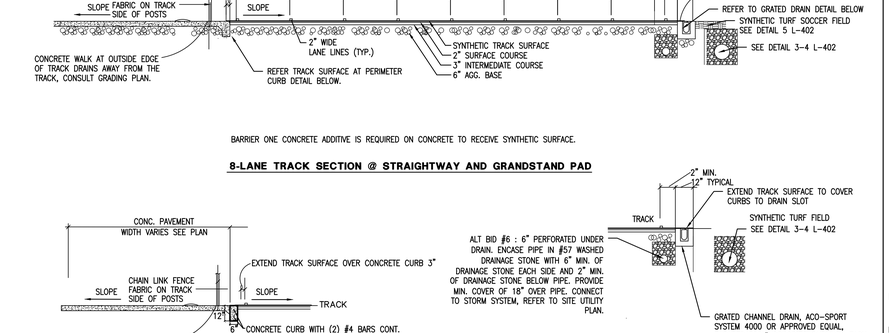
9 SHOT PUT CIRCLE

NTS



UNDERDRAIN AND CURB @ 10 SHOT PUT THROWING AREA

NTS



BARRIER ONE CONCRETE ADDITIVE IS REQUIRED ON CONCRETE TO RECEIVE SYNTHETIC SURFACE.

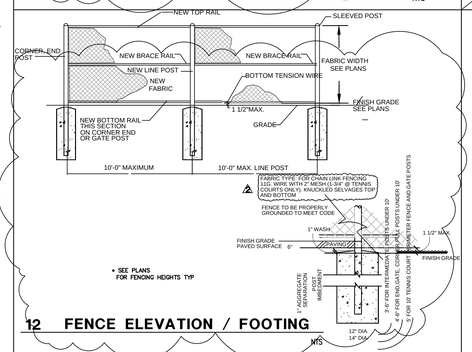
8-LANE TRACK SECTION @ STRAIGHTWAY AND GRANDSTAND PAD

SECTION 11-A: TRACK SURFACE AT PERIMETER CURB

SECTION 11-B: TRENCH DRAIN DETAIL

11 TRACK SURFACING AND SECTIONS

NTS



12 FENCE ELEVATION / FOOTING

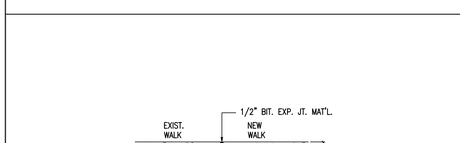
NTS

USE	FABRIC UNDER 10' HT.	FABRIC 10' AND OVER
CORNER, END & PULL POST	SCHED. 40 2.875" O.D.	SCHED. 40 4" O.D.
INTERMEDIATE POST	SCHED. 40 2.375" O.D.	SCHED. 40 4" O.D.
TOP AND BRACE RAILS	SCHED. 40 1.66" O.D.	SCHED. 40 1.66" O.D.
GATE POST FOR LEAF WIDTH: LESS THAN 6'	SCHED. 40 2.875"O.D.	SCHED. 40 4" O.D.
GATE FRAME	SCHED. 40 1.90" O.D.	SCHED. 40 1.90" O.D.

NOTE: CHAIN LINK FENCE FABRIC SHALL HAVE BLACK PVC COATING THERMALLY FUSED TO ZINC COATED WIRE. ALL POSTS, RAILS AND BRACING SHALL ALSO HAVE BLACK PVC COATING THERMALLY FUSED TO GALVANIZED (ZINC COATED) STEEL PIPE.

13 FENCING FRAME SCHEDULE

NTS

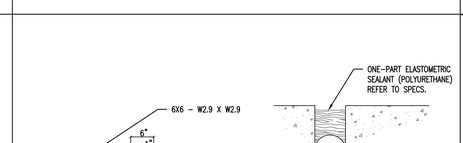


14 NEW WALK TO EXISTING WALK

NTS

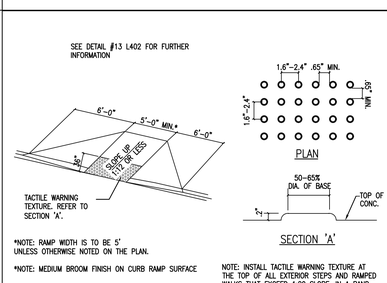
15 6" STANDARD CONC. CURBING

NTS



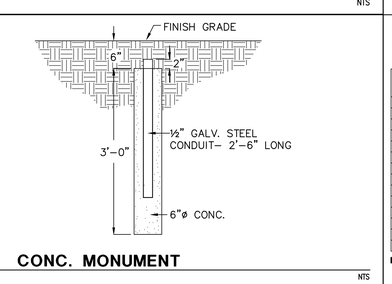
16 6" CONC. WALK / PADS

NTS



17 ADA CURB RAMP

NTS



18 CONC. MONUMENT

NTS

Know what's below. Call before you dig.
Call 811 or 1–800–382–5544 Indiana Before You Begin Any Digging Project. Call 48 hours or 2 working days before you dig. It's Free, It's Easy and It's the Law in the State of Indiana

CAUTION !!
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLAN ARE BASED UPON ABOVE GROUND SURVEY OBSERVATIONS, THE LOCATIONS OF VISIBLE VALVES, MANHOLES, YARD INLETS, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE EXISTS AND FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

LOCATIONS GIVEN ARE APPROXIMATE AND ARE TO BE SITE VERIFIED PRIOR TO THE START OF CONSTRUCTION. ALL ASPHALT PAVING NOT NOTED FOR WORK IS TO REMAIN – PROTECT DURING CONSTRUCTION TYP. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT EX. SITE CONDITIONS PRIOR TO THE START OF CONSTRUCTIONS AND BRING ISSUES WHICH EX. / PROPOSED CONDITIONS TO ARCHITECTS / ENGINEERS PRIOR TO THE START OF CONSTRUCTION TYP

224177.01 MICHIGAN CITY COMMUNITY EVENTS CENTER

MICHIGAN CITY AREA SCHOOLS SCHOOL DISTRICT
408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT
FANNING HOWEY
317-848-0966 WWW.FHAI.COM

KEY PLAN

BID DOCUMENTS

PROJECT MANAGER: DS
DRAWN BY: LH/EB
PROJECT NUMBER: 224177.01
PROJECT CONSTRUCTION ISSUE DATE: 01/16/2026

REV. NO.	DESCRIPTION	DATE
	100% SCHEMATIC DESIGN	06/30/25
	75% DESIGN DEVELOPMENT	08/19/25
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	COORDINATION	12/17/25
	BID DOCUMENTS	01/16/26
1	ADDENDUM #1	02/04/26
2	ADDENDUM #2	02/11/26

TRACK/ FIELD AND SITE DETAILS AND SECTIONS

L-401

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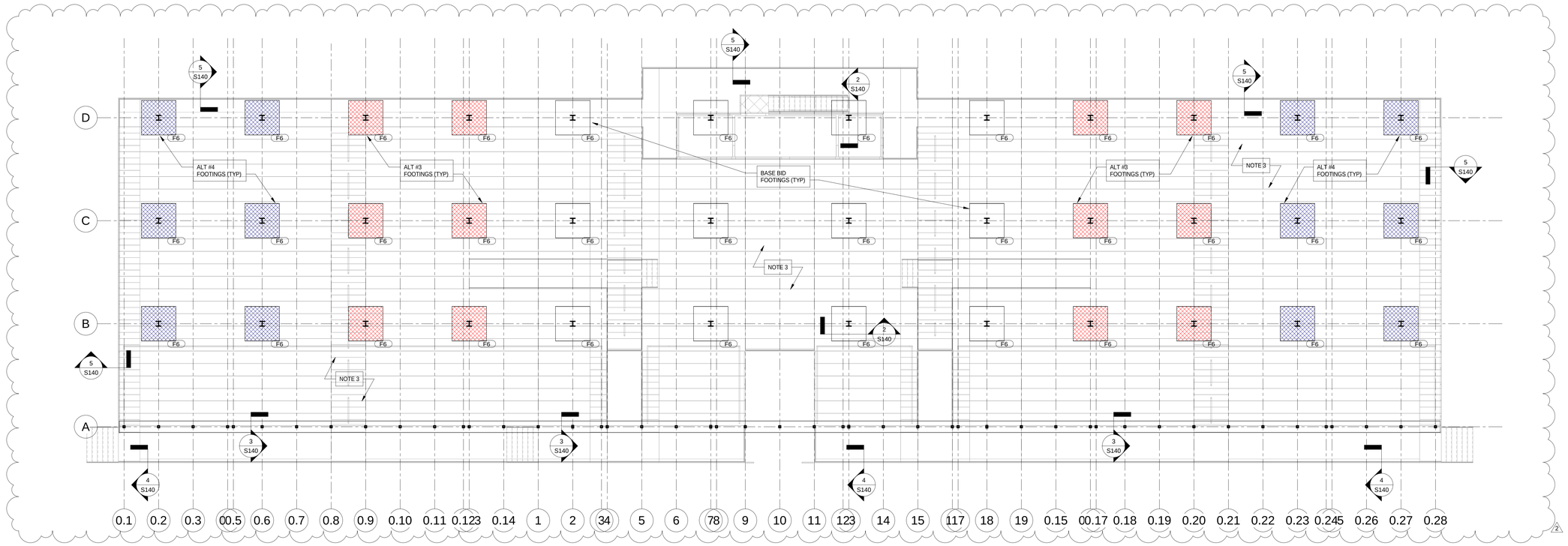


1 S140 FOUNDATION PLAN - BLEACHERS

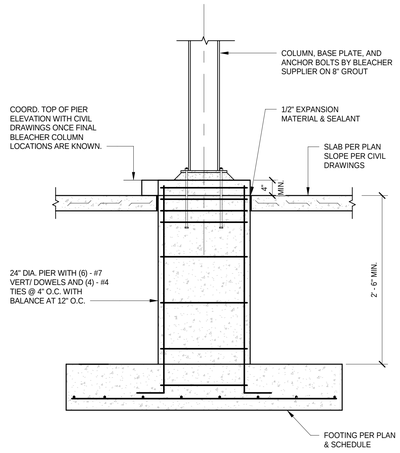
1/8" = 1'-0"

PLAN NOTES:

1. REFER TO SHEETS S001-S004 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. THE GC SHALL COORDINATE THE SIZE AND LOCATION OF ANY SLAB PENETRATIONS WITH THE VARIOUS TRADES.
3. THE SLAB ON GRADE SHALL BE A 6" NORMAL WEIGHT SLAB OVER 6" COMPACTED GRANULAR FILL OVER A PROOF ROLLED SUBGRADE REINFORCED WITH 5#/CY OF NON METALLIC SYNTHETIC FIBER REINFORCING. THE TOP OF SLAB SHALL SLOPE PER THE CIVIL DRAWINGS. THE SLAB ON GRADE IS TO BE PROVIDED FOR THE ENTIRE AREA BELOW THE BASE BID PLUS THE ALTERNATES REGARDLESS OF WHETHER OR NOT ALTERNATE #3 OR #4 ARE SELECTED. THE SLAB ON GRADE SHALL BE 5' LARGER THAN THE BLEACHER PERIMETER IN ALL DIRECTIONS FOR BIDDING PURPOSES. ONCE THE BLEACHER CONTRACT IS AWARDED AND THE EXACT BLEACHER DIMENSIONS AND COLUMN LOCATIONS ARE KNOWN, ACTUAL SLAB ON GRADE DIMENSIONS WILL BE PROVIDED FOR CONSTRUCTION. SEE ARCHITECTURAL DRAWINGS FOR BLEACHER DIMENSIONS.
4. REFER TO THE GEOTECHNICAL REPORT FOR PROPER PREPARATIONS FOR FOOTING BEARING CONDITIONS.
5. THE DESIGN OF THE BLEACHERS AND THE ASSOCIATED BASE PLATES AND ANCHOR BOLTS SHALL BE BY THE BLEACHER MANUFACTURER. FOUNDATION CONDITIONS SHOWN HERE ARE ASSUMED AND THE FOUNDATION SIZES AND CONDITIONS WILL NEED TO BE CONFIRMED ONCE THE FINAL BLEACHER DESIGNS ARE COMPLETED AND THE BLEACHER LOADS ARE PROVIDED TO THE EOR FOR FOOTING SIZE CONFIRMATION. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS ASSOCIATED WITH THE BLEACHERS.

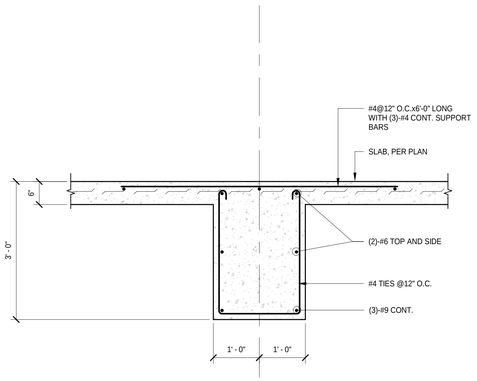
2

FOUNDATION SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
F6	6'-0" x 6'-0" x 1'-6"	#6@12" O.C. E.W. BOTTOM	



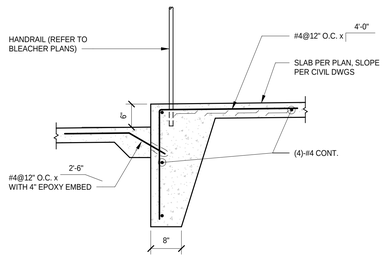
2 S140 SECTION

3/4" = 1'-0"



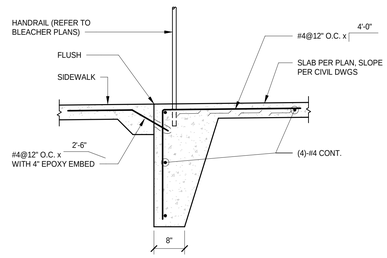
3 S140 SECTION

3/4" = 1'-0"



4 S140 SECTION

3/4" = 1'-0"



5 S140 SECTION

3/4" = 1'-0"

Michigan City Community Event Center

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300, Indianapolis, IN 46204

ENGINEER

JPS CONSULTING ENGINEERS
11 MUNICIPAL DRIVE
SUITE 300, FISHERS, IN 46038
317.617.4270 jpsconsultingengineers.com

N

BID DOCUMENTS

CARSON E. SPRINGER REGISTERED No. 10302023 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: CES
DRAWN BY: JCB
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

BLEACHERS PLAN & DETAILS

S140

LIST OF FINISHES

FLOOR MATERIALS

DECORATIVE RESINOUS FLOORING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
DRF-1	SHERWIN WILLIAMS	DECO QUARTZ: WHITE PEPPER W/ BLUE FLAKE

BASE MATERIALS

RESILIENT BASE

COVE BASE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
RB-1	JOHNSONITE-TARKETT	BLACK B 40

WALL FINISHES

PAINT

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
P-1	SHERWIN WILLIAMS	OLYMPUS WHITE (SW6253)
P-2	SHERWIN WILLIAMS	DIGNIFIED (SW6538)
P-3	SHERWIN WILLIAMS	GREENBLACK (SW6994)

CEILING FINISHES

GYPSUM WALLBOARD CEILING AND BULKHEADS

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
GWB -REFER TO REFLECTED CEILING PLANS AND PROJECT MANUAL FOR TYPE AND HEIGHT.		
P-4	SHERWIN WILLIAMS	CEILING BRIGHT WHITE (SW 7007)

EQUIPMENT MATERIALS

HP PLASTIC LAMINATE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
PL-1	WILSONART	WALNUT (8256)

2

SOLID SURFACE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
NOT USED		

SOLID PLASTIC PARTITIONS

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
SP-1	SCRANTON:	BLUEBERRY

STAINLESS STEEL COUNTERTOP

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
SS-2	STAINLESS STEEL	

EQPT MATERIAL & FINISH GEN. NOTES

A. HIGH PRESSURE PLASTIC LAMINATE COUNTERTOPS AND WORKSURFACES ARE TO BE PL-1, UNLESS OTHERWISE NOTED.

- 3MM AND 1MM PVC EDGES ON COUNTERTOPS AND WORKSURFACES ARE TO MATCH PL-1. SUBMIT ALL MANUFACTURER SAMPLES FOR VERIFICATION AND SELECTION. 3MM AND 1MM EDGES TO MATCH PL-1 ARE TO BE MANUFACTURED UTILIZING THE SAME LAMINATE PAPER, PATTERN AND COLORATION AS PL-1. DEVIATION FROM CUSTOM PRECISE MATCH IS NOT ACCEPTABLE.
- SUBMIT ALL MANUFACTURER'S FULL RANGE OF PVC EDGE BAND SAMPLES FOR VERIFICATION, SELECTION AND APPROVAL.
- HIGH PRESSURE PLASTIC LAMINATE CABINETS/VERTICAL SURFACES ARE TO BE PL-1, UNLESS OTHERWISE NOTED. INTERIOR MELAMINE TO BE WHITE.
- HANDLES TO BE SILVER METALLIC POWDERCOAT.
- HINGES TO BE SILVER METALLIC POWDERCOAT.

ALL PLAM-FACED ARCHITECTURAL CASEWORK TO BE LOCKABLE. **REFER TO CASEWORK ELEVATIONS FOR TWO SEPARATE LOCKING SEQUENCES**

PAINT COLOR GENERAL NOTES

A. ALL INTERIOR WALLS SHALL BE PAINTED P-1, UNLESS OTHERWISE INDICATED ON FINISH PLANS OR INTERIOR ELEVATIONS
B. PAINT ALL GWB SOFFITS P-1, UNLESS OTHERWISE NOTED ON FINISH PLANS OR INTERIOR ELEVATIONS.
C. PAINT ALL SIDES (HORIZ. AND VERT.) OF SOFFIT INDICATED COLOR, UNLESS OTHERWISE NOTED.
D. PAINT ALL PAINTED EXPOSED CEILINGS AND GYPSUM BOARD CEILINGS P-1 UNLESS OTHERWISE NOTED ON FINISH PLANS, CEILING PLANS, OR INTERIOR ELEVATIONS.
E. ALL INTERIOR HOLLOW METAL FRAMES AND DOOR FRAMES TO BE PAINTED P-3 UNLESS OTHERWISE NOTED.
F. ALL EXPOSED INTERIOR STEEL COLUMNS SHALL BE PAINTED TO MATCH ADJACENT WALL COLOR, UNLESS OTHERWISE NOTED ON INTERIOR ELEVATIONS OR FINISH PLANS.
G. STAIN ALL WOOD TRIM/ BENCHES/ DOORS/ ETC. TO MATCH PLASTIC LAMINATE PL-1.
H. UNDER SECTION 099123 - INTERIOR PAINTING, PAINT EXPOSED PIPES, DUCTWORK, BREACHING, CONDUIT, INSULATED PIPES, CONDUIT HANGERS, SUPPORTS, BRACING, ETC, WHICH OCCURS IN SPACES DESIGNATED TO BE PAINTED IN PART OR WHOLE.

2

I. PAINTING AND FINISHING OF EXTERIOR SURFACES AS DESIGNATED. DETAILS SHALL BE UNDER THE WORK SECTION 099600 - HIGH PERFORMANCE COATINGS.
J. ALL INTERIOR CMU TO BE PAINTED CODE 4.221
K. ALL INTERIOR GWB WALLS TO BE PAINTED CODE 9.211
L. ALL INTERIOR GWB CEILINGS TO BE PAINTED CODE 9.21

MATERIAL & FINISH GENERAL NOTES

A. REFER TO FINISH 140 SERIES FINISH PLANS FOR MATERIALS, PATTERNS, AND COLORS.

B. COORDINATE CONTROL JOINTS IN CONCRETE SLABS WITH STRUCTURAL DRAWINGS.

C. REFER TO FLOOR PLANS, RESTROOM ENLARGED PLANS, AND PLUMBING DRAWINGS FOR FLOOR DRAIN LOCATIONS.

D. (RB) RUBBER BASE AT ALL ET, CART, RT, AND CSC LOCATIONS. ALL RB TO BE COVED RB-1.

E. PAINT ALL WALLS UNLESS OTHERWISE NOTED.

F. PROVIDE PREFORMED BASE TO MATCH 1" RADIUS AT ALL LOCATIONS WHERE BASE COVERS MASONRY BULLNOSE. REFER TO FINISH SCHEDULE FOR BASE MATERIAL TYPE. TYPICAL AT ALL LOCATIONS. AT RB LOCATIONS PROVIDE PREFORMED OUTSIDE CORNERS, AND USE MANUFACTURER'S STANDARD ADHESIVE (CONTACT CEMENT) FOR PROPER ADHESION WITH NO GAPS.

ROOM FINISH SCHEDULE - BLDG A

ROOM NO.	ROOM NAME	FLOOR MAT.	BASE MAT.	WALL FINISH	WALL NOTES	CEILING MAT.
A100	TECHNOLOGY	DRF-1	RB-1	P-1		GWB
A101	ELECTRICAL	DRF-1	RB-1	P-1		GWB
A102	TICKET BOOTH	DRF-1	RB-1	P-1		GWB
A103	FAMILY RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
A104	JANITOR	DRF-1	RB-1	P-1		GWB
A105	WOMEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
A106	MEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
A107	CONCESSIONS	DRF-1	RB-1	P-1		GWB
A108	MEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
A109	WOMEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
A110	MECH/PLUMB	DRF-1	RB-1	P-1		GWB
A111	STORAGE	DRF-1	RB-1	P-1		GWB

ROOM FINISH SCHEDULE - BLDG B

ROOM NO.	ROOM NAME	FLOOR MAT.	BASE MAT.	WALL FINISH	WALL NOTES	CEILING MAT.
B100	MECH/ELEC	DRF-1	RB-1	P-1		GWB
B101	TICKET	DRF-1	RB-1	P-1		GWB
B102	JANITOR	DRF-1	RB-1	P-1		GWB
B103	WOMEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
B104	MEN'S RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
B105	FAMILY RESTROOM	DRF-1	RB-1	P-2/P-3	1	GWB
B106	CONCESSIONS	DRF-1	RB-1	P-1		GWB
B107	STORAGE	DRF-1	RB-1	P-1		GWB
B108	TECH	DRF-1	RB-1	P-1		GWB

NOT USED

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

BID DOCUMENTS

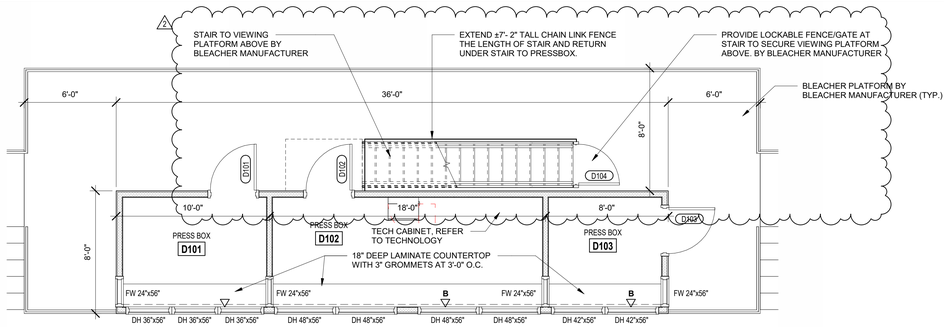
PAUL A. MILLER REGISTERED No. AR10800161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: DS
DRAWN BY: AE
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

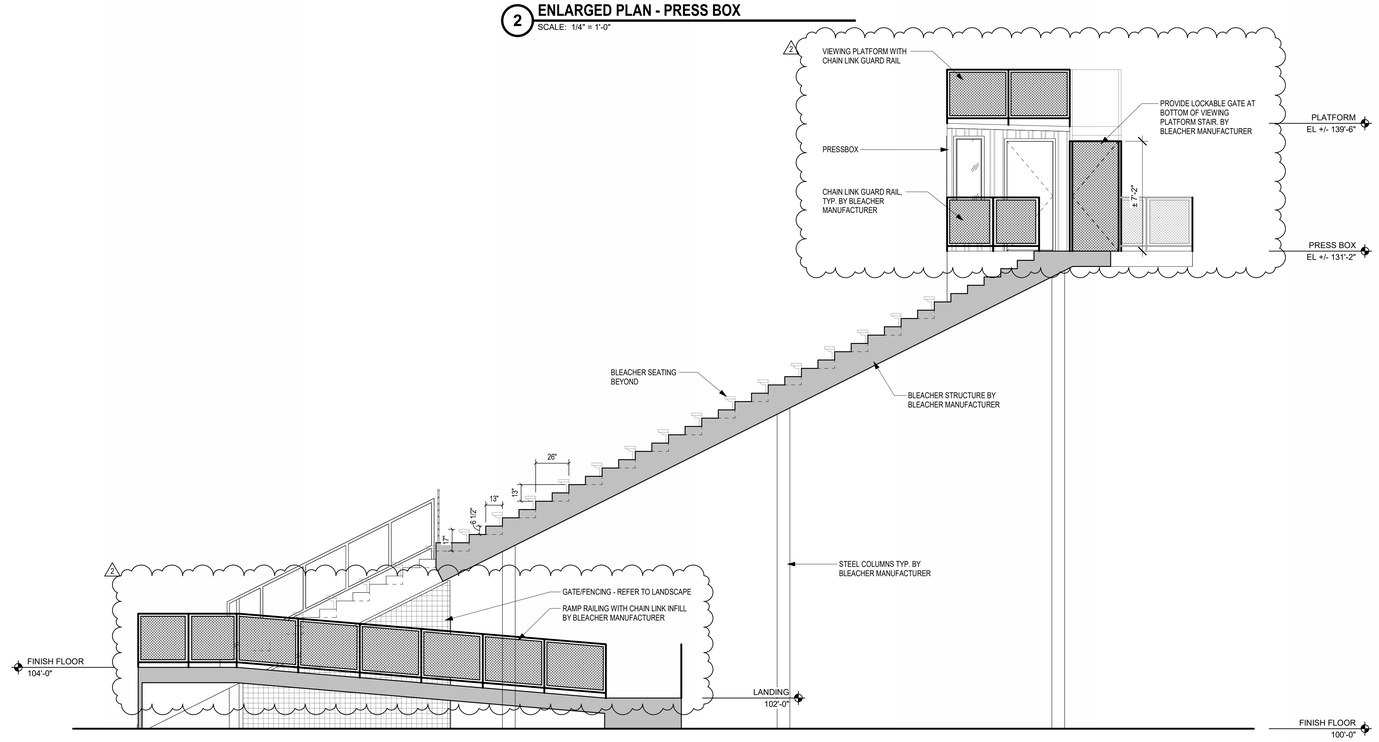
FINISH SCHEDULES AND DETAILS

A-140

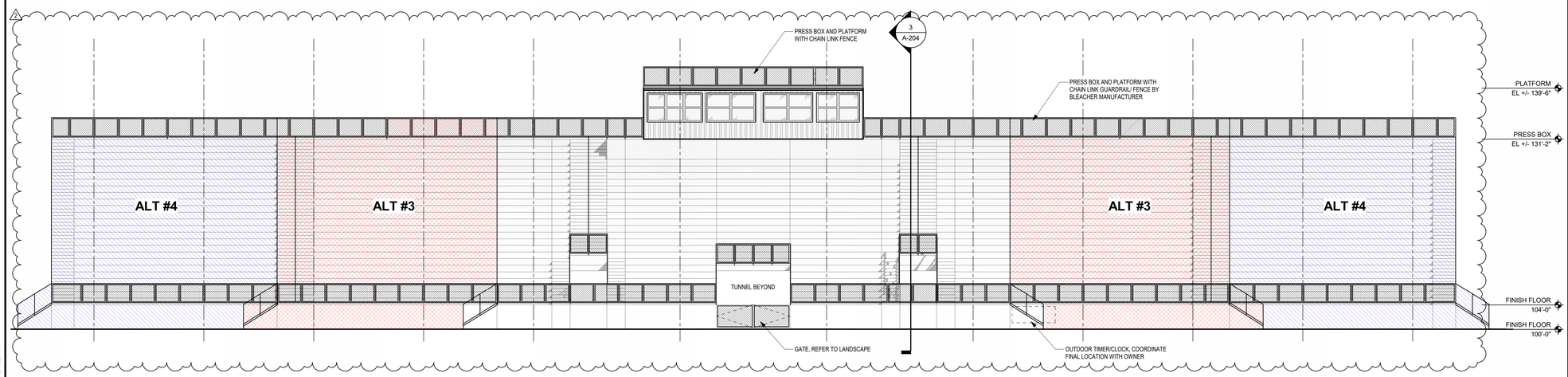


NOTE:
1. MODULAR PRESS BOX, REFER TO PROJECT MANUAL.
2. PROVIDE CONTINUOUS WIREMOLD PLUGSTRIP WITH BOTH ELECTRIAL DEVISES AND EMPTY BOXES FOR FUTURE TECH AT 48" O.C

2 ENLARGED PLAN - PRESS BOX
SCALE: 1/4" = 1'-0"



3 BLEACHER SECTION
SCALE: 1/4" = 1'-0"



1 ELEVATION - BLEACHERS
SCALE: 1/8" = 1'-0"

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ELEVATIONS GENERAL NOTES
A. REFER TO THE ELECTRICAL AND TECHNOLOGY DRAWINGS FOR CAMERA, LOCATIONS, SECURITY DEVICES, RECEPTACLES, LIGHT FIXTURES, ETC. COORDINATE LOCATIONS WITH VENEER COURSING TO PROVIDE CONSISTENT MOUNTING HEIGHTS.
B. REFER TO PLUMBING DRAWINGS FOR EXTERIOR WALL HYDRANTS, SECONDARY ROOF DRAIN OUTLETS, ETC. COORDINATE PENETRATIONS THROUGH EXTERIOR ENVELOPE WITH OTHER TRADES. PROVIDE TRANSITION MEMBRANE TO MAINTAIN AIR BARRIER SYSTEM.
C. REFER TO MECHANICAL DRAWINGS FOR EXTERIOR LOUVER LOCATIONS LOCATED IN EXTERIOR WALL AND EXTERIOR SOFFITS. COORDINATE PENETRATIONS THROUGH EXTERIOR ENVELOPE WITH OTHER TRADES. PROVIDE TRANSITION MEMBRANE TO MAINTAIN AIR BARRIER SYSTEM.

BUILDING ELEVATION NOTES
(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

1 SMOOTH FACED CONCRETE MASONRY UNIT (COLOR 1)
2 GROUND FACED CONCRETE MASONRY UNIT ACCENT BAND (COLOR 2)
3 DOWNSPOUT / BOOT. CONNECT TO SITE UTILITIES
4 ALUMINUM GUTTER AND FASCIA
5 ROOF TYPE: ASPHALT SHINGLES OVER SYNTHETIC ROOF UNDERLAYMENT ON 5/8" EXTERIOR GRADE PLYWOOD ROOF SHEATHING ON PREFABRICATED WOOD TRUSSES
6 MECHANICAL EQUIPMENT. REFER TO MECHANICAL.
7 ATTIC VENT, TYP.
9 OVERHEAD COILING COUNTER DOOR
10 FRP ALUMINUM DOOR
11 EXTERIOR ELECTRIC WATER COOLER, REFER TO PLUMBING
13 CAST STONE COLUMN CAP
14 EXTERIOR HOSE BIB, REFER TO PLUMBING
15 METAL SIDING
16 METAL ROOF
17 OVERHEAD COILING DOOR
18 LIGHT FIXTURE, REFER TO ELECTRICAL

VERIFICATION NOTE
CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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350 East New York Street, Suite 300 Indianapolis, IN 46204

BID DOCUMENTS

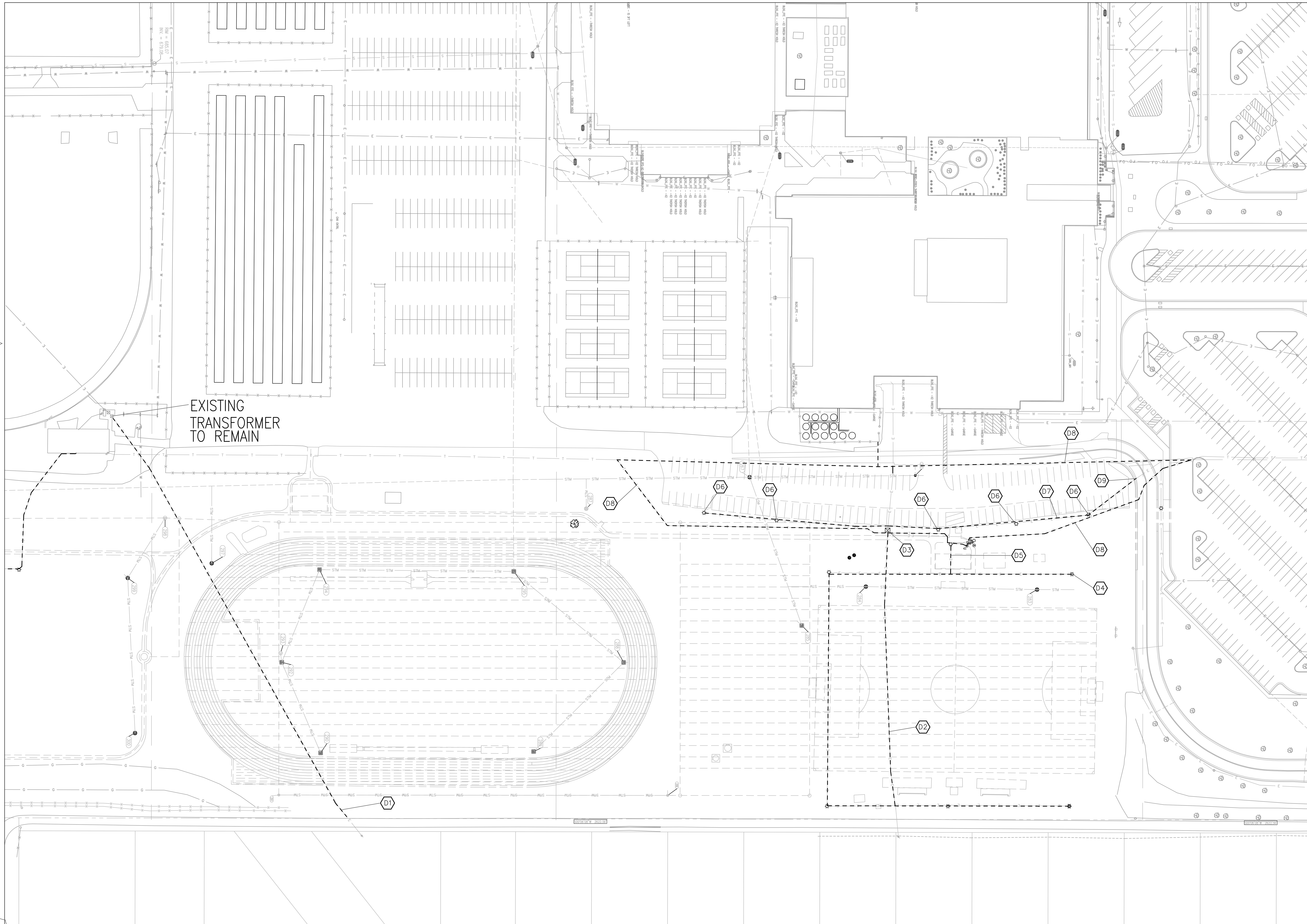
PAUL A. MILLER REGISTERED No. AR10800161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: DS
DRAWN BY: BMD
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

BUILDING ELEVATIONS - BLEACHERS

A-204



OVERALL SITE DEMOLITION PLAN

SCALE: 1" = 80'-0"

PLAN NOTES:

- D1 REMOVE EXISTING UNDERGROUND SERVICE CONDUIT FROM EXISTING UTILITY RISER POLE TO BALLFIELD BUILDING TRANSFORMER PAD. KEEP EXISTING RISER ELBOW AND EXISTING UNDERGROUND CONDUIT AT TRANSFORMER FOR REUSE. REMOVE UNDERGROUND PRIMARY WIRING COMPLETE. EXISTING SERVICE TO BE REROUTED FROM RISER POLE TO TRANSFORMER. SEE ELECTRICAL SITE PLANS FOR NEW WORK TO RELOCATE SERVICE.
- D2 REMOVE EXISTING UNDERGROUND SERVICE CONDUIT FROM EXISTING UTILITY RISER POLE TO EXISTING UNDERGROUND STRUCTURE NOTED. KEEP EXISTING RISER ELBOW FOR REUSE. REMOVE UNDERGROUND PRIMARY WIRING COMPLETE TO POINT OF SPLICING. EXISTING SERVICE TO BE REROUTED FROM RISER POLE TO POINT OF SPLICING. SEE ELECTRICAL SITE PLANS FOR NEW WORK TO RELOCATE SERVICE.
- D3 EXISTING UNDERGROUND SPLICE POINT FOR UTILITY PRIMARY WIRING. COORDINATE WORK WITH UTILITY.
- D4 REMOVE EXISTING SPORTS LIGHTING POLE, CONDUITS, AND WIRING COMPLETE. TYPICAL FOR SYSTEM AT THIS FIELD.
- D5 REMOVE EXISTING UNDERGROUND ELECTRICAL SERVING FIELD TO BE REBUILT COMPLETE.
- D6 REMOVE EXISTING AREA LIGHT POLE AND PROTECT FOR REINSTALLATION. DEMOLISH EXISTING BASE.
- D7 REMOVE EXISTING UNDERGROUND CONDUIT AND WIRING SERVING AREA LIGHT FIXTURES COMPLETE BACK TO POINT IDENTIFIED.
- D8 REMOVE EXISTING UNDERGROUND TECHNOLOGY CONDUITS AS SHOWN AND REWORK AS SHOWN ON ELECTRICAL SITE PLANS. COORDINATE REMOVAL AND SPLICING / REPLACEMENT OF EXISTING TECHNOLOGY CABLING WITH OWNER AND UTILITY PROVIDER(S) SUCH THAT SYSTEM IS COMPLETELY FUNCTIONAL UPON RELOCATIONS FOR SERVICES TO REMAIN.
- D9 EXISTING CONDUIT TO BE REMOVED FROM THIS POINT SOUTHWARD AS NOTED.

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408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

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KEY PLAN

BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 11600305 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS

DRAWN BY: RDR

PROJECT NUMBER: 224177.01

PROJECT CONSTRUCTION ISSUE DATE: 01/16/2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	2-11-26

ELECTRICAL SITE DEMOLITION PLAN

ESD101

811 Know what's below. Call before you dig.
Call 811 or 1-800-382-5544 Before You Begin Any Digging Project.
Call 48 hours or 2 working days before you dig.
It's Fast, It's Easy and It's the Law in the state of Indiana!

CAUTION !!

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

LOCATIONS GIVEN ARE APPROXIMATE AND ARE TO BE SITE VERIFIED PRIOR TO THE START OF CONSTRUCTION. ALL ASPHALT PAVING NOT NOTED FOR WORK IS TO REMAIN – PROTECT DURING CONSTRUCTION TYP. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT EX. SITE CONDITIONS PRIOR TO THE START OF CONSTRUCTIONS AND BRING ISSUES WHICH EX. / PROPOSED CONDITIONS TO ARCHITECTS / ENGINEERS PRIOR TO THE START OF CONSTRUCTION TYP

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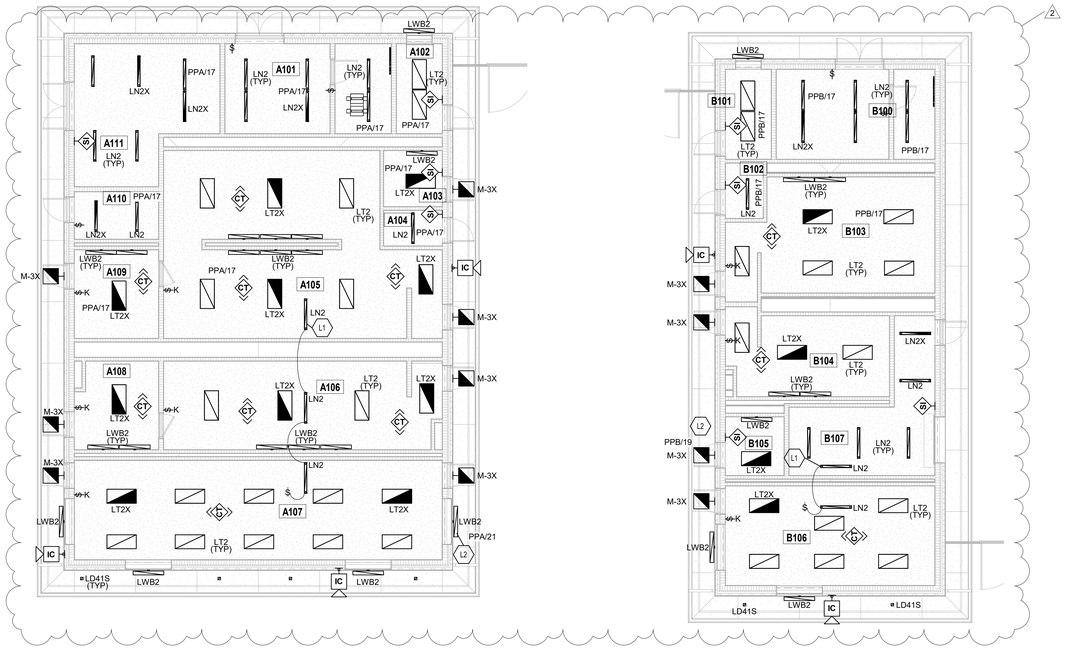
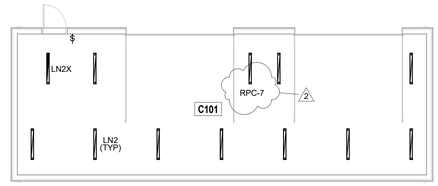


FIRST FLOOR LIGHTING PLAN - BUILDING A

SCALE: 1/8" = 1'-0"

FIRST FLOOR LIGHTING PLAN - BUILDING B

SCALE: 1/8" = 1'-0"



FIRST FLOOR LIGHTING PLAN - BUILDING C

SCALE: 1/8" = 1'-0"

ROOM LEGEND

ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
2		TECHNOLOGY	Not Placed
3		ELECTRICAL	Not Placed
4		TICKET BOOTH	Not Placed
5		WOMENS RESTROOM	Not Placed
6		WOMENS RESTROOM	Not Placed
7		CUSTODIAL / MECHANICAL	Not Placed
8		FAMILY RESTROOM	Not Placed
9		MENS RESTROOM	Not Placed
10		MENS RESTROOM	Not Placed
11		CONCESSIONS	Not Placed
12		STORAGE	Not Placed
13		CONCESSIONS	Not Placed
14		MECHANICAL / ELECTRICAL	Not Placed
15		MENS RESTROOM	Not Placed
16		WOMENS RESTROOM	Not Placed
17		TICKET BOOTH	Not Placed
18		FAMILY RESTROOM	Not Placed
19		CUSTODIAL	Not Placed
20		TECHNOLOGY	Not Placed
21		ELECTRICAL	Not Placed
22		TICKET BOOTH	Not Placed
23		WOMENS RESTROOM	Not Placed
24		WOMENS RESTROOM	Not Placed
25		CUSTODIAL / MECHANICAL	Not Placed
26		FAMILY RESTROOM	Not Placed
27		MENS RESTROOM	Not Placed
28		MENS RESTROOM	Not Placed
29		CONCESSIONS	Not Placed
34		WOMENS RESTROOM	Not Placed
35		CUSTODIAL / MECHANICAL	Not Placed
36		FAMILY RESTROOM	Not Placed
38		MENS RESTROOM	Not Placed
40		STORAGE	Not Placed
41		CONCESSIONS	Not Placed
42		MECHANICAL / ELECTRICAL	Not Placed
43		MENS RESTROOM	Not Placed
44		WOMENS RESTROOM	Not Placed
45		TICKET BOOTH	Not Placed
46		FAMILY RESTROOM	Not Placed
47		CUSTODIAL	Not Placed
50		MECH	Not Placed
51		MENS RESTROOM	Not Placed
58		STORAGE	Not Placed
60		FAMILY	Not Placed
64		STORAGE	Not Placed
65		CONCESSIONS	Not Placed
66		TECH	Not Placed
67		CONCESSIONS	Not Placed
68		ELEC	Not Placed
69		TICKET	Not Placed
70		JANITOR	Not Placed
71		WOMENS	Not Placed
72		FAMILY	Not Placed
A100		TECHNOLOGY	67 SF
A101		ELECTRICAL	161 SF
A102		TICKET BOOTH	71 SF
A103		FAMILY RESTROOM	56 SF
A104		JANITOR	36 SF
A105		WOMEN'S RESTROOM	758 SF
A106		MEN'S RESTROOM	412 SF
A107		CONCESSIONS	624 SF
A108		MEN'S RESTROOM	122 SF
A109		WOMEN'S RESTROOM	127 SF
A110		MECH/PLUMB	68 SF
A111		STORAGE	299 SF
B100		MECH/ELEC	173 SF
B101		TICKET	71 SF
B102		JANITOR	36 SF
B103		WOMEN'S RESTROOM	385 SF
B104		MEN'S RESTROOM	224 SF
B105		FAMILY RESTROOM	59 SF
B106		CONCESSIONS	355 SF
B107		STORAGE	233 SF
B108		TECH	63 SF
C101		STORAGE	981 SF
D101		PRESS BOX	67 SF
D102		PRESS BOX	126 SF
D103		PRESS BOX	53 SF

LIGHTING PLAN GENERAL NOTES

1. FINAL CONNECTION TO RECESSED LUMINAIRES SHALL BE WITH FLEXIBLE METALLIC CONDUIT.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATION OF LUMINAIRES. COORDINATE LOCATION OF LUMINAIRES, LOUDSPEAKERS, DIFFUSERS, GRILLES, AND OTHER CEILING INSTALLED ELEMENTS WITH THEIR RESPECTIVE INSTALLERS.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND ROOM FINISH SCHEDULE TO DETERMINE PROPER TYPE OF LUMINAIRE TRIM REQUIRED FOR CEILING TYPE PRIOR TO ORDERING LUMINAIRES. PROVIDE LUMINAIRES COMPATIBLE WITH CEILING TYPE.
4. LUMINAIRE TYPE IS SHOWN ONLY ONCE, AS "TYP." IN EVERY ROOM. PROVIDE SAME TYPE OF LUMINAIRE THROUGH-OUT SAME ROOM UNLESS OTHERWISE INDICATED.
5. PROVIDE NO. 10 AWG, MINIMUM, CONDUCTORS FOR EXIT SIGNS AND SECURITY LIGHT CIRCUITS.

SHEET KEYNOTES

L1	PROVIDE FIXTURES AND SWITCH AT ATTIC SPACE FOR MECHANICAL UNIT IN ATTIC. LOCATE AS REQUIRED. CONNECT TO SAME CIRCUIT AS SERVICE RECEPTACLE.
L2	PROVIDE SINGLE CHANNEL ASTRONOMIC TIMECLOCK IN ELECTRICAL ROOM FOR BUILDING MOUNTED EXTERIOR LIGHTING. CONNECT TO EXTERIOR CIRCUIT INDICATED.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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Michigan City Area Schools

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

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350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

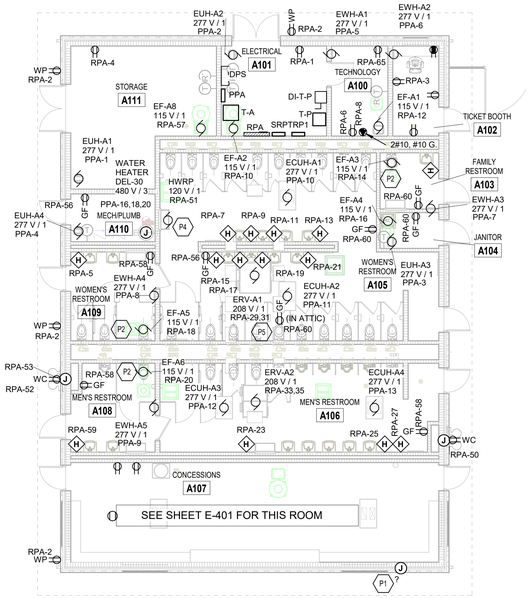
BRIAN W. BUTLER REGISTERED No. PE10809 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: BDR
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

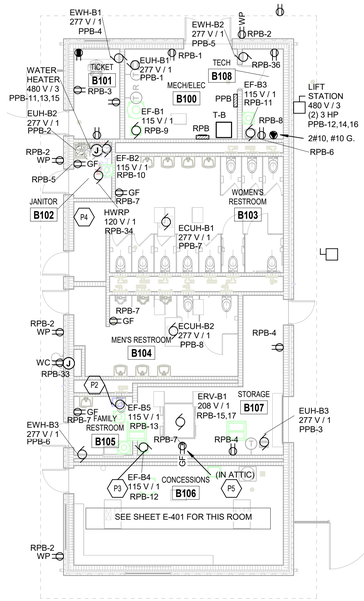
LIGHTING PLAN

E-111



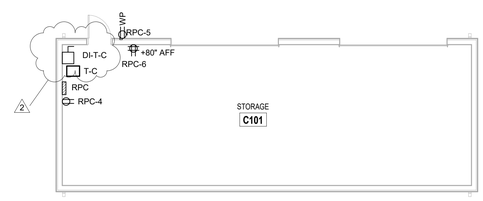
FIRST FLOOR POWER PLAN - BUILDING A

SCALE: 1/8" = 1'-0"



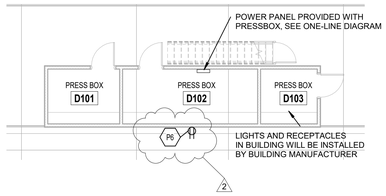
FIRST FLOOR POWER PLAN - BUILDING B

SCALE: 1/8" = 1'-0"



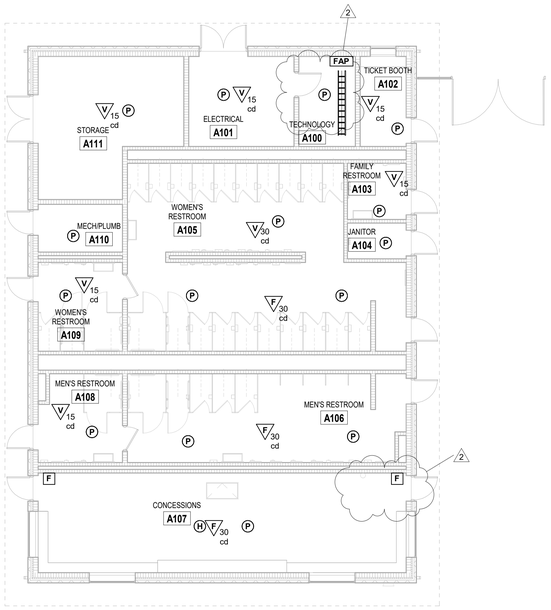
FIRST FLOOR POWER PLAN - BUILDING C

SCALE: 1/8" = 1'-0"



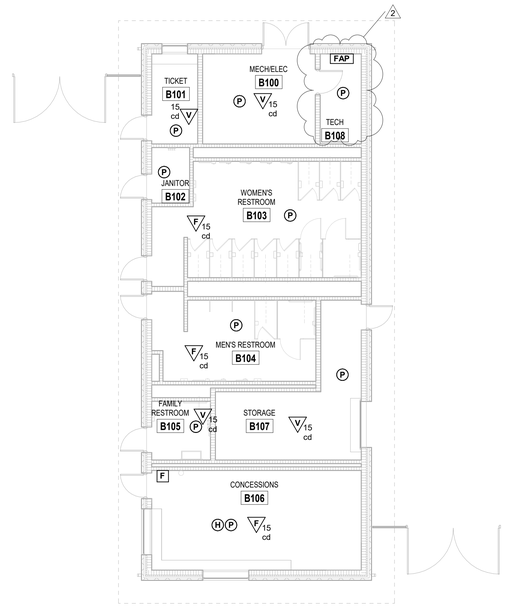
PRESS BOX POWER PLAN - BUILDING D

SCALE: 1/8" = 1'-0"



FIRST FLOOR FIRE ALARM PLAN - UNIT A

SCALE: 1/8" = 1'-0"



FIRST FLOOR FIRE ALARM PLAN - UNIT B

SCALE: 1/8" = 1'-0"

ROOM LEGEND

ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
2		TECHNOLOGY	Not Placed
3		ELECTRICAL	Not Placed
4		TICKET BOOTH	Not Placed
5		WOMENS RESTROOM	Not Placed
6		WOMENS RESTROOM	Not Placed
7		CUSTODIAL / MECHANICAL	Not Placed
8		FAMILY RESTROOM	Not Placed
9		MENS RESTROOM	Not Placed
10		MENS RESTROOM	Not Placed
11		CONCESSIONS	Not Placed
12		STORAGE	Not Placed
13		CONCESSIONS	Not Placed
14		MECHANICAL / ELECTRICAL	Not Placed
15		MENS RESTROOM	Not Placed
16		WOMENS RESTROOM	Not Placed
17		TICKET BOOTH	Not Placed
18		FAMILY RESTROOM	Not Placed
19		CUSTODIAL	Not Placed
20		TECHNOLOGY	Not Placed
21		ELECTRICAL	Not Placed
22		TICKET BOOTH	Not Placed
23		WOMENS RESTROOM	Not Placed
24		WOMENS RESTROOM	Not Placed
25		CUSTODIAL / MECHANICAL	Not Placed
26		FAMILY RESTROOM	Not Placed
27		MENS RESTROOM	Not Placed
28		MENS RESTROOM	Not Placed
29		CONCESSIONS	Not Placed
34		WOMENS RESTROOM	Not Placed
35		CUSTODIAL / MECHANICAL	Not Placed
36		FAMILY RESTROOM	Not Placed
38		MENS RESTROOM	Not Placed
40		STORAGE	Not Placed
41		CONCESSIONS	Not Placed
42		MECHANICAL / ELECTRICAL	Not Placed
43		MENS RESTROOM	Not Placed
44		WOMENS RESTROOM	Not Placed
45		TICKET BOOTH	Not Placed
46		FAMILY RESTROOM	Not Placed
47		CUSTODIAL	Not Placed
50		MECH	Not Placed
51		MENS RESTROOM	Not Placed
58		STORAGE	Not Placed
60		FAMILY	Not Placed
64		STORAGE	Not Placed
65		CONCESSIONS	Not Placed
66		TECH	Not Placed
67		CONCESSIONS	Not Placed
68		ELEC	Not Placed
69		TICKET	Not Placed
70		JANITOR	Not Placed
71		WOMENS	Not Placed
72		FAMILY	Not Placed
A100		TECHNOLOGY	67 SF
A101		ELECTRICAL	161 SF
A102		TICKET BOOTH	71 SF
A103		FAMILY RESTROOM	56 SF
A104		JANITOR	36 SF
A105		WOMEN'S RESTROOM	758 SF
A106		MEN'S RESTROOM	412 SF
A107		CONCESSIONS	624 SF
A108		MEN'S RESTROOM	122 SF
A109		WOMEN'S RESTROOM	127 SF
A110		MECH/PLUMB	68 SF
A111		STORAGE	299 SF
B100		MECH/ELEC	173 SF
B101		TICKET	71 SF
B102		JANITOR	36 SF
B103		WOMEN'S RESTROOM	385 SF
B104		MEN'S RESTROOM	224 SF
B105		FAMILY RESTROOM	59 SF
B106		CONCESSIONS	355 SF
B107		STORAGE	233 SF
B108		TECH	63 SF
C101		STORAGE	981 SF
D101		PRESS BOX	67 SF
D102		PRESS BOX	126 SF
D103		PRESS BOX	53 SF

POWER PLAN GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS. SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.
2. LABEL EACH RECEPTACLE WITH THE PANEL NAME AND CIRCUIT NUMBER ON THE FACE OF EACH COVER PLATE WITH A TYPED LAMINATED LABEL.
3. PROVIDE "GFCI PROTECTED" LABEL ON COVER PLATE FOR ANY GFCI PROTECTED DEVICE.
4. CONTRACTOR SHALL INCREASE CIRCUIT CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP DUE TO EXCESSIVE CIRCUIT LENGTHS. IN NO CASE SHALL VOLTAGE DROP EXCEED NFPA 70 (N.E.C.) REQUIREMENTS.
5. REFER TO MECHANICAL PLANS FOR LOCATION OF MECHANICAL EQUIPMENT. LOCATE DISCONNECT SWITCHES PER NEC.
6. REFER TO "CONTROL SCHEMATICS" MECHANICAL DRAWINGS FOR ADDITIONAL CONTROL WIRING AND CONTROL CONNECTIONS.
7. ALL DEVICES, EQUIPMENT, FIXTURES, AND THE LIKE, SHALL BE BONDED WITH A PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR. MAINTAIN MECHANICAL/ELECTRICAL BONDS OF METALLIC RACEWAY SYSTEM.

SHEET KEYNOTES

P1	PROVIDE CONCEALED POWER CONNECTION TO DEFIBRILLATOR CABINET, COORDINATE/EXACT LOCATION WITH INSTALLER.
P2	PROVIDE CONTROL OF FAN WITH ROOM LIGHTING CONTROL.
P3	PROVIDE CONTROL OF FAN WITH PILOT LIGHT STYLE TIMER WALL SWITCH, 60 MINUTE MAXIMUM DURATION. COORDINATE SWITCH LOCATION WITH ARCHITECT (NOT SHOWN ON PLAN).
P4	PROVIDE MOTOR RATED SWITCH FOR CIRCULATING PUMP, LOCATE WITHIN SIGHT OF PUMP MOTOR. (SWITCH NOT SHOWN ON PLAN).
P5	LOCATE SERVICE RECEPTACLE WITHIN ATTIC SPACE SO THAT RECEPTACLE IS WITHIN CODE DISTANCE FROM EQUIPMENT.
P6	PROVIDE POWER CONNECTION AT EXTERIOR FACE OF PRESSBOX FOR TIMING CLOCK, COORDINATE WITH BLEACHER MANUFACTURER AND CLOCK PROVIDER.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

2 Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

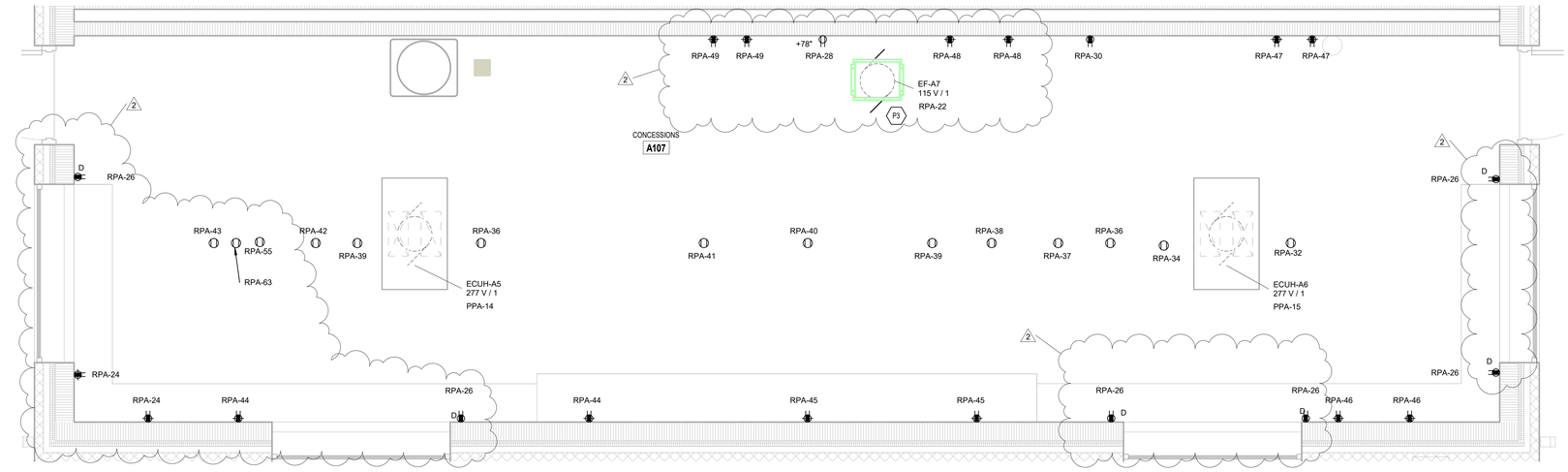
BRIAN W. BUTLER REGISTERED No. PE19900005 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: BDR
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

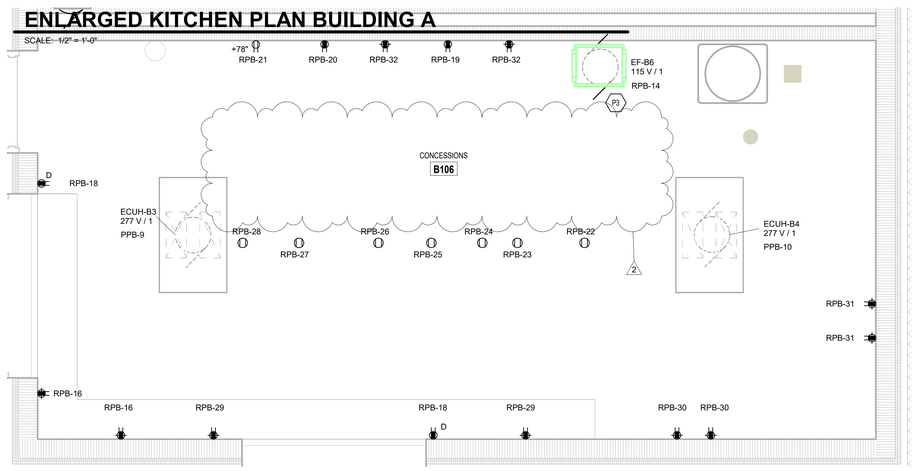
POWER AND FIRE ALARM PLAN

E-121



ENLARGED KITCHEN PLAN BUILDING A

SCALE: 1/2" = 1'-0"



ENLARGED KITCHEN POWER PLAN BUILDING B

SCALE: 1/2" = 1'-0"

POWER PLAN GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS. SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.
2. LABEL EACH RECEPTACLE WITH THE PANEL NAME AND CIRCUIT NUMBER ON THE FACE OF EACH COVER PLATE WITH A TYPED LAMINATED LABEL.
3. PROVIDE "GFCI PROTECTED" LABEL ON COVER PLATE FOR ANY GFCI PROTECTED DEVICE.
4. CONTRACTOR SHALL INCREASE CIRCUIT CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP DUE TO EXCESSIVE CIRCUIT LENGTHS. IN NO CASE SHALL VOLTAGE DROP EXCEED NFPA 70 (N.E.C.) REQUIREMENTS.
5. REFER TO MECHANICAL PLANS FOR LOCATION OF MECHANICAL EQUIPMENT. LOCATE DISCONNECT SWITCHES PER NEC.
6. REFER TO "CONTROL SCHEMATICS" MECHANICAL DRAWINGS FOR ADDITIONAL CONTROL WIRING AND CONTROL CONNECTIONS.
7. ALL DEVICES, EQUIPMENT, FIXTURES, AND THE LIKE, SHALL BE BONDED WITH A PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR. MAINTAIN MECHANICAL/ELECTRICAL BONDS OF METALLIC RACEWAY SYSTEM.

KITCHEN PLAN GENERAL NOTES

1. REFER TO FOOD SERVICE PLANS FOR FURTHER INFORMATION RELATED TO EXACT LOCATION OF DEVICES, MOUNTING HEIGHTS, DEVICE TYPES, ETC. AND PROVIDE AS SHOWN IN FOOD SERVICE DOCUMENTS FOR ALL ELECTRICAL CONNECTIONS IN THESE ROOMS.
2. PROVIDE GROUND FAULT TYPE RECEPTACLES WITHIN SPACES SHOWN ON THIS PLAN UNLESS OTHERWISE NOTED.

SHEET KEYNOTES	
P3	PROVIDE CONTROL OF FAN WITH PILOT LIGHT STYLE TIMER WALL SWITCH, 60 MINUTE MAXIMUM DURATION. COORDINATE SWITCH LOCATION WITH ARCHITECT (NOT SHOWN ON PLAN).

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 19809 STATE OF PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: BDR
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

ENLARGED KITCHEN POWER PLAN

E-401

Branch Panel: PPA

Location: STORAGE A111
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 200 A
MCB Rating: 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EUH-A1 (NOTE 1)	25 A	1	5000...	5000...					1	25 A	EUH-A2 (NOTE 1)	2
3	EUH-A3	20 A	1			3000...	3000...			1	20 A	EUH-A4	4
5	EWH-A1	20 A	1					3000...	4800...	1	25 A	EWH-A2 (NOTE 1)	6
7	EWH-A3	20 A	1	3000...	3000...					1	20 A	EWH-A4	8
9	EWH-A5	20 A	1			3000...	8000...			1	40 A	ECUH-A1 (NOTE 2)	10
11	ECUH-A2 (NOTE 2)	40 A	1					8000...	4000...	1	25 A	ECUH-A3 (NOTE 1)	12
13	ECUH-A4 (NOTE 1)	25 A	1	4000...	8000...					1	40 A	ECUH-A5 (NOTE 2)	14
15	ECUH-A6 (NOTE 2)	40 A	1			8000...	1500...			3	25 A	WATER HEATER DEL-30 (NOTE 3)	16
17	LIGHTING - WEST HALF	20 A	1					1676...	1500...	--	--	--	18
19	LIGHTING - EAST HALF	20 A	1	1225...	1500...					--	--	--	20
21	EXTERIOR LIGHTING	20 A	1			1127...	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	BASE BID ONLY - LIFT STATION (NOTE 3)	15 A	3	2660...	0 VA					1	20 A	Spare	26
27	--	--	--			2660...	0 VA			1	20 A	Spare	28
29	--	--	--					2660...	0 VA	1	20 A	Spare	30
31	Space	--	1	--	--					1	--	Space	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	33385 VA		30287 VA		25636 VA					
			Total Amps:	123 A		112 A		93 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	72800 VA	102.75%	74800 VA		
Other	12480 VA	100.00%	12480 VA	**Total Conn. Load:**	89308 VA
Lighting	4028 VA	125.00%	5035 VA	**Total Est. Demand:**	92315 VA
				Total Conn.:	107 A
				Total Est. Demand:	111 A

Notes:
NOTE 1. PROVIDE 2 #10, #10 G IN 3/4" C.
NOTE 2. PROVIDE 2 #8, #8 G IN 3/4" C.
NOTE 3. PROVIDE 3 #10, #10 G IN 3/4" C.

PANELBOARD SCHEDULE

DESIGNATION: RPA
LOCATION: ELECTRICAL A101
MOUNTING: Surface
SUPPLY FROM: T-A

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

MAINS RATING: 225 A
MAINS TYPE:
MCB RATING: 225 A
AIC RATING:

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	RM A101 RECEPTACLE		20 A	1	0.18	0.72					1	20 A		WP RECEPTACLES - UNIT A	2
3	RM A102 RECEPTACLES		20 A	1			0.72	0.18			1	20 A		RM A100 RECEPTACLE	4
5	RM A109 HAND DRYER		20 A	1					0.18	0.18	1	20 A		RM A100 RECEPTACLE	6
7	RM A105 HAND DRYER		20 A	1	0.18	0.18					1	30 A		RM. A100 SPECIAL RECEPT.	8
9	RM A105 HAND DRYER		20 A	1			0.18	0.60			1	20 A		EF-A1	10
11	RM A105 HAND DRYER		20 A	1					0.18	0.24	1	20 A		EF-A2	12
13	RM A105 HAND DRYER		20 A	1	0.18	0.24					1	20 A		EF-A3	14
15	RM A105 HAND DRYER		20 A	1			0.18	0.12			1	20 A		EF-A4	16
17	RM A105 HAND DRYER		20 A	1					0.18	0.12	1	20 A		EF-A5	18
19	RM A105 HAND DRYER		20 A	1	0.18	0.12					1	20 A		EF-A6	20
21	RM A105 HAND DRYER		20 A	1			0.18	0.60			1	20 A		EF-A7	22
23	RM A106 HAND DRYER		20 A	1					0.18	0.36	1	20 A		FS DUPLEX RECEPTS.	24
25	RM A106 HAND DRYER		20 A	1	0.18	1.08					1	20 A		POINT OF SALE SYSTEMS	26
27	RM A106 HAND DRYER		20 A	1			0.18	0.96			1	20 A		REACH-IN FREEZER	28
29	ERV-A1		15 A	2					0.83	0.18	1	20 A		HOT BEVERAGE DISPENSER	30
31	--	--	--	--	0.83	0.54					1	20 A		TWO DOOR REFRIGERATED...	32
33	ERV-A2		15 A	2			0.42	1.92			1	20 A		PASS-THRU MOBILE HEATE...	34
35	--	--	--	--					0.42	0.11	1	20 A		WORKTOP FREEZER	36
37	PRETZEL WARMER		20 A	1	0.98	1.80					1	20 A		CHEESE WARMER	38
39	CHIP WARMER		20 A	1			0.24	1.52			1	20 A		HOT DOG GRILL	40
41	POPCORN POPPER		20 A	1					0.18	0.96	1	20 A		UNDERCOUNTER HEATED...	42
43	ONE DOOR REFRIGERATED...		20 A	1	0.36	0.36					1	20 A		FS DUPLEX RECEPT. PAIR	44
45	FS DUPLEX RECEPT. PAIR		20 A	1			0.36	0.36			1	20 A		FS DUPLEX RECEPT. PAIR	46
47	FS DUPLEX RECEPT. PAIR		20 A	1					0.36	0.36	1	20 A		FS DUPLEX RECEPT. PAIR	48
49	FS DUPLEX RECEPT. PAIR		20 A	1	0.36	0.55					1	20 A		WATER CHILLER R8	50
51	HOT WATER RETURN PUMP		20 A	1			0.17	0.55			1	20 A		WATER CHILLER R8	52
53	WATER FOUNTAIN		20 A	1					0.18	0.18	1	20 A		WATER FOUNTAIN	54
55	PRETZEL WARMER		20 A	1	0.99	0.36					1	20 A		RECEPTACLE - MECHANICAL	56
57	EF-A8		20 A	1			0.60	0.00			1	20 A		RECEPTACLES - A106, A108,...	58
59	RM A108 HAND DRYER		20 A	1					0.18	0.00	1	20 A		RECEPTACLES - A103 - A105...	60
61	TENNIS SOUTH RECEPTS		20 A	1	0.90	0.90					1	20 A		TENNIS NORTH RECEPTS	62
63	MONITOR OUTLET		20 A	1			0.00	0.00			1	20 A		Spare	64
65	FIRE ALARM PANEL		20 A	1					0.50	0.00	1	20 A		Spare	66
67	Spare		20 A	1	0.00	0.00					1	20 A		Spare	68
69	Spare		20 A	1			0.00	0.00			1	20 A		Spare	70
71	Spare		20 A	1					0.00	0.00	1	20 A		Spare	72
73	Spare		20 A	1	0.00	0.00					1	20 A		Spare	74
75	Spare		20 A	1			0.00	0.00			1	20 A		Spare	76
77	Spare		20 A	1					0.00	0.00	1	20 A		Spare	78
79	Space		--	1	--	--					1	--		Space	80
81	Space		--	1			--	--			1	--		Space	82
83	Space		--	1					--	--	1	--		Space	84
				TOTAL LOAD:	12.17 kVA		10.04 kVA		6.06 kVA						
				TOTAL AMPS:	107 A		89 A		51 A						

TOTAL CONNECTED LOAD: 28.28 kVA
TOTAL CONNECTED AMPS: 107 A
NOTES: FOOD SERVICE (FS) DUPLEX RECEPTS ARE IN PAIRS IN THE CONCESSION STAND AREA. POINT OF SALE SYSTEMS ARE TITLED "D".

Branch Panel: PPB

Location: MECH/ELEC B100
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EUH-B1 (NOTE 1)	25 A	1	5000...	3000...					1	20 A	EUH-B2	2
3	EUH-B3 (NOTE 1)	25 A	1			5000...	4800...			1	25 A	EWH-B1 (NOTE 1)	4
5	EWH-B2	20 A	1					3000...	3000...	1	20 A	EWH-B3	6
7	ECUH-B1 (NOTE 1)	30 A	1	6000...	6000...					1	30 A	ECUH-B2 (NOTE 1)	8
9	ECUH-B3 (NOTE 1)	30 A	1			6000...	6000...			1	30 A	ECUH-B4 (NOTE 1)	10
11	WATER HEATER DEL-20 (NOTE 3)	25 A	3					1500...	2660...	3	15 A	LIFT STATION (NOTE 3)	12
13	--	--	--	1500...	2660...					--	--	--	14
15	--	--	--			1500...	2660...			--	--	--	16
17	LIGHTING - WEST HALF	20 A	1					785 VA	964 VA	1	20 A	LIGHTING - EAST HALF	18
19	EXTERIOR LIGHTING	20 A	1	645 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	T-B	45 A	3	3780...	0 VA					1	20 A	Spare	38
39	--	--	--			6832...	0 VA			1	20 A	Spare	40
41	--	--	--					3828...	0 VA	1	20 A	Spare	42
			Total Load:	28585 VA		32792 VA		15737 VA					
			Total Amps:	110 A		126 A		57 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	51192 VA	102.93%	52692 VA		
Other	13096 VA	100.00%	13096 VA	**Total Conn. Load:**	77114 VA
Lighting	2330 VA	125.00%	2913 VA	**Total Est. Demand:**	77097 VA
Receptacle - Convenience	10316 VA	80.00%	8253 VA	**Total Conn.:**	93 A
Receptacle - Special	180 VA	80.00%	144 VA	**Total Est. Demand:**	93 A

Notes:
NOTE 1. PROVIDE 2 #10, #10 G IN 3/4" C.
NOTE 2. PROVIDE 2 #8, #8 G IN 3/4" C.
NOTE 3. PROVIDE 3 #10, #10 G IN 3/4" C.

Branch Panel: RPB

Location: MECH/ELEC B100
Supply From: T-B
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RM. B100 RECEPTACLE	20 A	1	180 VA	720 VA					1	20 A	WP RECEPTACLES - UNIT B	2
3	RM B101 RECEPTACLES	20 A	1			720 VA	360 VA			1	20 A	RM. B107, B108 RECEPTACLE	4
5	RM. B102 RECEPTACLE	20 A	1					180 VA	180 VA	1	20 A	RM. B108 RECEPTACLE	6
7	RM. B103, B104, B105 GFCI OUTLETS	20 A	1	540 VA	180 VA					1	30 A	RM. B108 SPECIAL RECEPTACLE	8
9	EF-B1	20 A	1			240 VA	240 VA			1	20 A	EF-B2	10
11	EF-B3	20 A	1					240 VA	120 VA	1	20 A	EF-B4	12
13	EF-B5	20 A	1	120 VA	600 VA					1	20 A	EF-B6	14
15	ERV-B1	15 A	2			832 VA	360 VA			1	20 A	FOOD SERVICE DUPLEX RECEPT. PAIR	16
17	--	--	--					832 VA	360 VA	1	20 A	POINT OF SALE SYSTEMS	18
19	HOT DOG GRILL	20 A	1	180 VA	180 VA					1	20 A	HOT BEVERAGE DISPENSER	20
21	REACH-IN FREEZER	20 A	1			960 VA	120 VA			1	20 A	POPCORN POPPER	22
23	PRETZEL WARMER	20 A	1					288 VA	228 VA	1	20 A	WORKTOP FREEZER	24
25	CHIP WARMER	20 A	1	180 VA	180 VA					1	20 A	CHEESE WARMER	26
27	PASS-THRU MOBILE HEATED CABINET	20 A	1			1920...	360 VA			1	20 A	ONE DOOR REFRIGERATED MERCHANDISER	28
29	FOOD SERVICE DUPLEX RECEPT. PAIR	20 A	1					360 VA	360 VA	1	20 A	FOOD SERVICE DUPLEX RECEPT. PAIR	30
31	FOOD SERVICE DUPLEX RECEPT. PAIR	20 A	1	360 VA	360 VA					1	20 A	FOOD SERVICE DUPLEX RECEPT. PAIR	32
33	WATER CHILLER	20 A	1			552 VA	168 VA			1	20 A	HOT WATER RETURN PUMP	34
35	WATER FOUNTAIN	20 A	1					180 VA	500 VA	1	20 A	FIRE ALARM PANEL	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	3780 VA		6832 VA		3828 VA					
			Total Amps:	32 A		57 A		32 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	3392 VA	112.26%	3808 VA		
Other	552 VA	100.00%	552 VA	**Total Conn. Load:**	14440 VA
Receptacle - Convenience	10316 VA	80.00%	8253 VA	**Total Est. Demand:**	12757 VA
Receptacle - Special	180 VA	80.00%	144 VA	**Total Conn.:**	40 A
				Total Est. Demand:	35 A

Notes: FOOD SERVICE DUPLEX RECEPTACLES ARE IN PAIRS IN CONCESSION STAND. POINT OF SALE SYSTEMS ARE DENOTED BY "D".

Branch Panel: RPC

Location: STORAGE C101
Supply From: T-C
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 60 A
MCB Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
4	DUPLEX RECEPTACLE	20 A	1	180 VA	180 VA					1	20 A	OUTDOOR RECEPTACLE	5
6	TECHNOLOGY RACK	20 A	1			360 VA	480 VA			1	20 A	LIGHTING	7
8	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	9
10	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	11
12	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	13
14	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	15
16	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	17
18	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	19
20	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	21
22	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	23
24	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	25
26	Space	--	1					--	--	1	--	Space	27
28													29
30													31
32													33
34													35
36													37
38													39
40													41
42													43
44													45
			Total Load:	360 VA		840 VA		0 VA					
			Total Amps:	3 A		7 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle - Convenience	1200 VA	80.00%	960 VA		
				Total Conn. Load:	1200 VA
				Total Est. Demand:	960 VA
				Total Conn.:	3 A
				Total Est. Demand:	3 A

Notes:

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ARCHITECT

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350 East New York Street, Suite 300 Indianapolis, IN 46204

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BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 11600305 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: BDR
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

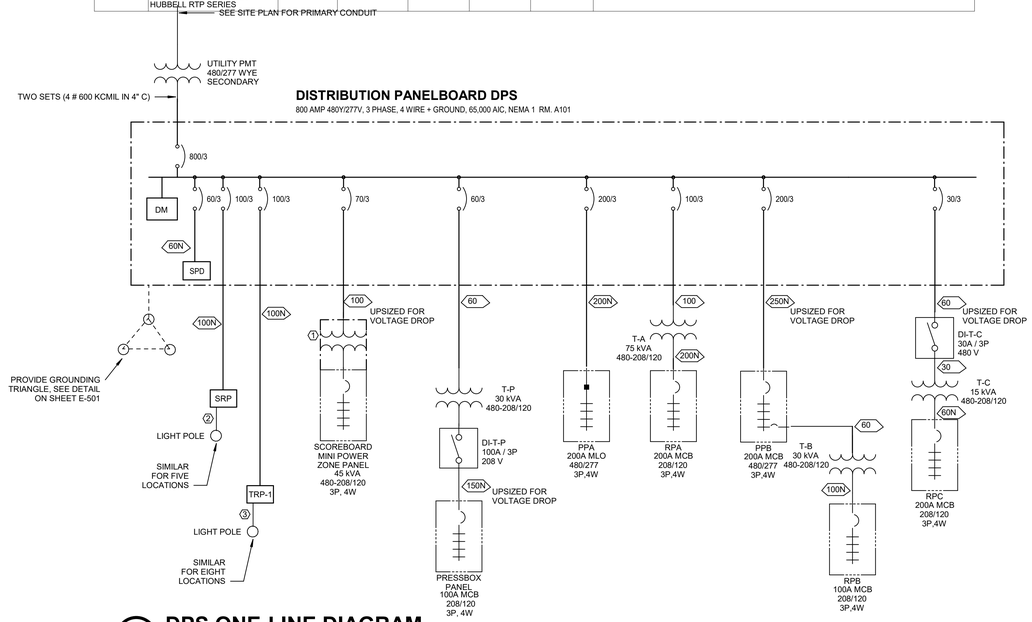
PANELBOARD SCHEDULES

E-601

LUMINAIRE SCHEDULE - GENERAL NOTES	
1.	SEE SPECIFICATIONS FOR DRIVER REQUIREMENTS. PROVIDE 120-277 MULTI-VOLT DRIVERS FOR ALL FIXTURES.
2.	FOR ALL DOWNLIGHTING FIXTURES, PROVIDE REQUIRED MOUNTING HARDWARE FOR MOUNTING IN LAY-IN TYPE CEILINGS.
3.	CONTRACTOR TO VERIFY TYPES AND QUANTITY OF LIGHT FIXTURES REQUIRING EMERGENCY TRANSFER DEVICES AND PROVIDE REQUIRED QUANTITY OF EMERGENCY BATTERY PACKS, LABOR, MATERIAL, ETC. IN THE PROJECT BID FOR FIELD INSTALLATION OF ALL EMERGENCY BATTERY PACKS AND DEVICES.
4.	LIGHT FIXTURE SUBMITTALS TO INCLUDE DATA SHEETS FOR ALL FIXTURE TYPES, INCLUDING ADDITIONAL DATA SHEETS FOR DRIVERS AND BATTERY PACKS REQUIRED TO MEET THE INSTALLATION REQUIREMENTS OF THE VARIOUS FIXTURE TYPES INDICATED IN THE REMARKS COLUMN OF THE FIXTURE SCHEDULES OR ON THE DRAWINGS.

LUMINAIRE SCHEDULE

PLAN TYPE	MANUFACTURER/CATALOG	MOUNTING	LAMPS NO.	LAMPS WATTS	LAMPS TYPE	LAMPS LUMENS	DESCRIPTION
LD41S	PORTFOLIO LDSQ SERIES LITHONIA LDN4SQ SERIES PRESCOLITE LF4SQLED SERIES	RECESSED	1	22 W	LED	2000 lm	4-INCH SQUARE APERTURE OPEN REFLECTOR LED DOWNLIGHT, MEDIUM DISTRIBUTION, WHITE INTEGRAL TRIM REFLECTOR, BAR HANGER ACCESSORY, PROVIDE SHALLOW VERSION IF REQUIRED DUE TO SOFFIT CONDITION
LN2	METALUX SNLED LENSED SERIES DAY-BRITE LF SERIES LITHONIA ZL1D SERIES COLUMBIA LCL SERIES	SURFACE	1	33 W	SOLID STATE LED	3900 lm	4-FOOT LONG BY 2" SURFACE MOUNTED LED LINEAR , 4000K CCT, WHITE FINISH
LN2X	METALUX SNLED LENSED SERIES DAY-BRITE LF SERIES LITHONIA ZL1D SERIES COLUMBIA LCL SERIES	SURFACE	1	33 W	SOLID STATE LED	3900 lm	SAME AS TYPE LN2, EXCEPT WITH EMERGENCY BATTERY PACK
LT2	LITHONIA VRP SERIES OR ENGINEER APPROVED EQUAL FROM COOPER OR CURRENT	SURFACE	1	45 W	LED	3900 lm	2 BY 4-FOOT SURFACE MOUNTED VANDAL RESISTANT FLAT PANEL HARD CEILING FLANGE KIT, 0.25" THICK FROSTED POLYCARBONATE, 4000K CCT, WHITE FINISH
LT2X	LITHONIA VRP SERIES OR ENGINEER APPROVED EQUAL FROM COOPER OR CURRENT	SURFACE	1	45 W	LED	3900 lm	SAME AS TYPE LT2, EXCEPT WITH EMERGENCY BATTERY PACK
LWB2	METALUX SWLED SERIES DAY-BRITE SF SERIES LITHONIA WL4 SERIES COLUMBIA LBIL SERIES	SURFACE WALL	1	53 W	LED	3800 lm	4-FOOT WALL BRACKET TYPE LED FIXTURE, FROSTED ACRYLIC LENS, 4000K CCT, WHITE FINISH
M-3X	LUMARK IP IMPACT WEDGE SERIES GARDCO 102 SERIES LSI CHALLENGER SERIES HUBBELL RTP SERIES	SURFACE WALL	1	26 W	LED	3000 lm	ROUND TOP WALL SCONCE. LISTED FOR WET LOCATIONS. BRONZE FINISH. WITH EMERGENCY BATTERY UNIT. MOUNT ABOVE DOOR HEIGHT OR 8'-0" ABOVE FINISHED GROUND UNLESS NOTED OTHERWISE.



1 DPS ONE-LINE DIAGRAM

SCALE: 12" = 1'-0"

MINI POWER ZONE SCHEDULE

1. PROVIDE NEMA 3R STYLE MINI POWER ZONE TYPE PANEL BY SQUARE D OR EQUAL FROM EATON OR SIEMENS.

2. PROVIDE MAIN BREAKER SIZED FOR TRANSFORMER SECONDARY.

3. PROVIDE THE FOLLOWING BRANCH BREAKERS.
   A) (12) 20A/2P
   B) (2) 30A/1P
   C) (8) 20A/1P

ONE LINE DIAGRAM NOTES (X)	
1	PROVIDE 2 #10 AND #10 G IN 3/4" CONDUIT FOR 20 AMP BREAKERS AND 2# 8 AND #8 G IN 3/4" CONDUIT FOR 30 AMP BREAKERS FOR VIDEOBOARD SYSTEM WHICH INCLUDES DISPLAY POWER, SPEAKERS, AND COMMUNICATION MODULE(S). COORDINATE ROUTING OF CONDUITS FROM PANEL TO BOARD IN A CONCEALED MANNER WHERE POSSIBLE. PROVIDE WEATHER RESISTANT INSTALLATION. COORDINATE EXACT DETAILS AND LOCATIONS WITH VIDEOBOARD VENDOR. LOAD CONNECTIONS FOR BASIS OF DESIGN ARE (10) 20A/2P, (1) 30A/1P, (2) 20A/1P.
2	PROVIDE 2 #6 AND #6 G IN 2" CONDUIT FOR EACH SPORTS POLE LIGHT AT MINIMUM FOR VOLTAGE DROP.
3	PROVIDE 2 #8 AND #8 G IN 2" CONDUIT FOR EACH TENNIS POLE LIGHT AT MINIMUM FOR VOLTAGE DROP.

COPPER FEEDER SCHEDULE

SOURCE 2014 NEC T310.15(B)(16), COPPER 75C. (THHW, THW, THWN, XHHW)

FEEDER LEGEND (X)	NO. OF SETS	CONDUCTOR SIZE PHASE QTY	NEUTRAL (1)	GROUND (1)	CONDUIT SIZE Inches
15	1	3 # 14		#14	3/4
15N	1	3 # 14	#14	#14	3/4
20	1	3 # 12		#12	3/4
20N	1	3 # 12	#12	#12	3/4
30	1	3 # 10		#10	3/4
30N	1	3 # 10	#10	#10	3/4
40	1	3 # 8		#10	3/4
40N	1	3 # 8	#8	#10	3/4
60	1	3 # 6		#10	1
60N	1	3 # 6	#6	#10	1
80	1	3 # 4		#8	1 1/4
80N	1	3 # 4	#4	#8	1 1/4
100	1	3 # 3		#8	1 1/2
100N	1	3 # 3	#3	#8	1 1/2
125	1	3 # 1		#6	2
125N	1	3 # 1	#1	#6	2
150	1	3 # 1/0		#6	2
150N	1	3 # 1/0	#1/0	#6	2
175	1	3 # 2/0		#6	2
175N	1	3 # 2/0	#2/0	#6	2
200	1	3 # 3/0		#6	2
200N	1	3 # 3/0	#3/0	#6	2
225	1	3 # 4/0		#4	2 1/2
225N	1	3 # 4/0	#4/0	#4	2 1/2
250	1	3 # 250		#4	2 1/2
250N	1	3 # 250	#250	#4	2 1/2
300	1	3 # 350		#3	3
300N	1	3 # 350	#350	#3	3
350	1	3 # 500		#3	4
350N	1	3 # 500	#500	#3	4
400	1	3 # 600		#3	4
400N	1	3 # 600	#600	#3	4
500	2	3 # 250		#2	2 1/2
500N	2	3 # 250	#250	#2	2 1/2
600	2	3 # 350		#1	3
600N	2	3 # 350	#350	#1	3
800	2	3 # 600		#1/0	4
800N	2	3 # 600	#600	#1/0	4
1000	3	3 # 400		#2/0	3
1000N	3	3 # 400	#400	#2/0	3
1200	3	3 # 600		#3/0	4
1200N	3	3 # 600	#600	#3/0	4
1600	4	3 # 600		#4/0	4
1600N	4	3 # 600	#600	#4/0	4
2000	5	3 # 600		#250	4
2000N	5	3 # 600	#600	#250	4
2500	6	3 # 600		#350	4
2500N	6	3 # 600	#600	#350	4
3000	7	3 # 600		#400	4
3000N	7	3 # 600	#600	#400	4
3300	8	3 # 600		#400	4
3300N	8	3 # 600	#600	#400	4
3700	9	3 # 600		#400	4
3700N	9	3 # 600	#600	#400	4

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ARCHITECT

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317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

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BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE10800005 STATE OF PROFESSIONAL ENGINEER

PROJECT MANAGER: DS

DRAWN BY: BDR

PROJECT NUMBER: 224177.01

PROJECT ISSUE DATE: 01.16.2026

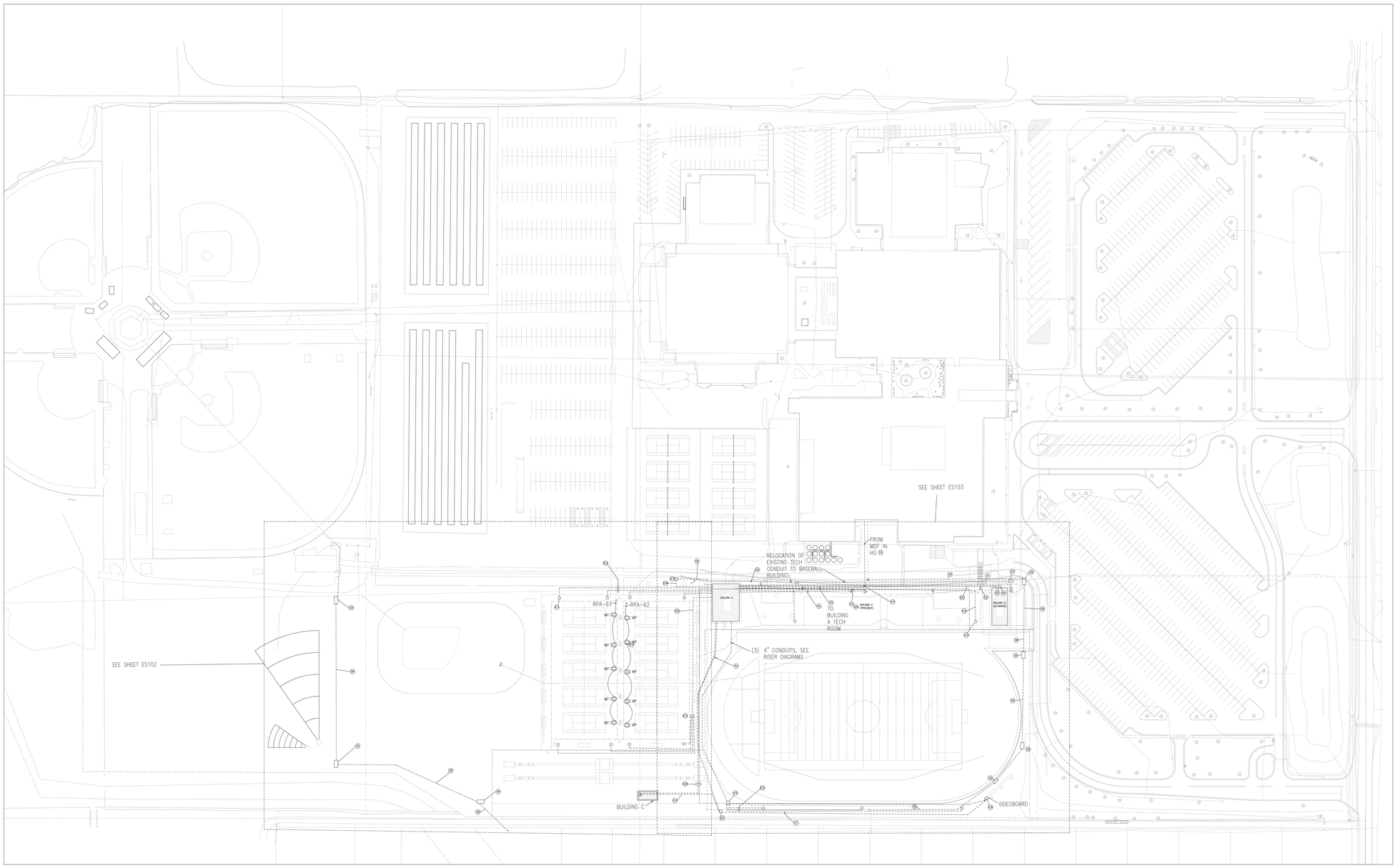
REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	02.11.2026

ONE-LINE AND LUMINAIRE SCHEDULES

E-602

OVERALL PLAN GENERAL NOTES:

1. REFERENCE OTHER SITE ELECTRICAL PLANS FOR DETAILED WORK.
2. COORDINATE ELECTRICAL WORK WITH OTHER UTILITIES AND PROVIDERS TO AVOID CONFLICTS.
3. PROVIDE PRIVATE LOCATE SERVICES AS REQUIRED WHEN WORKING AROUND EXISTING UNDERGROUND UTILITIES.
4. PROVIDE DIRECTIONAL BORING OF CONDUITS UNDER EXISTING PAVEMENTS NOT SHOWN TO BE DISTURBED.



OVERALL ELECTRICAL SITE PLAN

SCALE: 1" = 80'-0"

224177.01 MICHIGAN CITY COMMUNITY EVENTS CENTER

MICHIGAN CITY AREA SCHOOLS SCHOOL DISTRICT
408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

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KEY PLAN

100% CONSTRUCTION DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 11600025 PROFESSIONAL ENGINEER

PROJECT MANAGER: DS

DRAWN BY: RDR

PROJECT NUMBER: 224177.01

PROJECT CONSTRUCTION ISSUE DATE: 01/15/2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	2-11-26

OVERALL ELECTRICAL SITE PLAN

ES101

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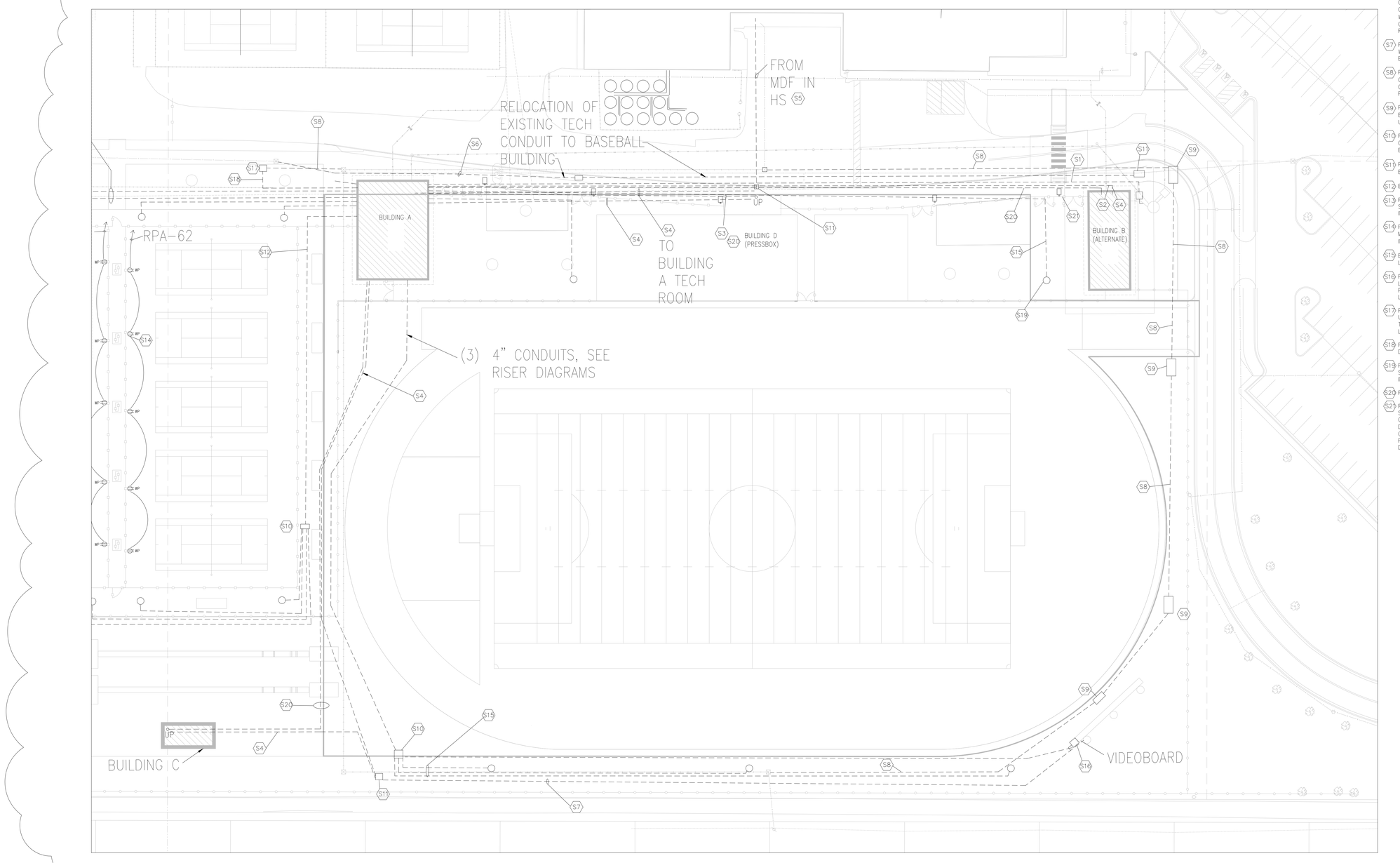

ENLARGED ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

PLAN NOTES:

S1 PROVIDE IF BUILDING B ALTERNATE NOT TAKEN.

S2 IF BUILDING B ALTERNATE NOT TAKEN, CAP EMPTY CONDUIT 10' FROM EDGE OF FUTURE BUILDING.

S3 ALIGN TRANSITION FROM BELOW GRADE SUCH THAT THE CONDUIT ABOVE GRADE IS TURNED UP AT BASE OF BLEACHER COLUMN AND CAN BE THE SUPPORT FOR CONDUIT UP TO BELOW PRESSBOX FLOOR. PROVIDE TRANSITION FROM PVC TO RMC BEFORE TURNING UP FROM BELOW GRADE. PROVIDE PULL BOXES AND MAKE OFFSETS IN CONDUITS AS NECESSARY FRO ENTRY TO BOTTOM OF PANEL WITHIN PRESSBOX BUILDING.

S4 PROVIDE ONE (1) 4" CONDUIT. PROVIDE (3) INNERDUCTS WITH PULLSTRINGS. PROVIDE ONE (1) 12 STRAND S.M. OUTDOOR FIBER OPTIC CABLE IN ONE (1) 1" INNERDUCT. SEE SPECIFICATION SECTION 27 13 23.

S5 PROVIDE ONE (1) 4" CONDUIT WITH THREE (3) INNERDUCTS WITH PULLSTRINGS INTO EXISTING MCAS HS BUILDING. IN ONE (1) 1" INNERDUCT PROVIDE ONE (1) 12 STRAND S.M. OUTDOOR FIBER OPTIC CABLE. EXTEND FIBER WITH LC CONNECTORS INTO EXISTING MCAS HS MDF. SEE SPECIFICATION SECTION 27 13 23.

S6 PROVIDE NEW 4" CONDUIT WITH THREE (3) INNERDUCTS WITH PULLSTRINGS FOR REPLACEMENT OF EXISTING TECHNOLOGY CABLING. VERIFY EXISTING CONDITIONS IN FIELD AND COORDINATE SPLICING / REPLACEMENT OF EXISTING CABLING WITH OWNER AND UTILITY PROVIDER(S) SUCH THAT SYSTEM IS COMPLETELY FUNCTIONAL UPON RELOCATION FOR SERVICES TO REMAIN.

S7 PROVIDE ONE (1) 4" CONDUIT WITH THREE (3) INNERDUCTS WITH PULLSTRINGS TO VIDEOBOARD LOCATION. FIBER CABLING BY VIDEOBOARD VENDOR.

S8 PROVIDE 5" PVC CONDUIT AT 36" DEPTH FOR UTILITY PRIMARY CONDUCTORS (PROVIDED AND INSTALLED BY UTILITY). COORDINATE CONDUIT REQUIREMENTS WITH UTILITY AND PROVIDE AS NECESSARY.

S9 PROVIDE 18" X 36" FLUSH POLYMER CONCRETE BOX WITH BOLTED LID ENGRAVED "HIGH VOLTAGE" FOR PULL POINT FOR UTILITY PRIMARY.

S10 PROVIDE MINIMUM SIZE OF 18" X 36" OR AS REQUIRED FOR CONDUITS FLUSH POLYMER CONCRETE BOX WITH BOLTED LID ENGRAVED "ELECTRIC".

S11 PROVIDE 18" X 36" FLUSH POLYMER CONCRETE BOX WITH BOLTED LID ENGRAVED "COMMUNICATIONS".

S12 BRANCH FEEDER(S) FOR TENNIS COURT LIGHTS, SEE ONE LINE.

S13 PROVIDE SPORTS LIGHTING POLE FOR TENNIS, SEE SPECIFICATION SECTION. EXACT PLACEMENT TO BE AS NOTED IN SHOP DRAWING PHASE. TYPICAL FOR EIGHT LOCATIONS.

S14 PROVIDE DUPLEX RECEPTACLE ATTACHED TO FENCE POST MOUNTED AT 18" AFG. TYPICAL FOR 10. PROVIDE 2 #8, #8 G IN 1" CONDUIT TO PANEL SERVING LOADS.

S15 BRANCH FEEDER(S) FOR SOCCER / TRACK LIGHTS, SEE ONE LINE.

S16 PROVIDE MINI POWER ZONE TYPE TRANSFORMER / PANEL LOCATED ON THE BACKSIDE OF THE SUPPORT COLUMN TO BE PARTIALLY HIDDEN FROM VIEW BY SPECTATORS. COORDINATE LOCATION WITH VIDEOBOARD VENDOR.

S17 PROVIDE PAD MEETING UTILITY COMPANY REQUIREMENTS FOR UTILITY TRANSFORMER LOCATED IN GRASS AREA NO FURTHER THAN 10' FROM EDGE OF DRIVE LANE. COORDINATE FINAL LOCATION WITH UTILITY AND ARCHITECT.

S18 PROVIDE SECONDARY CONDUCTORS AS NOTED ON ONE-LINE DIAGRAM.

S19 PROVIDE SPORTS LIGHTING POLE FOR SOCCER / TRACK, SEE SPECIFICATION SECTION. EXACT PLACEMENT TO BE AS NOTED IN SHOP DRAWING PHASE. TYPICAL FOR FIVE LOCATIONS.

S20 PROVIDE FEEDER TO BUILDING, SEE ONE-LINE DIAGRAM.

S21 REINSTALL STORED AREA LIGHT ON NEW POLE BASE. BASE SHALL BE EXPOSED RUBBED CONCRETE FOUR INCHES ABOVE GRADE. RECONNECT TO EXISTING CIRCUIT TIED BACK DURING DEMOLITION WITH 2 #8, #8 G IN 1" CONDUIT BETWEEN POLES. CONTROLLED BY EXISTING AREA LIGHTING CONTROLS. TYPICAL FOR FIVE FIXTURES SHOWN. ADJUST EXACT LOCATIONS AS DIRECTED BY ARCHITECT.

CAUTION !!

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLAN ARE BASED UPON ABOVE GROUND SURFACE EVIDENCE SUCH AS MANHOLES, VALVE BOXES, INLETS, VALVES AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY BE OTHER UTILITIES OR VARIATIONS OF THOSE SHOWN FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

LOCATIONS GIVEN ARE APPROXIMATE AND ARE TO BE SITE VERIFIED PRIOR TO THE START OF CONSTRUCTION. ALL ASPHALT PAVING NOT NOTED FOR WORK IS TO REMAIN – PROTECT DURING CONSTRUCTION TYP. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT EX. SITE CONDITIONS PRIOR TO THE START OF CONSTRUCTIONS AND BRING ISSUES WHICH EX. / PROPOSED CONDITIONS TO ARCHITECTS / ENGINEERS PRIOR TO THE START OF CONSTRUCTION TYP

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408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT

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KEY PLAN

BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 11000205 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: OS
DRAWN BY: RDR
PROJECT NUMBER: 224177.01
PROJECT CONSTRUCTION ISSUE DATE: 01/16/2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	2-11-26

ENLARGED ELECTRICAL SITE PLAN

ES102

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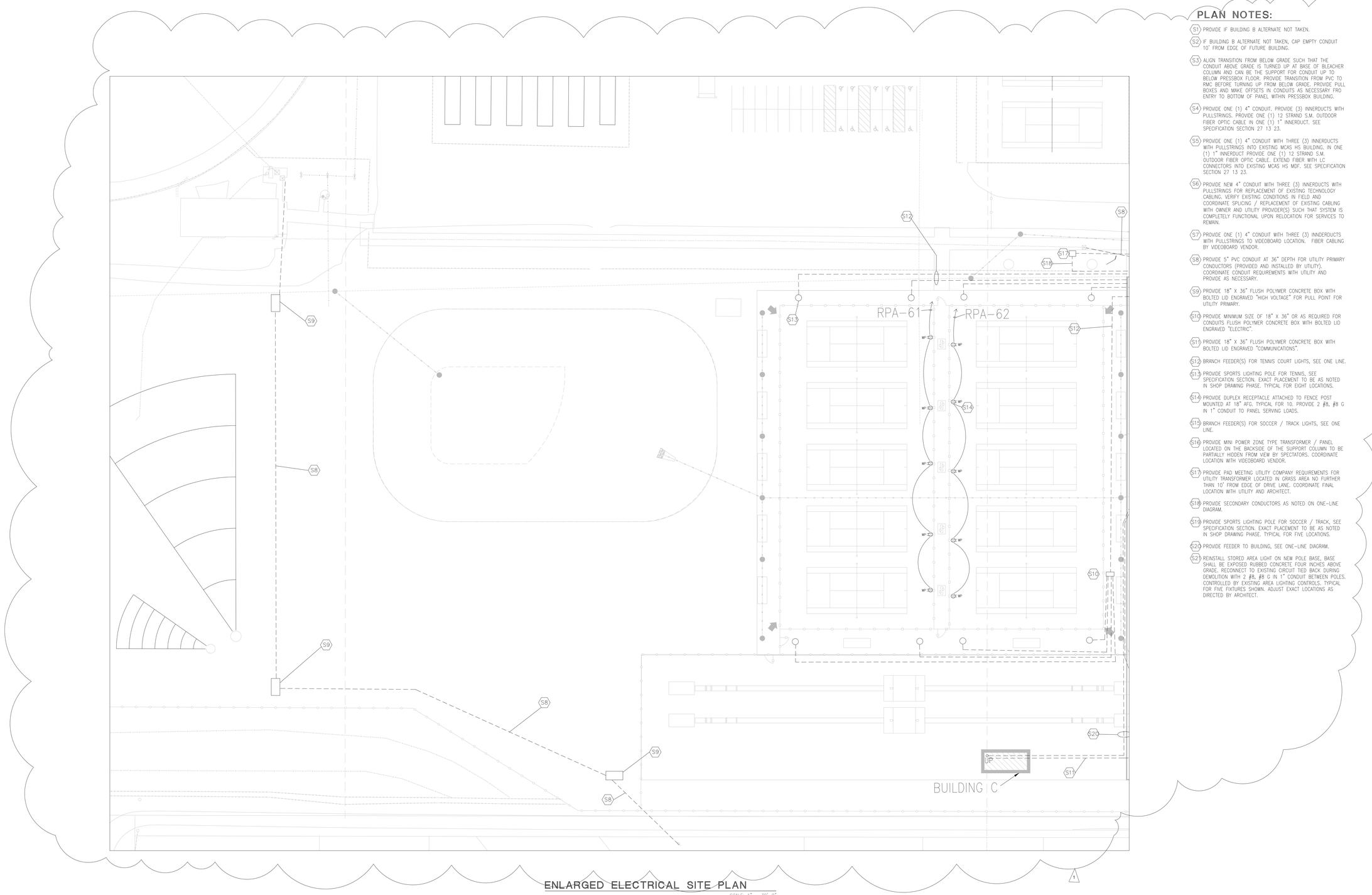

ENLARGED ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

PLAN NOTES:

S1 PROVIDE IF BUILDING B ALTERNATE NOT TAKEN.

S2 IF BUILDING B ALTERNATE NOT TAKEN, CAP EMPTY CONDUIT 10' FROM EDGE OF FUTURE BUILDING.

S3 ALIGN TRANSITION FROM BELOW GRADE SUCH THAT THE CONDUIT ABOVE GRADE IS TURNED UP AT BASE OF BLEACHER COLUMN AND CAN BE THE SUPPORT FOR CONDUIT UP TO BELOW PRESSBOX FLOOR. PROVIDE TRANSITION FROM PVC TO RMC BEFORE TURNING UP FROM BELOW GRADE. PROVIDE PULL BOXES AND MAKE OFFSETS IN CONDUITS AS NECESSARY FRO ENTRY TO BOTTOM OF PANEL WITHIN PRESSBOX BUILDING.

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S5 PROVIDE ONE (1) 4" CONDUIT WITH THREE (3) INNERDUCTS WITH PULLSTRINGS INTO EXISTING MCAS HS BUILDING. IN ONE (1) 1" INNERDUCT PROVIDE ONE (1) 12 STRAND S.M. OUTDOOR FIBER OPTIC CABLE. EXTEND FIBER WITH LC CONNECTORS INTO EXISTING MCAS HS MDF. SEE SPECIFICATION SECTION 27 13 23.

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S12 BRANCH FEEDER(S) FOR TENNIS COURT LIGHTS, SEE ONE LINE.

S13 PROVIDE SPORTS LIGHTING POLE FOR TENNIS, SEE SPECIFICATION SECTION. EXACT PLACEMENT TO BE AS NOTED IN SHOP DRAWING PHASE. TYPICAL FOR EIGHT LOCATIONS.

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S15 BRANCH FEEDER(S) FOR SOCCER / TRACK LIGHTS, SEE ONE LINE.

S16 PROVIDE MINI POWER ZONE TYPE TRANSFORMER / PANEL LOCATED ON THE BACKSIDE OF THE SUPPORT COLUMN TO BE PARTIALLY HIDDEN FROM VIEW BY SPECTATORS. COORDINATE LOCATION WITH VIDEOBOARD VENDOR.

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S19 PROVIDE SPORTS LIGHTING POLE FOR SOCCER / TRACK, SEE SPECIFICATION SECTION. EXACT PLACEMENT TO BE AS NOTED IN SHOP DRAWING PHASE. TYPICAL FOR FIVE LOCATIONS.

S20 PROVIDE FEEDER TO BUILDING, SEE ONE-LINE DIAGRAM.

S21 REINSTALL STORED AREA LIGHT ON NEW POLE BASE. BASE SHALL BE EXPOSED RUBBED CONCRETE FOUR INCHES ABOVE GRADE. RECONNECT TO EXISTING CIRCUIT TIED BACK DURING DEMOLITION WITH 2 #8, #8 G IN 1" CONDUIT BETWEEN POLES. CONTROLLED BY EXISTING AREA LIGHTING CONTROLS. TYPICAL FOR FIVE FIXTURES SHOWN. ADJUST EXACT LOCATIONS AS DIRECTED BY ARCHITECT.

811 Know what's below. Call before you dig.
Call 811 or 1-800-382-5544 Before You Begin Any Digging Project.
It's Fast, It's Easy and It's the Law It's the start of Respect

CAUTION !!

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED ON ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED AND WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

LOCATIONS GIVEN ARE APPROXIMATE AND ARE TO BE SITE VERIFIED PRIOR TO THE START OF CONSTRUCTION. ALL ASPHALT PAVING NOT NOTED FOR WORK IS TO REMAIN – PROTECT DURING CONSTRUCTION. TYP. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT EX. SITE CONDITIONS PRIOR TO THE START OF CONSTRUCTIONS AND BRING ISSUES WHICH EX. / PROPOSED CONDITIONS TO ARCHITECTS / ENGINEERS PRIOR TO THE START OF CONSTRUCTION TYP

MICHIGAN CITY COMMUNITY EVENTS CENTER

MICHIGAN CITY AREA SCHOOLS SCHOOL DISTRICT

408 South Carroll Ave, Michigan City, IN 46360
(219)-873-2000

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317-848-0966 WWW.FHAI.COM

KEY PLAN

BID DOCUMENTS

BRIAN W. BUTLER REGISTERED No. PE 11600025 STATE OF PROFESSIONAL ENGINEER

PROJECT MANAGER: DS

DRAWN BY: RDR

PROJECT NUMBER: 224177.01

PROJECT CONSTRUCTION ISSUE DATE: 01/16/2026

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM #2	2-11-26

ENLARGED ELECTRICAL SITE PLAN

ES103

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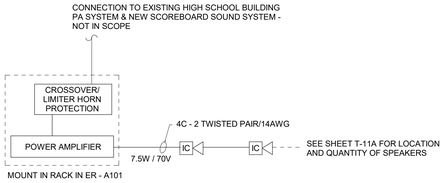

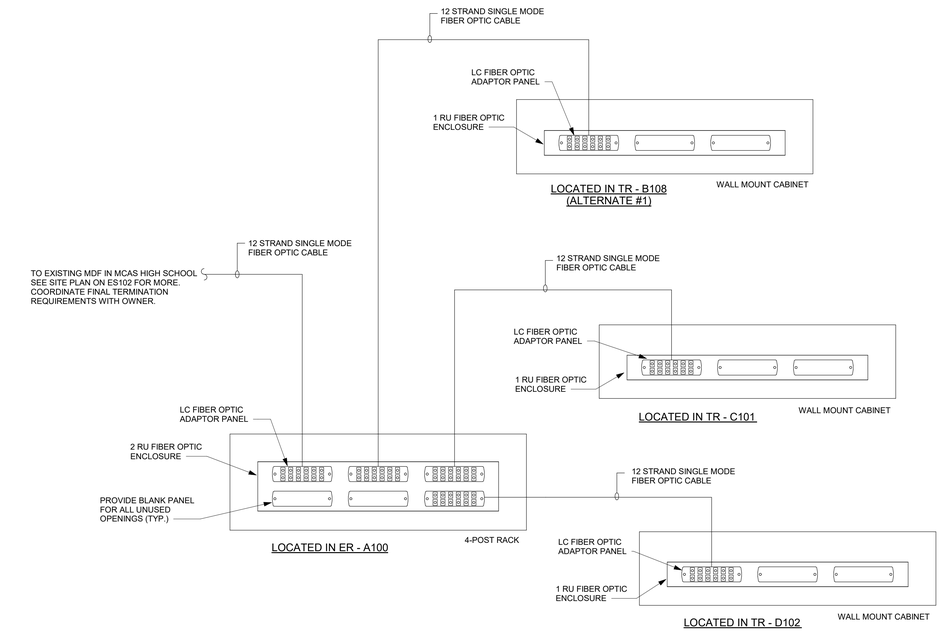

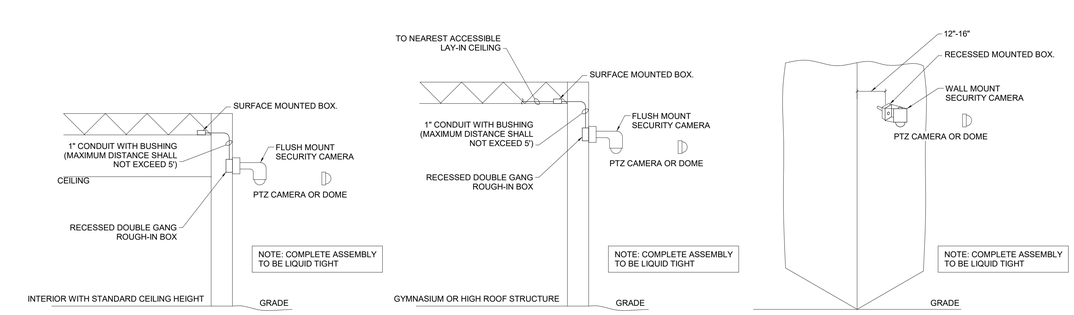

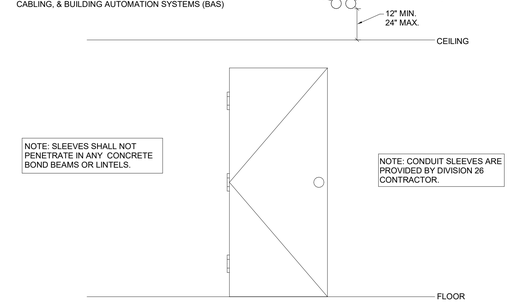

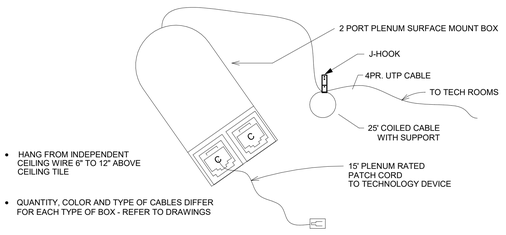

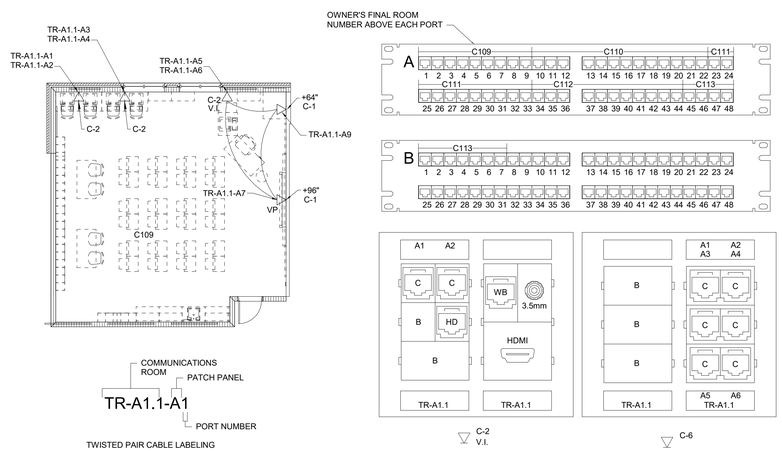

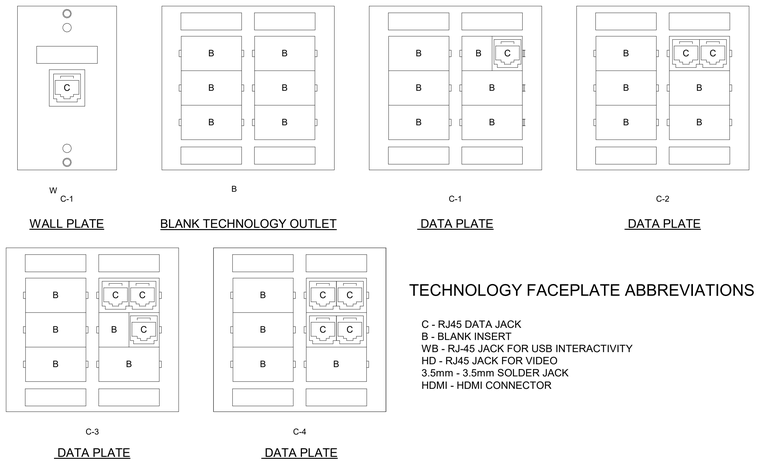

NOTES:
1. PROVIDE AND INSTALL HORN TYPE SPEAKERS IN LOCATIONS INDICATED ON DRAWING WITH ALL REQUIRED MOUNTING HARDWARE AND ACCESSORIES. CABLE TO SYSTEM PANEL IN LOCATED 4-POST RACK IN R - A101. (BASIS OF DESIGN: ATLAS APC-30T, 70.7V, 7.5 WATTS)
2. PROVIDE AND INSTALL CROSSOVER/LIMITER HORN PROTECTION WITH POWER SUPPLY, RACK MOUNT KIT HARDWARE AND ACCESSORIES REQUIRED TO INSTALL IN 4-POST RACK LOCATED IN ER - A101.
3. PROVIDE POWER AMPLIFIER COMPATIBLE WITH 70V SPEAKERS (MIN 100W). PROVIDE RACK MOUNT KIT HARDWARE AND ACCESSORIES REQUIRED TO INSTALL IN 4-POST RACK LOCATED IN ER - A101.
4. SEE SPECIFICATION SECTIONS 27 15 11 & 27 51 16 FOR MORE INFORMATION.

8 PA SPEAKER WIRING DETAIL
NOT TO SCALE

7 FIBER OPTIC BACKBONE RISER DIAGRAM
NOT TO SCALE

2

DEVICE SCHEDULE - DATA DEVICE TOTALS						
Room: Number	Family	Data Cables	Mounting Height	Appears in RCP	Tech Serving Room	Level
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		A100	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		A100	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		A100	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		A100	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-Other	2	8' - 0"	Yes	A100	FIRST FLOOR
	DATA-CO-WirelessAP-CM	1	10' - 0"	Yes	A100	FIRST FLOOR
	DATA-CO-WirelessAP-WM	1	10' - 0"		A100	FIRST FLOOR
	DATA-CO-WirelessAP-WM	1	10' - 0"		A100	FIRST FLOOR
	CUBE-iT_Wall-Mount_Cabinet				B108	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	10' - 0"		B108	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		B108	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	8' - 0"		B108	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		B108	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		B108	FIRST FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		B108	FIRST FLOOR
	DATA-CO-WirelessAP-CM	1	10' - 0"	Yes	B108	FIRST FLOOR
	DATA-CO-WirelessAP-WM	1	10' - 0"		B108	FIRST FLOOR
	CUBE-iT_Wall-Mount_Cabinet				C101	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	10' - 0"		C101	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	10' - 0"		C101	FIRST FLOOR
	DATA-CC-Surveillance_Camera-WM	1	10' - 0"		C101	FIRST FLOOR
	DATA-CO-WirelessAP-WM	1	10' - 0"		C101	FIRST FLOOR
	CUBE-iT_Wall-Mount_Cabinet				D102	SECOND FLOOR
	DATA-CC-Surveillance_Camera-WM	1	7' - 0"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	0	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	2	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	0	1' - 4"		D102	SECOND FLOOR
	DATA-CO-Device_Outlet-WM-16	0	1' - 4"		D102	SECOND FLOOR
	DATA-CO-WirelessAP-WM	1	7' - 0"		D102	SECOND FLOOR
Grand total		50				

- PROVIDE BOX WITH METAL BLANK COVER PLATE
- HANG FROM INDEPENDENT CEILING WIRE 6" TO 12" ABOVE CEILING TILE

6 ABOVE CEILING JUNCTION BOX - WIRING DETAIL
NOT TO SCALE

NOTE: COMPLETE ASSEMBLY TO BE LIQUID TIGHT

NOTE: COMPLETE ASSEMBLY TO BE LIQUID TIGHT

NOTE: COMPLETE ASSEMBLY TO BE LIQUID TIGHT

5 CAMERA ROUGH IN DETAIL
NOT TO SCALE

NOTE: SLEEVES SHALL NOT PENETRATE IN ANY CONCRETE BOND BEAMS OR LINTELS.

NOTE: CONDUIT SLEEVES ARE PROVIDED BY DIVISION 26 CONTRACTOR.

4 CONDUIT SLEEVES DETAIL
NOT TO SCALE

- HANG FROM INDEPENDENT CEILING WIRE 6" TO 12" ABOVE CEILING TILE
- QUANTITY, COLOR AND TYPE OF CABLES DIFFER FOR EACH TYPE OF BOX - REFER TO DRAWINGS

3 TYPICAL ABOVE CEILING SMB WIRING DETAIL
NOT TO SCALE

2 ROOM LABELING DETAIL
NOT TO SCALE

TECHNOLOGY FACEPLATE ABBREVIATIONS

C - RJ45 DATA JACK
B - BLANK INSERT
WB - RJ-45 JACK FOR USB INTERACTIVITY
HD - RJ45 JACK FOR VIDEO
3.5mm - 3.5mm SOLDER JACK
HDMI - HDMI CONNECTOR

1 WALL PLATE CONFIGURATIONS
NOT TO SCALE

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966
WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

BRIAN W. BUTLER
REGISTERED
No.
PE 11600305
STATE OF
INDIANA
PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: CD
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	02/11/2026

TECHNOLOGY DETAILS

T-501

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MECHANICAL CONTROLS CLARIFICATIONS:

WALL/CEILING UNIT HEATERS:
- UNITS ARE TO BE PROVIDED WITH INTEGRAL THERMOSTATS.

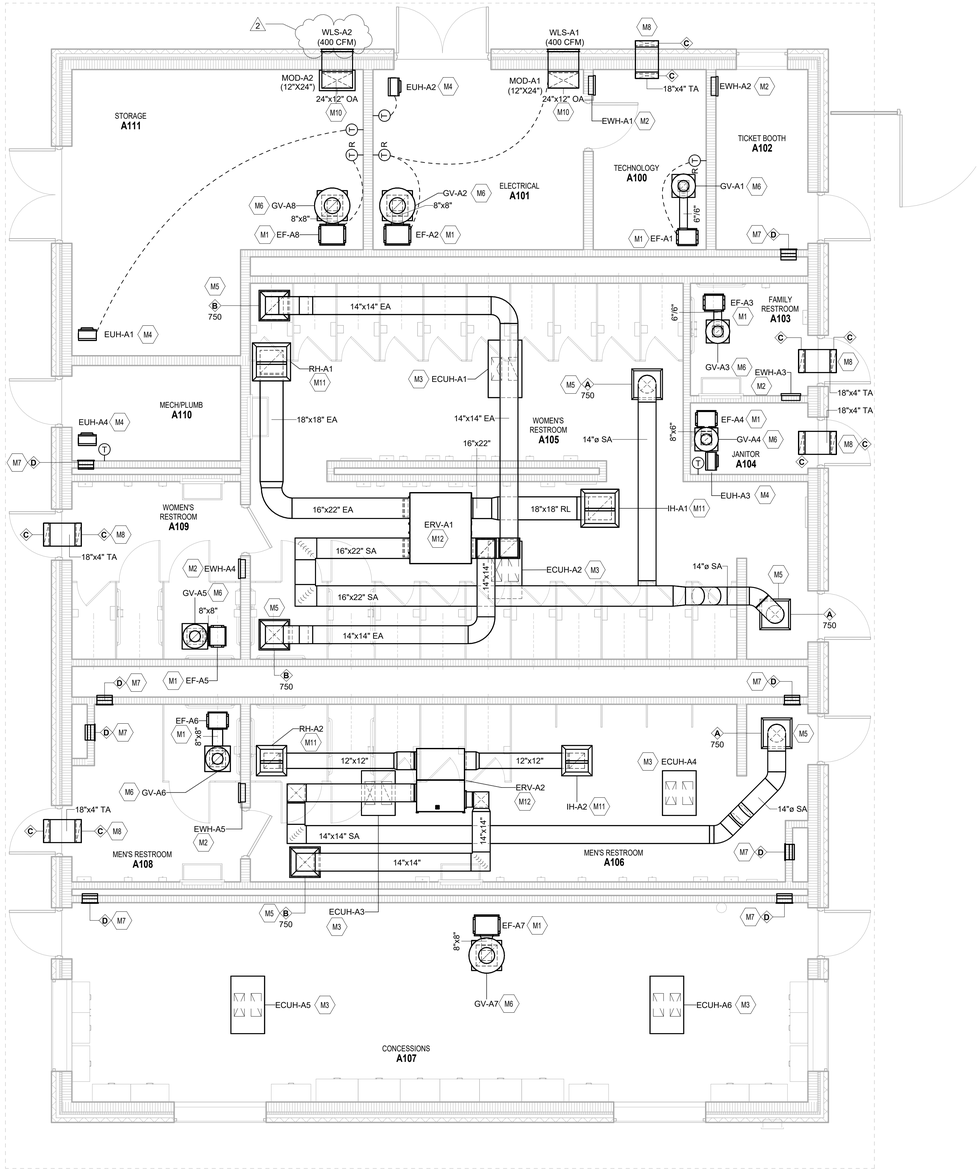
SUSPENDED UNIT HEATERS:
- MANUFACTURER TO PROVIDE THERMOSTAT AND MECHANICAL CONTRACTOR IS TO INSTALL AND WIRE THE REMOTE THERMOSTATS AT LOCATIONS SHOWN ON THE DRAWINGS.

EXHAUST FANS:
- EF-A1, EF-A8 AND EF-B3. MECHANICAL CONTRACTOR IS TO PROVIDE AND WIRE A REVERSE-ACTING THERMOSTAT AT THE LOCATION SHOWN ON THE DRAWINGS.
- EF-A2 AND EF-B1. MECHANICAL CONTRACTOR IS TO PROVIDE/INSTALL AND WIRE THE REMOTE THERMOSTAT AND MOTORIZED DAMPERS AT LOCATIONS SHOWN ON THE DRAWINGS.
- EF-A3, EF-A5, EF-A6 AND EF-B5. ELECTRICAL CONTRACTOR IS TO PROVIDE AND WIRE A ROOM LIGHT SWITCH TO CONTROL THE FAN.
- EF-A4 AND EF-B2. FANS ARE TO RUN 24 HOURS, NO ON/OFF CONTROL.
- EF-A7, EF-B4 AND EF-B6. ELECTRICAL CONTRACTOR IS TO PROVIDE A TIMER SWITCH WITH PILOT LIGHT TO CONTROL THE FANS.

AIR-TO-AIR ENERGY RECOVERY UNITS:
- MANUFACTURER TO PROVIDE A FACTORY MOUNTED CONTROLLER AND REMOTE CEILING MOTION SENSORS. MECHANICAL CONTRACTOR TO WIRE REMOTE CEILING MOTION SENSORS AND PER NOTE 12 ON THE DRAWINGS, THE MECHANICAL CONTRACTOR IS TO PROVIDE AND WIRE A REMOTE AUDIO ALARM FOR EACH UNIT IN THE JANITORS CLOSET.

ROOM LEGEND

ROOM NO.	ROOM NAME	AREA (SF)
A100	TECHNOLOGY	87 SF
A101	ELECTRICAL	161 SF
A102	TICKET BOOTH	71 SF
A103	FAMILY RESTROOM	56 SF
A104	JANITOR	36 SF
A105	WOMEN'S RESTROOM	758 SF
A106	MEN'S RESTROOM	412 SF
A107	CONCESSIONS	624 SF
A108	MEN'S RESTROOM	122 SF
A109	WOMEN'S RESTROOM	127 SF
A110	MECH/PLUMB	68 SF
A111	STORAGE	299 SF



1 FIRST FLOOR MECHANICAL PLAN - BLDG A

SCALE: 1/4" = 1'-0"

VENTILATION PLAN GENERAL NOTES

A. ALL DUCTWORK, PIPING AND VALVES SHALL BE CONCEALED ABOVE THE CEILING AND WITHIN WALLS, UNLESS OTHERWISE NOTED.
B. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS RELATED TO EQUIPMENT QUALITY, CONSTRUCTION AND FINISH OF MATERIALS.
C. ARRANGE DUCTWORK, PIPING, ETC. TO ALLOW FOR EASY ACCESS TO COILS, VALVES, DAMPERS AND CONTROLS. KEEP AREAS ADJACENT TO ACCESS PANELS FREE AND CLEAR OF ANY OBSTRUCTIONS.
D. SEAL DUCT PENETRATIONS THROUGH THE FLOOR AND/OR WALLS IN ACCORDANCE WITH MECHANICAL CODE AND SMACNA REQUIREMENTS. SEAL DUCT PENETRATIONS THROUGH FIRE RATED FLOORS AND/OR WALLS WITH A MATERIAL HAVING SAME FIRE RATING AS THE WALL AND/OR FLOOR.
E. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR HIS RESPECTIVE WORK FOR REPAIRING AND PATCHING TO MATCH EXISTING SURFACES, SIDEWALKS, STREETS, FLOORS, WALLS, ROOFS, CEILING AND PAVEMENT.
F. ALL RECTANGULAR SHEET METAL DUCT SIZES SHOWN ARE INSIDE FREE AREA DIMENSIONS. ALL ROUND DUCT SIZES SHOWN ARE INSIDE DIAMETERS.
G. PROVIDE BALANCING DAMPER AT EACH DUCT BRANCH, SERVING DIFFUSER, GRILLE AND REGISTER.
H. INSTALL WALL THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, ETC. 44" ABOVE THE FINISH FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS.
I. COORDINATE ALL REQUIRED WALL, ROOF AND FLOOR OPENINGS (BOTH DIMENSIONS AND LOCATIONS) WITH ALL OTHER TRADES.
J. COORDINATE MECHANICAL SYSTEM INSTALLATION WITH STRUCTURE, FIRE PROTECTION AND LIGHTING LAYOUT.
K. PROVIDE ALL NECESSARY TRANSITIONS TO EQUIPMENT FROM SIZES SHOWN ON PLAN.

VENTILATION PLAN NOTES

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

NO.	DESCRIPTION
M1	PROVIDE AND INSTALL CEILING EXHAUST FAN WITH ISOLATORS. EXTEND DUCTWORK TO ROOF MOUNTED GRAVITY VENTILATOR. SEE SCHEDULE FOR FAN CONTROL.
M2	PROVIDE AND INSTALL ELECTRIC WALL HEATER (EWH), SUPPORTS, INTERGRAL THERMOSTAT AND ALL RELATED ACCESSORIES. BOTTOM OF EWH SHOULD BE APPROXIMATELY 8" AFF. VERIFY EXACT HEIGHT IN FIELD.
M3	PROVIDE AND INSTALL RECESSED ELECTRIC CEILING CABINET HEATER (ECUH) WITH ISOLATORS, SUPPORTS, INTERGRAL THERMOSTAT AND ALL RELATED ACCESSORIES.
M4	PROVIDE AND INSTALL ELECTRIC SUSPENDED UNIT HEATER (EUH) WITH ISOLATORS, SUPPORTS, AND ALL RELATED ACCESSORIES. MOUNT AS HIGH AS POSSIBLE.
M5	PROVIDE CEILING DIFFUSER WITH DAMPER FOR BALANCING SYSTEM.
M6	PROVIDE AND INSTALL GRAVITY VENTILATOR ON 18" HIGH PITCHED ROOF CURB. 2
M7	PROVIDE TWO 12"L X 12" WALL TRANSFER GRILLES IN CHASE WALL. LOWER GRILLE TO BE 8" ABOVE FINISHED FLOOR AND UPPER GRILLE TO BE 4" FROM BOTTOM OF CEILING.
M8	PROVIDE 18" X 4" INSULATED TRANSFER DUCTWORK WITH TWO 18" X 4" SOFFIT/CEILING GRILLES WITH BACKDRAFT DAMPER.
M10	PROVIDE 24" X 12" TRANSFER DUCT WITH MOTORIZED DAMPER FROM LOUVER TO 12" ABOVE FINISHED FLOOR. PROVIDE BIRDSCREEN AT OUTLET. INTERLOCK DAMPER WITH EXHAUST FAN AND THERMOSTAT.
M11	PROVIDE AND INSTALL LOUVERED INTAKE/RELIEF HOOD ON 18" HIGH PITCHED ROOF CURB. EXTEND OUTDOOR/EXHAUST AIR DUCTWORK TO/FROM ENERGY RECOVERY VENTILATOR. INSULATE PER THE SPECIFICATIONS.
M12	PROVIDE AND INSTALL ENERGY RECOVERY VENTILATOR IN ATTIC SPACE WITH VIBRATION ISOLATORS. COORDINATE LOCATION WITH STRUCTURAL. PROVIDE FLEX CONNECTIONS ON INLET/OUTLETS (4 TOTAL PER UNIT). CONTRACTOR TO PROVIDE AND INSTALL A REMOTE LIGHT WITH AUDIO ALARM IN JANITORS CLOSET FOR ALL ERV ALARMS. COORDINATE WIRING REQUIREMENTS WITH UNIT MANUFACTURER. ACCESS FOR ERV-A1 AND A2 WILL BE FROM THE ATTIC SPACE ABOVE AND ACCESS TO ERV-B1 WILL BE FROM BELOW. SEE ARCHITECTURAL PLANS FOR ACCESS HATCHES, DOORS, PANELS , ETC.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

MARK Z. HOSE REGISTERED No. PE 12005001 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: LLA
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 02.11.2026

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	02/11/2026

FIRST FLOOR MECHANICAL PLAN - BLDG A

M-110

ROOM LEGEND

ROOM NO.	ROOM NAME	AREA (SF)
B100	MECH/ELEC	173 SF
B101	TICKET	71 SF
B102	JANITOR	36 SF
B103	WOMEN'S RESTROOM	385 SF
B104	MEN'S RESTROOM	224 SF
B105	FAMILY RESTROOM	59 SF
B106	CONCESSIONS	355 SF
B107	STORAGE	233 SF
B108	TECH	63 SF

2

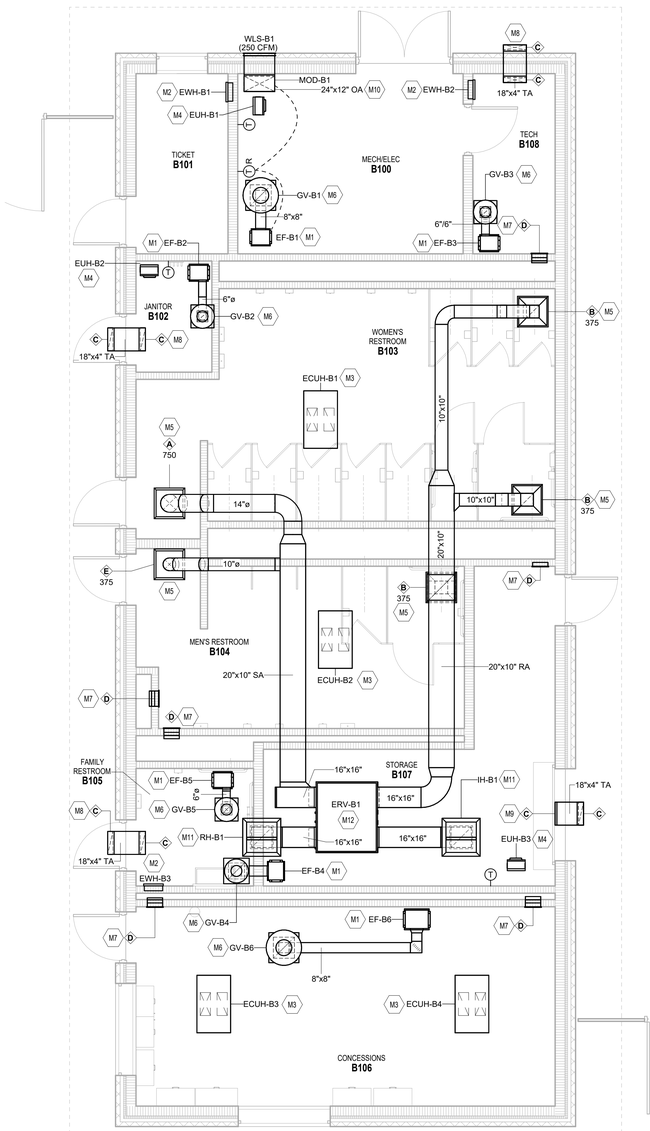
MECHANICAL CONTROLS CLARIFICATIONS:

WALL/CEILING UNIT HEATERS:
- UNITS ARE TO BE PROVIDED WITH INTEGRAL THERMOSTATS.

SUSPENDED UNIT HEATERS:
- MANUFACTURER TO PROVIDE THERMOSTAT AND MECHANICAL CONTRACTOR IS TO INSTALL AND WIRE THE REMOTE THERMOSTATS AT LOCATIONS SHOWN ON THE DRAWINGS.

EXHAUST FANS:
- EF-A1, EF-A8 AND EF-B3. MECHANICAL CONTRACTOR IS TO PROVIDE AND WIRE A REVERSE-ACTING THERMOSTAT AT THE LOCATION SHOWN ON THE DRAWINGS.
- EF-A2 AND EF-B1. MECHANICAL CONTRACTOR IS TO PROVIDE/INSTALL AND WIRE THE REMOTE THERMOSTAT AND MOTORIZED DAMPERS AT LOCATIONS SHOWN ON THE DRAWINGS.
- EF-A3, EF-A5, EF-A6 AND EF-B5. ELECTRICAL CONTRACTOR IS TO PROVIDE AND WIRE A ROOM LIGHT SWITCH TO CONTROL THE FAN.
- EF-A4 AND EF-B2. FANS ARE TO RUN 24 HOURS, NO ON/OFF CONTROL.
- EF-A7, EF-B4 AND EF-B6. ELECTRICAL CONTRACTOR IS TO PROVIDE A TIMER SWITCH WITH PILOT LIGHT TO CONTROL THE FANS.

AIR-TO-AIR ENERGY RECOVERY UNITS:
- MANUFACTURER TO PROVIDE A FACTORY MOUNTED CONTROLLER AND REMOTE CEILING MOTION SENSORS. MECHANICAL CONTRACTOR TO WIRE REMOTE CEILING MOTION SENSORS AND PER NOTE 12 ON THE DRAWINGS, THE MECHANICAL CONTRACTOR IS TO PROVIDE AND WIRE A REMOTE AUDIO ALARM FOR EACH UNIT IN THE JANITORS CLOSET.



1 FIRST FLOOR MECHANICAL PLAN - BLDG B

SCALE: 1/4" = 1'-0"

VENTILATION PLAN GENERAL NOTES

A. ALL DUCTWORK, PIPING AND VALVES SHALL BE CONCEALED ABOVE THE CEILING AND WITHIN WALLS, UNLESS OTHERWISE NOTED.
B. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS RELATED TO EQUIPMENT QUALITY, CONSTRUCTION AND FINISH OF MATERIALS.
C. ARRANGE DUCTWORK, PIPING, ETC. TO ALLOW FOR EASY ACCESS TO COILS, VALVES, DAMPERS AND CONTROLS. KEEP AREAS ADJACENT TO ACCESS PANELS FREE AND CLEAR OF ANY OBSTRUCTIONS.
D. SEAL DUCT PENETRATIONS THROUGH THE FLOOR AND/OR WALLS IN ACCORDANCE WITH MECHANICAL CODE AND SMACNA REQUIREMENTS. SEAL DUCT PENETRATIONS THROUGH FIRE RATED FLOORS AND/OR WALLS WITH A MATERIAL HAVING SAME FIRE RATING AS THE WALL AND/OR FLOOR.
E. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR HIS RESPECTIVE WORK FOR REPAIRING AND PATCHING TO MATCH EXISTING SURFACES, SIDEWALKS, STREETS, FLOORS, WALLS, ROOFS, CEILING AND PAVEMENT.
F. ALL RECTANGULAR SHEET METAL DUCT SIZES SHOWN ARE INSIDE FREE AREA DIMENSIONS. ALL ROUND DUCT SIZES SHOWN ARE INSIDE DIAMETERS.
G. PROVIDE BALANCING DAMPER AT EACH DUCT BRANCH, SERVING DIFFUSER, GRILLE AND REGISTER.
H. INSTALL WALL THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, ETC. 44" ABOVE THE FINISH FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS.
I. COORDINATE ALL REQUIRED WALL, ROOF AND FLOOR OPENINGS (BOTH DIMENSIONS AND LOCATIONS) WITH ALL OTHER TRADES.
J. COORDINATE MECHANICAL SYSTEM INSTALLATION WITH STRUCTURE, FIRE PROTECTION AND LIGHTING LAYOUT.
K. PROVIDE ALL NECESSARY TRANSITIONS TO EQUIPMENT FROM SIZES SHOWN ON PLAN.

VENTILATION PLAN NOTES

X

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

NO.	DESCRIPTION
M1	PROVIDE AND INSTALL CEILING EXHAUST FAN WITH ISOLATORS. EXTEND DUCTWORK TO ROOF MOUNTED GRAVITY VENTILATOR. SEE SCHEDULE FOR FAN CONTROL.
M2	PROVIDE AND INSTALL ELECTRIC WALL HEATER (EWH), SUPPORTS, INTERGRAL THERMOSTAT AND ALL RELATED ACCESSORIES. BOTTOM OF EWH SHOULD BE APPROXIMATELY 8" AFF. VERIFY EXACT HEIGHT IN FIELD.
M3	PROVIDE AND INSTALL RECESSED ELECTRIC CEILING CABINET HEATER (ECUH) WITH ISOLATORS, SUPPORTS, INTERGRAL THERMOSTAT AND ALL RELATED ACCESSORIES.
M4	PROVIDE AND INSTALL ELECTRIC SUSPENDED UNIT HEATER (EUH) WITH ISOLATORS, SUPPORTS, AND ALL RELATED ACCESSORIES. MOUNT AS HIGH AS POSSIBLE.
M5	PROVIDE CEILING DIFFUSER WITH DAMPER FOR BALANCING SYSTEM.
M6	PROVIDE AND INSTALL GRAVITY VENTILATOR ON 18" HIGH PITCHED ROOF CURB. 2
M7	PROVIDE TWO 12"L X 12" WALL TRANSFER GRILLES IN CHASE WALL. LOWER GRILLE TO BE 8" ABOVE FINISHED FLOOR AND UPPER GRILLE TO BE 4" FROM BOTTOM OF CEILING.
M8	PROVIDE 18" X 4" INSULATED TRANSFER DUCTWORK WITH TWO 18" X 4" SOFFIT/CEILING GRILLES WITH BACKDRAFT DAMPER.
M9	PROVIDE 18" X 4" INSULATED TRANSFER DUCTWORK WITH TWO 18" X 4" SOFFIT/WALL GRILLES WITH BACKDRAFT DAMPER.
M10	PROVIDE 24" X 12" TRANSFER DUCT WITH MOTORIZED DAMPER FROM LOUVER TO 12" ABOVE FINISHED FLOOR. PROVIDE BIRDSCREEN AT OUTLET. INTERLOCK DAMPER WITH EXHAUST FAN AND THERMOSTAT.
M11	PROVIDE AND INSTALL LOUVERED INTAKE/RELIEF HOOD ON 18" HIGH PITCHED ROOF CURB. EXTEND OUTDOOR/EXHAUST AIR DUCTWORK TO/FROM ENERGY RECOVERY VENTILATOR. INSULATE PER THE SPECIFICATIONS.
M12	PROVIDE AND INSTALL ENERGY RECOVERY VENTILATOR IN ATTIC SPACE WITH VIBRATION ISOLATORS. COORDINATE LOCATION WITH STRUCTURAL. PROVIDE FLEX CONNECTIONS ON INLET/OUTLETS (4 TOTAL PER UNIT). CONTRACTOR TO PROVIDE AND INSTALL A REMOTE LIGHT WITH AUDIO ALARM IN JANITORS CLOSET FOR ALL ERV ALARMS. COORDINATE WIRING REQUIREMENTS WITH UNIT MANUFACTURER. ACCESS FOR ERV-A1 AND A2 WILL BE FROM THE ATTIC SPACE ABOVE AND ACCESS TO ERV-B1 WILL BE FROM BELOW. SEE ARCHITECTURAL PLANS FOR ACCESS HATCHES, DOORS, PANELS , ETC.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

MARK Z. HORF REGISTERED No. PE 12005001 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: LLA
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 02.11.2026

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	02/11/2026

FIRST FLOOR MECHANICAL PLAN - BLDG B

M-111

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23.72.00 - AIR-TO-AIR ENERGY RECOVERY EQUIPMENT SCHEDULE

IDENTITY DATA				SUPPLY AIR DATA								EXHAUST AIR DATA								HEATING EFFECTIVENESS	COOLING EFFECTIVENESS		ELECTRICAL					
				AIR FLOW			SUMMER			WINTER		AIR FLOW			SUMMER			WINTER										
				CFM	CFM		EAT (°F)		LAT (°F)			CFM	CFM		EAT (°F)		LAT (°F)											
TAG	MFG	MODEL	LOCATION	IN	OUT	ESP	DB	WB	DB	WB	DB	WB	DB	WB	IN	OUT	ESP	DB	WB	DB	WB	TOTAL (%)	SENS. (%)	TOTAL (%)	V	PH	Hz	DISCONNECT	MOCP	MCA	NOTES
ERV-A1	RENEWAIRE	HE20INH	BUILDING A	1,500	1,500	0.5	90.2	74	79.6	68.5	0	-1.2	49	38.5	1,500	1,500	0.5	75	62.4	70	51.3	68.5	70	50.8	208	1	60	YES	15 A	8 A	1,2,3,4
ERV-A2	RENEWAIRE	HE10INH	BUILDING A	750	750	0.5	90.2	74	79.6	68.5	0	-1.2	48.8	38.5	750	750	0.5	75	62.4	70	51.3	68.5	70	50.8	208	1	60	YES	15 A	4 A	1,2,3,4
ERV-B1	RENEWAIRE	HE15INH	BUILDING B	1,125	1,125	0.5	90.2	74	79.6	68.5	0	-1.2	49	38.4	1,125	1,125	0.5	75	62.4	70	51.3	68.2	69.8	50.4	208	1	60	YES	15 A	8 A	1,2,3,4

NOTES

1 REFER TO SPECIFICATION SECTION 237200 FOR ADDITIONAL REQUIREMENTS.
2 PROVIDE AND INSTALL VIBRATION ISOLATORS.
3 PROVIDE EC MOTORIZED IMPELLERS, MOTORIZED ISOLATION DAMPERS AND MERV 13 FILTERS.
4 PROVIDE FACTORY MOUNTED CONTROLLER AND REMOTE CEILING MOTION SENSOR.

23.82.39 - UNIT HEATER SCHEDULE

IDENTITY DATA					FAN DATA			HEATING PERFORMANCE			ELECTIC HEAT	UNIT HEATER SCHEDULE				
												NO. OF CONTOL	ELECTRICAL DATA			
MARK	MFG	MODEL (2)	WEIGHT (LBS)	TYPE	CFM	DRIVE	CONTROL (2)	HEAT SOURCE	CAPACITY (BTUH)	EAT (°F)	kW	STEPS	VOLTS	PH	FREQ	NOTES
ECUH-A1	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	27,300	60	8	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-A2	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	27,300	60	8	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-A3	BERKO	CUH-935	120	RECESSED CEILING MOUNTED HEATER	250	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	13,700	60	4	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-A4	BERKO	CUH-935	120	RECESSED CEILING MOUNTED HEATER	250	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	13,700	60	4	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-A5	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	27,300	60	8	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-A6	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	27,300	60	8	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-B1	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	20,500	60	6	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-B2	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	20,500	60	6	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-B3	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	20,500	60	6	2 STAGE	277 V	1	60	1,2,3,4,6
ECUH-B4	BERKO	CUH-945	160	RECESSED CEILING MOUNTED HEATER	500	DIRECT	2-STAGE INTERGRAL THERMOSTAT	ELECTRIC	20,500	60	6	2 STAGE	277 V	1	60	1,2,3,4,6
EWH-A1	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5
EWH-A2	BERKO	FRC4827F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	16,380	60	4.8	1 STAGE	277 V	1	60	1,2,4,5
EWH-A3	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5
EWH-A4	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5
EWH-A5	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5
EWH-B1	BERKO	FRC4827F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	16,380	60	4.8	1 STAGE	277 V	1	60	1,2,4,5
EWH-B2	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5
EWH-B3	BERKO	FRC3027F	25	RECESSED HEAVY-DUTY WALL HEATER	100	DIRECT	INTERGRAL THERMOSTAT	ELECTRIC	10,800	60	3	1 STAGE	277 V	1	60	1,2,4,5

NOTES:

1 REFER TO SPECIFICATION 238239.
2 CUSTOM COLOR TO BE SELECTED BY ARCHITECT/ENGINEER.
3 RECESSED CEILING MOUNTED.
4 FACTORY MOUNTED DISCONNECT SWITCH.
5 VERTICAL WALL MOUNTED UNIT.
6 SUPPORT HEATER FROM STRUCTURE ABOVE WITH MINIMUM OF FOUR (4), 3/8" DIAMETER THREADED RODS AND VIBRATION ISOLATION.

23.82.39 - SUSPENDED UNIT HEATER SCHEDULE

IDENTITY DATA					FAN DATA							HEATING PERFORMANCE			ELECTIC HEAT	UNIT HEATER SCHEDULE				
																NO. OF CONTOL	ELECTRICAL DATA			
MARK	MFG	MODEL	WEIGHT (LBS)	TYPE	CFM	TYPE	DRIVE	QTY	RPM	HP	CONTROL	CAPACITY (BTUH)	EAT (°F)	LAT (°F)	kW	STEPS	VOLTS	PH	FREQ	NOTES
EUH-A1	BERKO	HUHAA527	24	HORIZONTAL UNIT HEATER	650	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	17,070	60	87.1	5	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-A2	BERKO	HUHAA527	24	HORIZONTAL UNIT HEATER	650	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	17,070	60	84.3	5	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-A3	BERKO	HUHAA327	24	HORIZONTAL UNIT HEATER	350	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	10,240	60	87.1	3	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-A4	BERKO	HUHAA327	24	HORIZONTAL UNIT HEATER	350	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	10,240	60	87.1	3	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-B1	BERKO	HUHAA527	24	HORIZONTAL UNIT HEATER	650	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	17,070	60	84.3	5	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-B2	BERKO	HUHAA327	24	HORIZONTAL UNIT HEATER	350	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	10,240	60	87.1	3	2 STAGE	277 V	1	60	1,2,3,4,5,6
EUH-B3	BERKO	HUHAA527	24	HORIZONTAL UNIT HEATER	650	PROP.	DIRECT	1	800	0.01	REMOTE 2-STAGE THERMOSTAT	17,070	60	84.3	5	2 STAGE	277 V	1	60	1,2,3,4,5,6

NOTES:

1 REFER TO SPECIFICATION 238239.
2 FACTORY MOUNTED DISCONNECT SWITCH.
3 SUPPORT HEATER FROM STRUCTURE ABOVE WITH MINIMUM OF TWO (2), 3/8" DIAMETER THREADED RODS AND VIBRATION ISOLATION.
4 UNIT FURNISHED WITH ADJUSTABLE LOUVER FIN DIFFUSERS TO PROVIDE FOUR-DIRECTION AIR FLOW CONTROL.
5 HORIZONTAL DISCHARGE UNIT.
6 PROVIDE REMOTE THERMOSTAT FOR FIELD INSTALLATION.

23.34.23 - HVAC POWER VENTILATOR SCHEDULE

IDENTITY DATA				DESCRIPTION	PERFORMANCE DATA			ELECTRICAL DATA						
MARK	MANUFACTURER	MODEL	TYPE	DRIVE	CFM	RPM	ESP (IN-WG)	VOLTS	PH	FLA (A)	DISCONNECT	CONTROLS	NOTES
EF-A1	GREENHECK	SP-B150	CEILING MOUNTED EXHAUST FAN	DIRECT	100	707	0.25	115 V	1	2	YES	E	1,2,3,4,5,6,7
EF-A2	GREENHECK	SP-A710	CEILING MOUNTED EXHAUST FAN	DIRECT	400	924	0.38	115 V	1	5	YES	A	1,2,3,4,5,6,7
EF-A3	GREENHECK	SP-B110	CEILING MOUNTED EXHAUST FAN	DIRECT	75	750	0.25	115 V	1	2	YES	B	1,2,3,4,5,6,7
EF-A4	GREENHECK	SP-A200	CEILING MOUNTED EXHAUST FAN	DIRECT	100	621	0.25	115 V	1	1	YES	C	1,2,3,4,5,6,7
EF-A5	GREENHECK	SP-A250	CEILING MOUNTED EXHAUST FAN	DIRECT	225	928	0.25	115 V	1	1	YES	B	1,2,3,4,5,6,7
EF-A6	GREENHECK	SP-A200	CEILING MOUNTED EXHAUST FAN	DIRECT	150	713	0.25	115 V	1	1	YES	B	1,2,3,4,5,6,7
EF-A7	GREENHECK	SP-A710	CEILING MOUNTED EXHAUST FAN	DIRECT	550	956	0.25	115 V	1	5	YES	D	1,2,3,4,5,6,7
EF-A8	GREENHECK	SP-A710	CEILING MOUNTED EXHAUST FAN	DIRECT	400	924	0.38	115 V	1	5	YES	E	1,2,3,4,5,6,7
EF-B1	GREENHECK	SP-A390	CEILING MOUNTED EXHAUST FAN	DIRECT	250	1083	0.38	115 V	1	2	YES	A	1,2,3,4,5,6,7
EF-B2	GREENHECK	SP-B150	CEILING MOUNTED EXHAUST FAN	DIRECT	100	707	0.25	115 V	1	2	YES	C	1,2,3,4,5,6,7
EF-B3	GREENHECK	SP-B150	CEILING MOUNTED EXHAUST FAN	DIRECT	100	707	0.25	115 V	1	2	YES	E	1,2,3,4,5,6,7
EF-B4	GREENHECK	SP-A250	CEILING MOUNTED EXHAUST FAN	DIRECT	200	858	0.25	115 V	1	1	YES	D	1,2,3,4,5,6,7
EF-B5	GREENHECK	SP-B110ES	CEILING MOUNTED EXHAUST FAN	DIRECT	75	551	0.25	115 V	1	1	YES	B	1,2,3,4,5,6,7
EF-B6	GREENHECK	SP-A710	CEILING MOUNTED EXHAUST FAN	DIRECT	400	819	0.25	115 V	1	5	YES	D	1,2,3,4,5,6,7

NOTES:

1 INCLUDE FACTORY MOUNTED DISCONNECT SWITCH.
2 INCLUDE BACKDRAFT DAMPER.
3 SUPPORT FROM STRUCTURE ABOVE WITH VIBRATION ISOLATORS.
4 REFER TO SPECIFICATION SECTION 233423 FOR ADDITIONAL REQUIREMENTS.
5 ALL FAN MODELS SPECIFIED AS MANUFACTURED BY GREENHECK.
6 INCLUDE FACTORY MOUNTED AND WIRED SPEED CONTROL.
7 HI-PRO POLYESTER FINISH FOR HOUSING, FAN WHEEL, BACK DRAFT DAMPER AND ACCESSORIES.

CONTROLS:

A AUTOMATIC OPERATION BY REVERSE-ACTING THERMOSTAT AND REMOTE MOTORIZED DAMPER.
B MANUAL CONTROLS WITH ROOM LIGHT SWITCH BY DIVISION 26.
C 24 HOUR CONTINUOUS OPERATION.
D MANUAL CONTROLS WITH TIMER SWITCH AND PILOT LIGHT BY DIVISION 26
E AUTOMATIC OPERATION BY REVERSE-ACTING THERMOSTAT.

23.37.23 - HVAC GRAVITY VENTILATOR SCHEDULE

GRAVITY VENTILATOR SCHEDULE

IDENTITY DATA					THROAT SIZE			WEIGHT	
MARK	MANUFACTURER	MODEL	LOCATION	UNIT SERVED	W	L	Ø	(LBS)	NOTES
GV-A1	COOK	PR-8	BUILDING A	EF-A1	0"	0"	8"	46	1,2,3,4
GV-A2	COOK	PR-16	BUILDING A	EF-A2	0"	0"	16"	83	1,2,3,4
GV-A3	COOK	PR-8	BUILDING A	EF-A3	0"	0"	8"	46	1,2,3,4
GV-A4	COOK	PR-8	BUILDING A	EF-A4	0"	0"	8"	46	1,2,3,4
GV-A5	COOK	PR-12	BUILDING A	EF-A5	0"	0"	12"	58	1,2,3,4
GV-A6	COOK	PR-12	BUILDING A	EF-A6	0"	0"	12"	58	1,2,3,4
GV-A7	COOK	PR-16	BUILDING A	EF-A7	0"	0"	16"	83	1,2,3,4
GV-A8	COOK	PR-16	BUILDING A	EF-A2	0"	0"	16"	83	1,2,3,4
GV-B1	COOK	PR-16	BUILDING B	EF-B1	0"	0"	16"	83	1,2,3,4
GV-B2	COOK	PR-8	BUILDING B	EF-B2	0"	0"	8"	46	1,2,3,4
GV-B3	COOK	PR-8	BUILDING B	EF-B3	0"	0"	8"	46	1,2,3,4
GV-B4	COOK	PR-12	BUILDING B	EF-B4	0"	0"	12"	58	1,2,3,4
GV-B5	COOK	PR-8	BUILDING B	EF-B5	0"	0"	8"	46	1,2,3,4
GV-B6	COOK	PR-16	BUILDING B	EF-B6	0"	0"	16"	83	1,2,3,4
IH-A1	COOK	18" X 18" X 4TRE	BUILDING A	ERV-A1	18"	18"	0"	146	1,2,3,4
IH-A2	COOK	12" X 12" X 3TRE	BUILDING A	ERV-A2	12"	12"	0"	102	1,2,3,4
IH-B1	COOK	18" X 18" X 3TRE	BUILDING B	ERV-B1	18"	18"	0"	136	1,2,3,4
RH-A1	COOK	18" X 18" X 4TRE	BUILDING A	ERV-A1	18"	18"	0"	146	1,2,3,4
RH-A2	COOK	12" X 12" X 3TRE	BUILDING A	ERV-A2	12"	12"	0"	102	1,2,3,4
RH-B1	COOK	18" X 18" X 3TRE	BUILDING B	ERV-B1	18"	18"	0"	136	1,2,3,4

NOTES:

1 REFER TO SPECIFICATION SECTION 233723.
2 HOOD SCHEDULED ARE AS MANUFACTURED BY COOK.
3 HOODS TO BE MOUNTED ON A MINIMUM 18" HIGH SLOPED ROOF CURB.
4 HOODS TO BE PROVIDED WITH A HINGED BASE KIT.

EXTERIOR LOUVER SCHEDULE

IDENTITY DATA					FACE SIZE					
MARK	DESCRIPTION	MFG	MODEL	NECK SIZE	W	L	MIN FREE AREA (SF)	FREE AREA VELO. (FPM)	STATIC PD (IN-WC)	LOUVER TYPE	NOTES
WLS-A1	OUTDOOR AIR	TITUS	ELF6375D	24"x12"	24"	12"	0.66	606 FPM	0.06	6" DRAINABLE	1,2,3,4,5
WLS-B1	OUTDOOR AIR	TITUS	ELF6375D	24"x12"	24"	12"	0.66	379 FPM	0.02	6" DRAINABLE	1,2,3,4,5
WLS-A2	OUTDOOR AIR	TITUS	ELF6375D	24"x12"	24"	12"	0.66	606 FPM	0.06	6" DRAINABLE	1,2,3,4,5

NOTES:

1 REFER TO SPECIFICATION SECTION 089119.
2 SEAL ALL AROUND WITH SILICONE.
3 REFER TO INSTALLATION DETAILS ON ARCHITECTURAL DRAWINGS.
4 CUSTOM COLOR TO BE SELECTED BY THE ARCHITECT/ENGINEER.
5 COORDINATE SIZE AND LOCATION WITH ALL TRADES AND ARCHITECTURAL ELEVATIONS.

DIFFUSERS, REGISTERS, AND GRILLES SCHEDULE

IDENTITY DATA				NECK	FACE SIZE		MAX CORE/	MAX			
MARK	MANUFACTURER	MODEL	SERVICE	SIZE	W	L	NECK VELO.	N.C.	CONSTRUCTION	FRAME/ MOUNTING	NOTES
A	TITUS	TMS-AA	SUPPLY	14"ø	24"	24"	425 FPM	25	ALUMINUM	REFER TO REFLECTED CEILING PLAN	
B	TITUS	350FS	EXHAUST/RETURN	22"x22"	24"	24"	500 FPM	25	ALUMINUM	REFER TO REFLECTED CEILING PLAN	35 DEG DEFLECTION BLADES
C	TITUS	350FS	TRANSFER	18"x4"	18"	4"	500 FPM	25	ALUMINUM	WALL/SOFFIT/CEILING	35 DEG DEFLECTION BLADES
D	TITUS	350FS	TRANSFER	12"x12"	12"	12"	500 FPM	25	ALUMINUM	WALL MOUNTED	35 DEG DEFLECTION BLADES
E	TITUS	TMS-AA	SUPPLY	10"ø	24"	24"	425 FPM	25	ALUMINUM	REFER TO REFLECTED CEILING PLAN	

MICHIGAN CITY COMMUNITY EVENT CENTER

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

MICHIGAN CITY AREA SCHOOLS

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300 Indianapolis, IN 46204

N

BID DOCUMENTS

MARK Z. HOPE REGISTERED No. PE 12005001 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT MANAGER: DS
DRAWN BY: LLA
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 02.11.2026

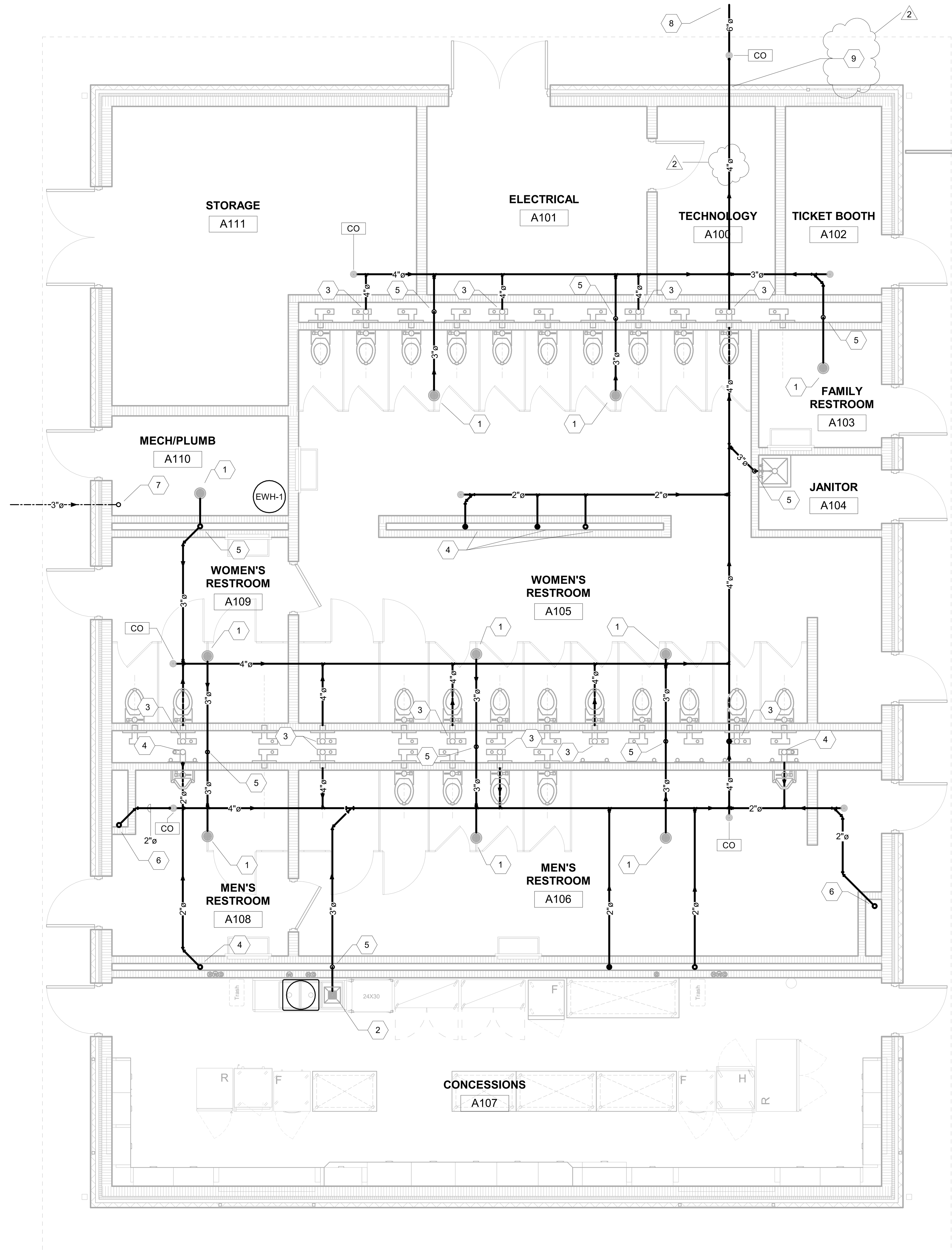
REV. NO.	DESCRIPTION	DATE
2	Addendum 2	02/11/2026

MECHANICAL SCHEDULES

M-601

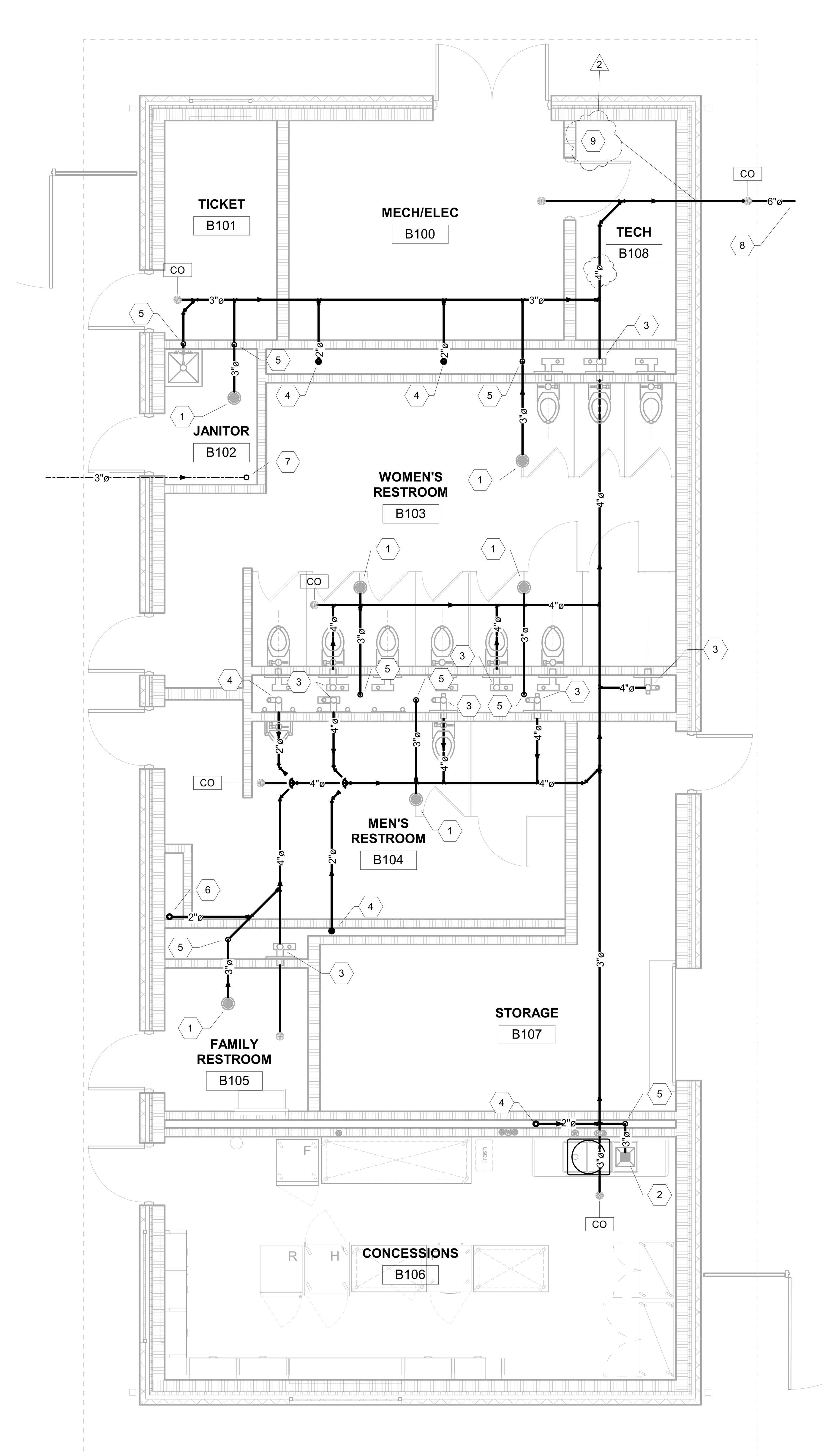
Coded Notes

1. 3" SANITARY FROM DEEP SEAL P-TRAP ABOVE.
2. 3" FLOOR SINK FROM ABOVE. COORDINATE EXACT LOCATION WITH FOOD SERVICE CONTRACTOR.
3. 4" SANITARY FROM ABOVE.
4. 2" SANITARY FROM ABOVE.
5. 3" SANITARY FROM ABOVE.
6. 1 1/2" SANITARY FROM ABOVE.
7. 3" INCOMING DOMESTIC COLD WATER SUPPLY THROUGH FLOOR. REFER TO DETAIL.
8. PROVIDE CLEANOUT, TEST-Y, AND ROUTE TO LIFT STATION. COORDINATE EXACT LOCATION AND ROUTING WITH SITE UTILITY CONTRACTOR.
9. INV ELEVATION - 4' 0" B.F.F. COORDINATE WITH ALL TRADES.



1 FOUNDATION PLUMBING PLAN - BLDG A

SCALE: 1/4" = 1'-0"



2 FOUNDATION PLUMBING PLAN - BLDG B

SCALE: 1/4" = 1'-0"

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300, Indianapolis, IN 46204

BID DOCUMENTS

MARK Z. HOPF REGISTERED No. PE 12000501 STATE OF INDIANA PROFESSIONAL ENGINEER

DRAWN BY: RS
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
1	Addendum 1	02/04/2026
2	Addendum 2	02/11/2026

FOUNDATION PLUMBING PLAN

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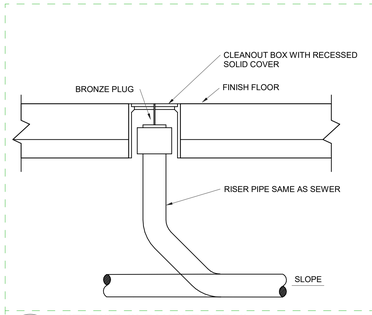
PLUMBING FIXTURE SCHEDULE

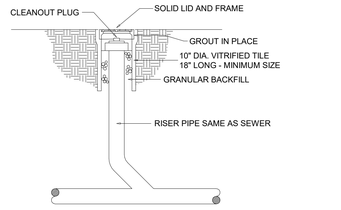
MARK	FIXTURE ITEM	FIXTURE MFGR	FIXTURE MODEL	FIXTURE MATERIAL	FIXTURE TYPE	FIXTURE COLOR	TRIM ITEM	TRIM MFGR	TRIM MODEL	ACCESSORIES ITEM	ACCESSORIES MFGR	ACCESSORIES MODEL	CONNECTIONS CW	CONNECTIONS HW	CONNECTIONS W	CONNECTIONS V	COMMENTS
DF	DRINKING FOUNTAIN	ELKAY	EZLSSN-EDFP BMV117K	STAINLESS	WALL MTD.	-	CHILLER	OASIS	R8	FILTER	ELKAY	EWF3000	1/2"		2"	1 1/2"	
FSSK	MOP SERVICE BASIN	E.L. MUSTEE AND SONS	63M	FIBERGLASS	FLOOR MTD.	WHITE	FAUCET	CHICAGO FAUCETS	897CP	HOSE	E.L. MUSTEE AND SONS	65.700	3/4"	3/4"	3"	1 1/2"	PROVIDE CHECK VALVES ON HOT AND COLD WATER SUPPLY LINES.
HB	HOSE BIBB	ZURN	Z1300	ROUGH BRONZE	AS NOTED	-	-	-	-	-	-	-	3/4"				
LA	LAVATORY	AMERICAN STANDARD	0356.41	VIT. CHINA	WALL MTD.	WHITE	FAUCET	SLOAN	EBF-650	TMV	POWERS	LFG480	1/2"	1/2"	1 1/4"	1 1/4"	INSTALL ZURN SERIES Z1200 LAVATORY CARRIER. COORDINATE HANDICAPPED FIXTURES WITH ARCHITECTURAL PLANS.
UR	URINAL	AMERICAN STANDARD	6590.0001	VIT. CHINA	WALL MTD.	WHITE	FLUSH VALVE	ZURN	ZER6003AV-TM	-	-	-	3/4"		2"	1 1/2"	INSTALL ZURN SERIES Z1200 URINAL CARRIER. COORDINATE HANDICAPPED FIXTURES WITH ARCHITECTURAL PLANS.
WC	WATER CLOSET	AMERICAN STANDARD	2257.101	VIT. CHINA	WALL MTD.	WHITE	FLUSH VALVE	ZURN	ZER6000AV-TM	SEAT	BEMIS	1655SSCT	1 1/2"		4"	2"	INSTALL ZURN SERIES Z1200 WATER CLOSET CARRIER. COORDINATE HANDICAPPED FIXTURES WITH ARCHITECTURAL PLANS.
WH	WALL HYDRANT	ZURN	Z1300	ROUGH BRONZE	AS NOTED	-	-	-	-	-	-	-	3/4"				

PLUMBING EQUIPMENT SCHEDULE

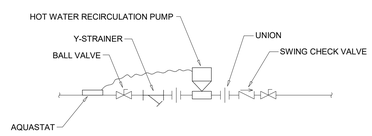
MARK	DESCRIPTION	LOCATION	MANUFACTURER/MODEL NUMBER	CAPACITY	REMARKS	ELECTRICAL DATA HP	KW	V	AMP	PH	COMMENTS
BFP	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER	A110, B102	WATTS MODEL LF909 WITH TWO INDEPENDENT SPRING LOADED POPPET TYPE CHECK VALVE (3")	170 GPM @ 12 PSI DROP MAX.	PIPE DISCHARGE FULL SIZE TO FLOOR DRAIN	-	-	-	-	-	
EWH-1	ELECTRIC TANK TYPE WATER HEATER	A110	A.O. SMITH DEL-30	30 GAL NOMINAL CAPACITY. 18 GPH RECOVERY RATE			4.5	480		3	
EWH-2	ELECTRIC TANK TYPE WATER HEATER	B102	A.O. SMITH DEL-20	20 GAL NOMINAL CAPACITY. 18 GPH RECOVERY RATE			4.5	480		3	
EXT	DOMESTIC HOT WATER EXPANSION TANK	A110, B102	AMTROL MODEL ST-5C-DD	0.9 GAL. MAX ACCEPT VOLUME 2 GAL. TOTAL VOLUME	A.S.M.E. RATED - SECTION VIII	-	-	-	-	-	
GT	GREASE INTERCEPTOR	A107, B106	SCHIER GB1	CAPACITIES - LIQUID: 10 GAL. GREASE: 70 LBS. (9.6 GAL.) @20 GPM GREASE: 64.9 LBS. (8.9 GAL.) @25 GPM GREASE (95%): 15.85 LBS (2.2 GAL.) @20 GPM 99.1% SOLIDS: 1.3 GAL.	PIPE DISCHARGE FULL SIZE TO FLOOR SINK WITH AIR GAP						
HWRP	HOT WATER RETURN PUMP	A105, B102	BELL AND GOSSETT MODEL NO. PL-30 (1BL013LF)	1 GPM @ 24 T.D.H.	ALL BRONZE CONSTRUCTION	1/12	-	115	-	-	PIPE MOUNTED AQUASTAT.



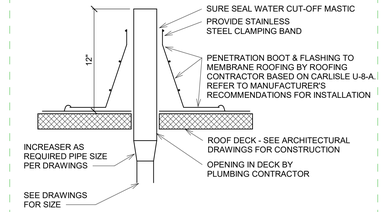
1 **INTERIOR CLEANOUT DETAIL**
SCALE: 12" = 1'-0"



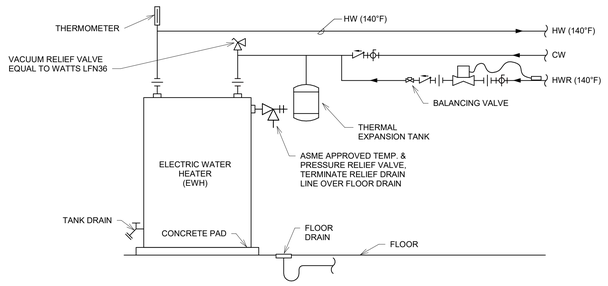
2 **EXTERIOR CLEANOUT DETAIL**
NOT TO SCALE



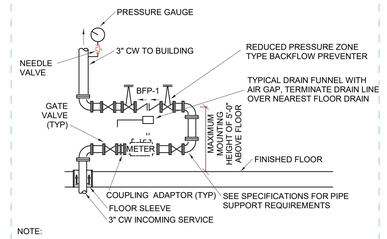
3 **HWR PUMP PIPING DIAGRAM**
NOT TO SCALE



4 **VENT THRU ROOF DETAIL**
NOT TO SCALE



5 **WATER HEATER PIPING DETAIL**
NOT TO SCALE



NOTE:
1. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH UTILITY COMPANY'S REQUIREMENTS. WATER METER FURNISHED BY LOCAL UTILITY, CONTRACTOR INSTALLED.

6 **SINGLE WATER METER PIPING DETAIL**
NOT TO SCALE

Michigan City Community Event Center

8466 W PAHS RD.
MICHIGAN CITY, IN 46360

Michigan City Area Schools

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 East New York Street, Suite 300, Indianapolis, IN 46204

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BID DOCUMENTS

MARK Z. HOSE REGISTERED No. PE 12006101 STATE OF INDIANA PROFESSIONAL ENGINEER

DRAWN BY: RS
PROJECT NUMBER: 224177.01
PROJECT ISSUE DATE: 01.16.2026

REV. NO.	DESCRIPTION	DATE
1	Addendum 1	02/04/2026
2	Addendum 2	02/11/2026

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PLUMBING DETAILS AND SCHEDULES

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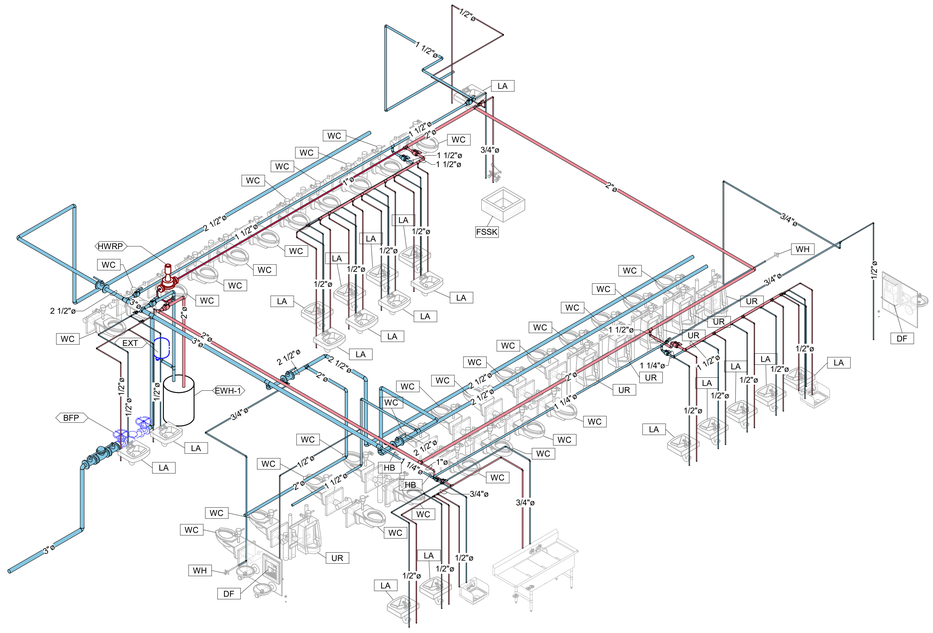

1 DOMESTIC WATER ISOMETRIC BLDG A
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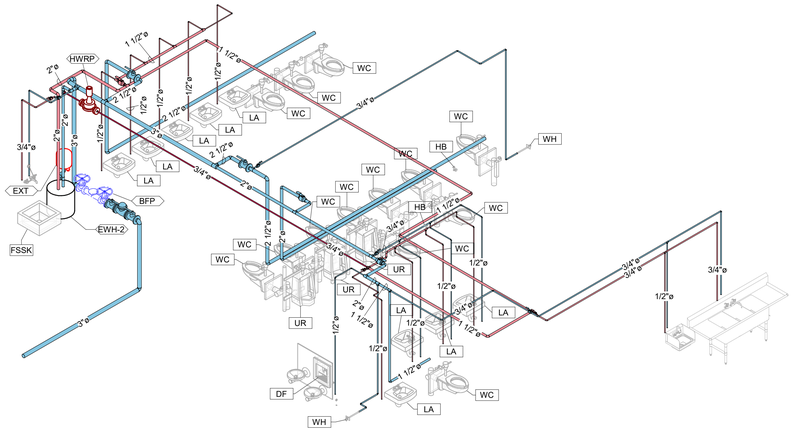

2 DOMESTIC WATER ISOMETRIC BLDG B
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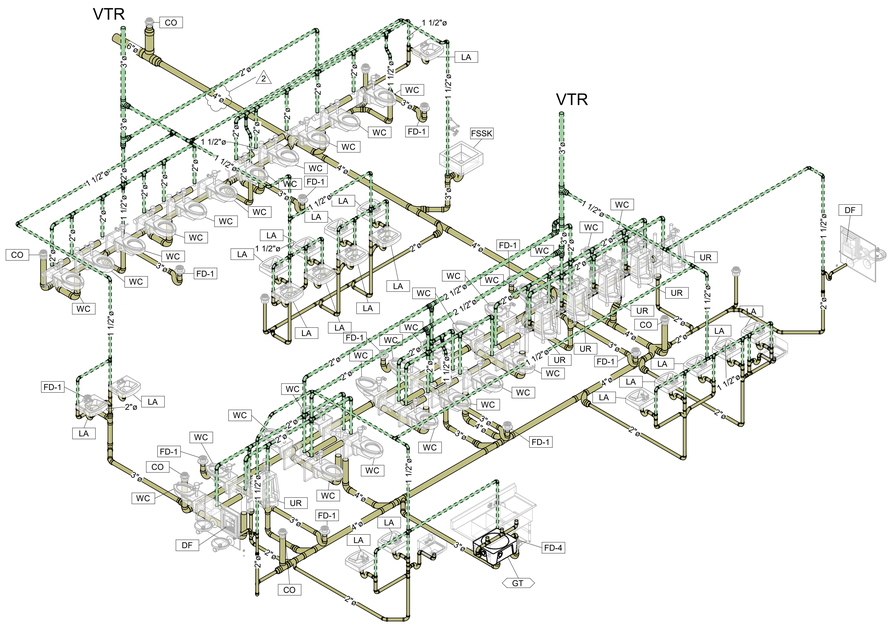

3 WASTE AND VENT ISOMETRIC BLDG A
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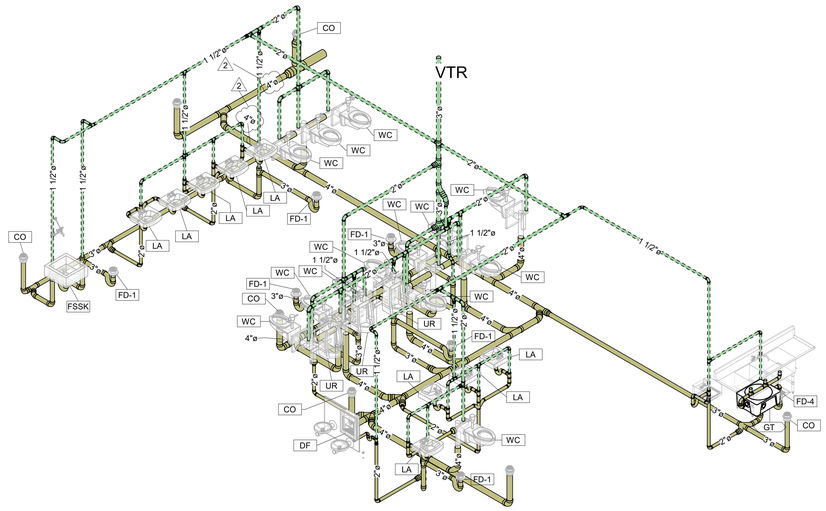

4 WASTE AND VENT ISOMETRIC BLDG B
SCALE:

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PLUMBING ISOMETRICS

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