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SPECIFICATIONS FOR LABOR AND MATERIALS

FOR

2023 SAFEROOM ADDITION FOR MACARTHUR EARLY CHILDHOOD CENTER

FOR

MACOMB CUSD #185
323 W. WASHINGTON STREET
MACOMB, IL 61455

PROJECT NUMBER:2592 0221

ISSUE DATE: Thursday, June 1, 2023

PRE-BID: Wednesday, June 14, 2023 – 1:00 p.m.
MacArthur Early Childhood Center

BID DATE: Friday, June 30, 2023 – 2:00 p.m.
Macomb CUSD #185, District Office
323 W. Washington Street
Macomb, IL 61455

PROJECT: 2023 Saferoom Addition MacArthur Early Childhood Center

FOR: Macomb CUSD #185
323 W. Washington Street
Macomb, IL 61455

SUPERINTENDENT OF SCHOOLS: Dr. Mark Twomey

ARCHITECT: Middleton Associates Incorporated
1702 W. College Avenue, Suite E
Normal, IL 61761-3028
309/452-1271 FAX 309/454-8049
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A/E PROJECT NO: 2592 0221

ISSUE DATE: June 1, 2023

Drawings index

DOCUMENT LIABILITY

END 00 0110

Sealed proposals will be received by: Macomb CUSD #185

For Project: 2023 Safe Room Addition to MacArthur Early Childhood Center, Macomb Illinois. School

Proposals to be submitted prior to **2:00 p.m.,** prevailing time, Wednesday, June 21, 2023.

Submit to: Macomb CUSD #185
323 W. Washington Street
Macomb, IL 61455

Pre-Bid Meeting: Wednesday, May 31, 2023 – 3:15 p.m. MacArthur Early Childhood Center School
(Check in at the Office.)

Proposals shall be delivered to the Macomb CUSD #185 District Office prior to the time of opening. Proposals shall be clearly identified on the outside of the envelope as "Sealed Proposal" for MacArthur Early Childhood Center. Immediately following the stated time, proposals will be opened and publicly read.

Terms of the proposal:
- Bid Security is required, 5% Bid Bond payable to Macomb CUSD #185.
- Owner protective bonds will be required in the amount of 100% of the Contract value.
- Illinois Prevailing Wage Act P.A. 86-799 and Illinois Certified payroll reporting P.A. 094-0515 apply to this contract.
- Revised Statutes of the Illinois Criminal Code, School code apply,
- No faxed proposals or proposal modifications can be considered.

The Board of Education has the right to reject or accept any or all parts of all bids submitted and to waive any or all irregularities in the bidding and to accept the lowest responsible bid in compliance with the past experience requirements listed in the bid documents.

Plans and specifications prepared by the Architect, Middleton Associates Incorporated, 1702 W. College Avenue, Suite E, Normal, Illinois 61761-2793, Phone 309/452-1271, FAX 309/454-8049. Plans and specifications may be reviewed without deposit at the office of the Architect or Macomb CUSD #185 District Office.

Bid Documents are available on line at *www.middletonassociates.net* paper copies may be purchased by arrangement not less than 10 days before bidding upon request.

END 00 1116

1. GENERAL

1.1. QUALIFICATION

A. Competency and responsibility of the Bidder, and of their proposed subcontractors, may be considered in making awards. Determination of responsibility prior to award may include:

1. A detailed statement regarding the business, technical organization, crew availability and evidence of capability for the work that is contemplated.
2. Evidence of successful experience of personnel and previously completed construction projects

    a. Contractor and personnel, five years or more commercial construction experience, including recent projects of similar or greater value, similarity of types of work, technical content, and complexity
    b. Evidence that recent projects as described above have been scheduled and delivered on time, aggressively pursued to conclusion without delay.
    c. Experience does not include frivolous claims for additional costs, or work requiring abnormal or extensive corrections.
    d. Evidence that equipment was properly installed and started and functioned without abnormal warranty calls for installation related problems.
    e. Evidence that the contractor coordinated with the Owner, scheduled work in a progressive manner to allow Owner reasonable access to get facilities ready for occupancy in a timely manner.
    f. Evidence that phased projects have been completed without loss of services between phases.

3. Information pertaining to the financial resources of the contractor to pursue the work may be considered prior to making the award:

    a. Evidence of financial resources to cover retainage, meet payrolls, contract for and acquire or pre-pay materials. Resources and Contractor net worth available to this project less than 35% of the contract award may be grounds to disqualify the bid.
    b. Evidence of unpaid bills, unresolved liens, outstanding claims by the Department of labor for wage, benefits or workman compensation violations or failure to provide accurate payroll information.

2. EXAMINATION OF DOCUMENTS, SITE AND WORK INCLUDED

A. LOCATION OF THE PROJECT: MacArthur Early Childhood Center235 W Grant Street, Macomb IL 61455.

B. PRE-BID MEETINGS

1. **Pre-Bid Meeting is scheduled for 3:15 p.m. Wednesday, May 31, 2023, MacArthur Early Childhood Center, 235 W Grant Street, Macomb IL. (check in at front door).**
2. Building may be available for inspection after 3 p.m. weekdays. Coordinate prior to day of visit if staff is available to open the building.

   a. Call ahead to schedule. Scott Schauble (309) 833-1479
   b. 48 hours notice and subject to schedule availability
   c. Not less than 5 days prior to bidding.

C. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

1. Bidder shall carefully examine bidding documents and inspect the site to obtain first-hand knowledge of existing conditions.
2. Access may not be available on short notice.
3. Do not ask for directions or interpretations of the work during these visits unless in combination with a pre-bid meeting, you may discuss the work but if any clarifications or questions become evident these must be handled through the A/E and no change to the project requirements will result from verbal clarifications of the work during a visit.
4. Each Bidder, by submitting his bid, represents that he has examined the bidding documents, inspected the site and premises, compared task requirements and time constraints to installation conditions and that he understands the obligations of the bidding documents. By providing a proposal he is certifying that he has familiarized himself with the local conditions under which the work is to be performed. Bidders will not be given extra payment or contract time for conditions that could have been determined by on site examination.

D. INTERPRETATION OF DOCUMENTS

1. Anyone having a doubt concerning the meaning of the Contract Documents, or any other questions, may submit a request for interpretation from the Architect/Engineer. All pre-bid interpretation shall be requested not later than FIVE (5) DAYS prior to the bid due date. Response, other than minor clarification, will be in the form of Addenda and will be mailed to each Bidder.
2. It shall be the Architect/Engineer's responsibility to clarify conflicts in requirements as may be reported to the Architect/Engineer. After bid due date, the Architect/Engineer shall determine the course to be followed for said clarification with no cost change to the Owner.

E. ADDENDA

1. Addenda may be issued before the bid opening date to clarify or modify the Contract Documents. Addenda are posted at www.middletonassociates.net

2. Addenda will be issued electronically. Email address is required to receive addenda.
3. If you have not registered your interest in the bid with the Architect, and do not receive or seek out the addendums then failure to recognize any Addendum may disqualify the bid.

4. Said addenda shall become a part of the Contract documents and supersede any conflicting specifications and/or clarify intent of same.

F. INTENT, ERRORS AND OMISSIONS

1. Any known conflict between requirements of various portions of the Contract Documents shall be reported to the Architect/Engineer prior bid due date and shall fall under the authority of Interpretation of Documents.
2. The Drawings are descriptive and directive in concept and are not intended to exhaust all detail situations required to complete the work. The procedures detailed shall establish the general character of solutions needed for typical, non-typical, and peculiar situations at the job site.
3. It is the intent of the documents that specified work and equipment be installed in a proper and finished manner, fully operational, at a minimum of generally accepted standards for good quality commercial construction. All necessary materials, labor, controls, accessories, brackets, fasteners, sealants, etc., to properly install and complete the work shall be provided unless specifically noted otherwise.
4. Each Contractor and Subcontractor shall coordinate and cooperate with the other Contractors to provide proper installation. Verify dimensions, services, installation conditions, obstacles to the work and modifications necessary to complete the work and coordinate the fit, finish and scheduling of the work.

G. DOCUMENT INTENT, PROJECT COMPLETION, FITTING AND FINISHING FULLY FUNCITONAL, USER READY

1. It is the intent that all items of work included in the project are to be completely finished and all necessary associated components and accessories for proper completion and operation are to be included in the work.
2. Drawings are schematic in nature; every single element needed is not necessarily labeled, dimensioned or positioned. Unless specifically exempted, the Contractor shall provide as follows:
3. Good quality fit, finish and workmanship at a level of competency and quality equal to or exceeding commercial construction in the area.

    a. Sealants, caulks, flashings, transitions, closures and components to assure infiltration and weather tight result and finished appearance inside and out.
    b. Sealants, flashings, closures at building connections.
    c. Upper and lower flashings, in new construction and

whenever possible, to shed water outward.

4. All components and assemblies to assure proper installation and performance of manufactured equipment, per manufacturer's or industry association standards as a minimum.

    a. Mechanical equipment, plumbing, piping, ventilation, valves back checks, connections etc.

        1) Functional
        2) Operating under control
        3) Code compliant
        4) Commensurate with nominal building controls and operation
        5) Unless specifically noted to be different

    b. Mechanical and electrical coordination, coordination of installation locations, hidden where possible, routed through the construction in the most expedient but concealed manner,

        1) Minor relocation of piping, equipment, installations shall be provided without cost change within 10' either way or reasonable pathways of similar distance.

    c. All other equipment, kitchen, doors, hardware, windows and any other operable equipment
    d. Service access, filters, repairs always allow for reasonable repair and maintenance access.

5. Proper protection of dissimilar materials or components for bond problems, galvanic action, movement, moisture, and/or chemical reaction.
6. New finished appearance for all new work and work abutting existing where applicable.
7. Code compliance:

    a. All equipment and installations.
    b. Electrical NEC, circuit protection, grounding, disconnecting means, GFI, and installation practices
    c. Water, back checks, vacuum breakers, back flow preventers, service valves, hammer arrestors, expansion tanks.

8. Construction assembly details, setting forth special requirements, keyed to a specific section, detail or I.D. number, shall be considered applicable to similar assemblies throughout the contracted work unless specifically designated otherwise.

2.2. DRAWINGS & SPECIFICATIONS

A. OBTAINING INFORMATION

1. Drawings and Specifications may be obtained from the Architect, electronically at www.MiddletonAssociates.net
2. No deposit or access pin required Contractor may print documents directly from the web site.
3. **You must register your interest to bid or sub bid the project in order to receive electronic communications from the Architect,** addendums, or bidding information will be issued electronically and posted on the web site. Failure to register with the Architect will result in no communication during bidding phase from the A/E.

B. DOCUMENTS

1. All documents and document content remain the property of the Architect and no permission beyond Owner maintenance is authorized for these documents in whole or in part for any other project.
2. Failure to return documents within 20 days after bidding will result in loss of deposit or compensation will be required for the replacement cost in the event there was not a plan deposit.

2.3. ALTERNATES

A. The Bidder shall submit a proposal for every alternate listed in the Contract Documents. Failure to provide alternate prices may disqualify the bid from consideration, Owner option.

B. See Section 00 2413, Scope of Bids, for a description of Alternates.

2.4. BID SECURITY

A. The Bidder shall furnish bid security, along with his proposal:

1. Form of security to be bid bond or certified check payable to the Owner.
2. Amount 5% of the base bid proposal
3. Said security shall serve as a guarantee that the Contractor will enter into the Contract with the Owner as per his bid and the contract terms should the job be awarded to him.

B. Should said Contractor refuse or fail to enter into a Contract with Owner per his bid for the work included in these Contract Documents within fifteen days following notification of award and/or receipt of a contract for signature, said bid security shall become collectible, in full, by the Owner in payment for damages.

1. Failure to enter into an agreement shall mean failure to return or submit:

a. A signed agreement.
b. Owner's protective bond(s) for Labor, materials and performance.

c. Approved subcontractor/supplier lists.
d. Certificates of insurance within stated time period.
e. Evidence that this contractor intends to pursue this contract in a timely and deliberate manner, including ordering of materials and committing or arranging for necessary manpower to accomplish the work.

2.5. WITHDRAWAL OF BIDS

A. Bids may be withdrawn by an authorized person prior to the bid due date and time, after which time no bids may be withdrawn for a period of forty-five (45) days unless a Bidder has been released by the Owner's action.

B. Authorized person shall mean an Owner or Officer of the Contractor offering the proposal or other evidence of authority.

2.6. PROPOSAL (BID) FORMS

A. Each bidder shall submit his proposal, on proposal form provided.

1. Submitted bid forms may be copied
2. All applicable blank spaces on forms shall be filled out fully.
3. Numbers shall be stated in writing where noted and in figures.
4. Signatures shall be live in longhand by person authorized to sign bids as Owner or corporate officer or shall include Power of Attorney to sign the bid.
5. No facsimile proposals or modifications can be considered per Illinois School Code on public school projects.

B. Completed forms shall be without delineation, clarification, alteration or modification.

1. Correction of contractor inserted is acceptable if clearly identified and initialed by the signatory to the bid. Irregularities of such corrections may be grounds to disqualify the bid.
2. Offers to clarify or modify may be made on voluntary alternates and substitution forms if provided in the bid package, but in no case should the base bid or requested alternate bids offered be based on anything but the document requirements.

C. Voluntary alternates or offers for substitutions may be attached on forms provided or on the bidder’s letterhead. These will be considered at the Owners option. Additional information may be requested prior to consideration.

2.7. AWARD OF REJECTION OF BIDS

A. Although it is the intention of the Owner to accept the lowest qualified bid the Owner specifically reserves the right to waive all formalities and/or informalities, to reject any and all bids and/or accept the bid that, in the Owner's judgment is the lowest responsible bid.

B. Contractor will note all alternates that are applicable, or as may become applicable by addendum, should be bid. Failure to bid an alternate may be grounds to disqualify the proposal, at the Owners discretion.

C. Should the time for award exceed the time stated for the proposal's expiration period, the Owner reserves the right to continue to negotiate with bidders in the line of award succession as a prior option rather than re-bid.

2.8. RETURN OF BID SECURITY

A. After bids have been read along with alternates as applicable and a successful Bidder has been approved by Owner, a Letter of Intent will be sent to the successful bidder and bid security may be returned to the unsuccessful bidders except the deposits of the two (2) most advantageous bidders will be retained until Owner/Contractor agreements have been consummated.

B. Following the signing of the Contracts and receipt of bonds, remaining bid security will be returned. If the successful Bidder fails to accept the Contract and submit acceptable bonds, same will be grounds for forfeiture of his bid security.

2.9. OWNER'S PROTECTIVE BONDS: A 100% of value Labor and Material Payment Bond and Performance Bond including all alternates accepted is required in the Contract and shall be included in the Contractor's Proposal

A. Periodic Change Orders that may occur to the Contract shall be included in each respective bond.

B. Bonds shall cover the entire Contract without regard to the Contractor's assignment of work of Subcontractors or Suppliers.

1. Inclusive of all awarded Alternates.

2.10. AWARD AND LETTER OF INTENT

A. The Owner will make an award based on the selection of the lowest cost responsible bidder. After the award, and the issuance of a Letter of Intent, the contract timeline is as follows:

1. Return signed agreement (10) days
2. Sub Contractor, Supplier list, including any entity to be assigned a significant or skilled trade part of the work, provide list, addresses and contact information, (7) days. Provide references upon request.
3. Labor and Materials Payment, and Performance bond(s), ten (10) days
4. Insurance, ten (10) days
5. Master Cost Breakdown (CSV), ten (10) days
6. Proposed Schedule and time line, Pre Construction meeting

B. Failure or refusal to provide the preceding Contract information in a timely manner may be cause for cancellation of the award or termination of the

agreement if signed and the Owner will be entitled to compensation under the terms of the bid security for failure to execute contract terms in good faith.

2.11. LIST OF SUBCONTRACTORS AND SUPPLIERS

A. Within seven (7) business days after notification of intent to award, and prior to the Contract being signed, the Contractor shall submit to the Architect/Engineer, a list of proposed subcontractors and major equipment suppliers and other persons or organizations to be assigned part(s) of the contract.

B. This list is subject to the review and approval of the Owner. Basis for this review may include supporting evidence the proposed Subcontractor or Supplier has experience and adequate resources to accomplish the assigned responsibilities on time and in compliance with the requirements.

1. The Owner reserves the right to request justifiable changes in the list.
2. The changes requested are intended to be made at no additional cost to the Owner.
3. If it is not possible to make requested changes at no additional cost, the Owner reserves the right to terminate the award and negotiate with the next successive bidder based on his original proposal.

2.12. MATERIALS SPECIFIED AND QUALITY OF WORK

A. Materials shall be as specified or approved equal.

1. Approved equal" and "or equal" shall mean that the Contractor shall be required to receive the approval (via the Architect) on any substitute materials.
2. Requests for substitution approval shall be submitted to the Architect/Engineer, seven (7) days prior to the bid due date.
3. Prior to considering substitutions, the Owner and/or the Architect/Engineer may require submission of samples, descriptive, technical and catalog data and lab reports of tests for verification of equivalency.

4. If approved and selected, all adaptations to fit and accommodate the substitute or equal equipment including coordinating other trades is the responsibility of the Contractor requesting the change.

2.13. PROGRESS PAYMENTS

A. Will be made not more frequently than monthly, per the Owners payment schedule.

2.14. PROJECT ACCESS: The Contractor shall be aware that the Town/City, Township, County or State has authority over various approach roads for site access and the Contractor is responsible to:

A. Observe load limits and arrange for any exceptions to load restrictions that may be required for this project.

B. Make arrangements for road cleanup, barricades and surface patches and repairs shall comply with applicable regulations and be subject to the governing authority approval.

2.15. EQUAL OPPORTUNITY EMPLOYMENT: The following clause is applicable unless this Contract is exempt under the rules and regulations of the Secretary of Labor of the State of Illinois.

A. During the Performance of this Contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin. The Contractor will take affirmative action to ensure that all applicants are considered and that employees are treated, during employment, without regard to their race, color, religion, sex, age or national origin."

2.16. ILLINOIS STEEL PROCUREMENT ACT

A. During the performance of this contract, the contractor agrees to:

1. Comply with the 30 ILCS 565
2. Steel products used or supplied in the performance of that contract or any subcontract thereto shall be manufactured or produced in the United States.
3. All requirements of and/or exemptions allowed in this regulation apply without exception.
4. The Owner and A/E cannot interpret the legal requirements as applicable to this contract.
5. Any additional cost incurred by the Owner for a violation of this provision shall be reimbursed by the Contractor.
6. If the regulation cannot be complied with due to product or inadvertent specification requirement, notify the A/E promptly for direction.

2.17. ILLINOIS DEPARTMENT OF LABOR AND LABOR RELATED REQUIREMENTS

A. IDLR regulations apply to all work on site without exception.

B. Publicly funded projects or projects managed by Public Bodies require the following:

1. PREVAILING WAGE 820 ILCS 130/4: The Contractor shall pay and shall require his subcontractors to pay the prevailing hourly wages as is determined by the Illinois Department of Labor pursuant to the Illinois Prevailing Wage (820 ILCS 130/1 et. seq.) included at the end of this section.
2. CERTIFIED PAYROLL REPORTS: Will be required with each successive pay application for payroll periods preceding the

application date.

3. Certified payroll reporting to the State IDLR portal is preferred.
4. SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS 820 ILCS 265: All Contractors must be prepared to certify upon request that they have complied with the Illinois Substance Abuse Act, including a written program that meets or exceeds the requirements of this act for the prevention of substance abuse among its employees.

2.18. SALES TAX

A. Materials supplied to a public school district are exempt from state sales taxes. The Contractor shall determine the extent of exemption and shall comply with the regulations established by the Illinois Department of Revenue.

1. Macomb CUSD 185 Sales Tax Exemption #E9995-1223-07.

2.19. TOBACCO AND ALCOHOL FOR CONSUMPTION PRODUCTS

A. Smoking, chewing, tobacco use; shall not be permitted anywhere on public school property by State Statute.

B. Alcoholic beverages, controlled substances, unauthorized prescription medication are not allowed on school property.

1. Working under the influence of any of the above and/or a legal prescription that causes impairment is not allowed.

C. Violators may be removed from the job sites subject to conditional return privileges in the future.

2.20. SEXUAL HARASSMENT POLICY

A. The Owner will not tolerate sexual harassment in any form. Sexual harassment is defined, for the purpose of this policy, as "unsolicited, deliberate or repeated sexually derogatory statements, gestures or physical or implied physical contact that cause discomfort or humiliation. Sexual harassment may involve pressure from a person of either sex against a person of the opposite sex or same sex . . ."

1. Should evidence that a Contractor, or a Contractor's employee, has harassed staff, student or other individuals, that employee shall be removed from the job site permanently or until such time that the circumstances have been determined to have been resolved satisfactorily.

2.21. BACKGROUND INVESTIGATION AND SEX OFFENDERS ON SCHOOL GROUNDS

A. Illinois Criminal Background checks may be applicable to this Contract. per 105 ILCS 5/10-21.9 and 105 ILCS 5/14-7.02.

1. According to current interpretation a background check is only required of Contract personnel or persons working in direct contact with students.
2. This standard in no way reduces or eliminates restriction in the law for certain convictions and proximity to school grounds.

B. The Contractor shall:

1. Maintain a list available to the Owner of all the employees who will be or are anticipated will be employed on site. This list shall be updated when new persons not originally listed will be working on site. This list shall also include names of personnel employed by subcontractors.
2. Persons temporarily on site such as truck drivers or employees making deliveries do not need to be listed, but the Owner reserves the right to request a background check if deemed in their interest.
3. Copies of employee lists shall be promptly provided to the Owner upon request and employees on site shall agree to submit to a background check if requested.
4. Persons failing such check or refusing shall be removed from working on this site.

C. The Contractor shall not knowingly employ on school grounds any person who has not signed or will not sign an authorization for a criminal background check.

D. The Owner reserves the right to run fingerprint background checks on any or all employees on site, randomly or specifically, and the cost of this check will be borne by the Owner. Upon request, provide information, which will not be shared, as needed to complete checks. This may include SSN, home addresses, fingerprint, address, etc. and any alias or former names used.

E. The Contractor shall assume the responsibility to notify all on site employees or potential employees of this provision, and of the consequences of this provision.

2.22. BUILDING PERMITS

A. This project is exempt from local permit fees associated with the construction. Any such fees assessed are reimbursable.

1. This Contractor shall fully cooperate with the local authorities and shall apply for and obtain all required permits and comply with local regulations and requirements. Only the fee is exempt.
2. Provide necessary permit related information to local city authorities.
3.

B. Permits for geo field well drilling will be the responsibility of the contractor through the McDonough County Health Department.

2.23. CONTRACT DOCUMENTS CHECK LIST

A. Proposal

1. Proposal Form properly filled out and signed, (live signatures)
2. Bid Bond/Bid Security for 5% of base bid amount (live signatures)
3. Low bidders exempt, return of documents within fifteen (15) working days after bid due date

B. Letter of Intent

1. Supplier - Subcontractors List, (10 days after Award)
2. Employee list and criminal background affidavit, (prior to start on site.)
3. Proposal & Contract Form prepared by the Architect, (signed and returned 10 days after receipt).
4. Labor and Material Payment Bond, two copies (10 days after award)
5. Performance Bond, two copies (10 days after Award)
6. Insurance Certificates, liability and hold harmless, three copies (10 days after award) *
7. CSV - Master Cost Breakdown (Preconstruction meeting)
8. Bar Graph/Progress Schedule, copies as required (Preconstruction meeting)

C. Periodically as needed

1. Update employee list and criminal background affidavit as needed.

D. Periodic Application for Payment

1. Submit per the monthly scheduling, to be determined
2. Application and Certificate for Payment, 3 copies (AIA G702A)
3. Contractor's Affidavit, 2 copies (AIA G706)
4. Breakdown Estimate, 3 copies
5. Partial Waivers of Lien, 2 copies

    a. Partial Waiver of Lien from Subcontractors/Suppliers for previous payment, 2 copies.
    b. Updated Progress Schedule, submit with each pay request

6. Certified Payroll for all trades employed on site.

E. Substantial Completion

1. Notification work is ready for inspection.
2. List of deficiencies or incomplete work.

F. Final Application for Payment:

1. Letter to Architect that deficiency work is complete
2. Final Lien Waiver from the Contractor, 2 copies
3. Final Lien Waivers from Subcontractors/Suppliers, 2 copies
4. Final Affidavit showing $0.00 due to Subcontractors and $0.00 due to Suppliers, 2 copies

5. Final Payment Approval Letter from Bonding Co., 2 copies
6. Certification of all guarantees, warrantees and service contracts, O & M Manual
7. Final Application & Certificate for Payment, 3 copies (AIA G702A)
8. Additional certifications as may be requested, 2 copies
9. Operating manuals & instructions, 3 copies-indexed and bound
10. Figure Bonus / Penalty and Liquidated Damages if applicable.

G. IDL Prevailing wages fare available at the Illinois Department of Labor web site, McDonough County.

END 00 2113

1. GENERAL

1.1. DESCRIPTION OF DRAWINGS AND LAYOUT

A. Drawing data is intended to be reasonably accurate, however, strict accuracy in detail is not guaranteed.

1. Drawings, particularly Mechanical and Electrical drawings are schematic in nature.
2. The Contractor must verify all of the actual conditions, measurements, dimensions, rough-in requirements; fitting of piping, conduit, wiring, and duct work and coordination necessary for each item, system or piece of equipment in the Contract Documents.
3. Verification is the Contractor's responsibility and shall be completed prior to the fabrication or installation processes.
4. Coordination of all elements of the work must be allowed for with cooperation between the trades particularly for conflicts of limited flexibility of installation. The general priority unless fixed conditions conflict is as follows: structure, placement of equipment, service access, mechanical piping, plumbing piping, and electrical piping. Trade priority in the preceding list does not supersede field cooperation to collectively and most expediently install the work.
5. All corrections necessary to provide properly installed, finished and operable system, in accordance with the intent of the Documents, shall be made at no additional cost.

B. All measurements and conditions must be verified by actual observation at the site.

1. The Contractor shall be responsible for all of his work fitting into place in a satisfactory and workmanlike manner in every aspect and detail subject to the approval of the Architect. The Contractor shall provide layout work and verification measurement at his own cost.
2. The Contractor shall perform all layout work pursuant to site, building, grades and levels, and furnish such engineering services as he may require executing the intent of the work included.

C. Before starting his work, the Contractor shall examine all Contract Area Drawings and Specifications and if discrepancies or conflicts are apparent or occur during the progress of the work:

1. Work first with the conflicting trades or installations to fit and coordinate the work.
2. If there appear to be no practical or agreeable way to coordinate the fitting of the work report same to the Architect as a Request for Instruction, RFI, and obtain direction or interpretation to proceed.

D. The Drawings are instructive and diagrammatic and shall be followed as closely as actual construction will permit. All changes from Drawings necessary to complete the work shall be done at no added cost charge to the Owner above the amount shown on the Owner/Contractor Agreement.

1.2. OVERLOADING OF BUILDING

A. Care shall be taken that completed structures are not overloaded during Contractor operations. It shall not be the Owner's, or Architect/Engineer's responsibility to observe and check construction processes and temporary loading conditions that may temporarily occur in the pursuit of the completed installations.

1. Structural design, unless noted otherwise, is designed to accommodate design loads, per code, after completion.
2. Bracing and shoring for loading or stability prior to the installation of lateral support elements and diaphragm assemblies is the responsibility of the Contractor.
3. All structural damage done by overloading the system shall be repaired by the Contractor or Subcontractor overloading the system.

1.3. MEANS AND METHODS

A. The Architect/Engineer and Owner shall have no authority over the means, methods and procedures of the work and shall make no determination pursuant thereto nor render opinions concerning same.

1. The Architect’s Field Representative does not have authority to render opinions on structural questions.
2. If questions arise submit a Request for Information, RFI, for direction.

B. The Architect/Engineer and Owner and representatives of same shall have no authority over methods employed or safety conditions related to:

1. Erection loads and as they relate to the Contractor’s interest and shall provide no observation of same.
2. Upon request the Architect can provide the design loads employed for the final installation.
3. The contractor shall designate an employee of the contractor as the person in charge of and responsible for directing the work and safety procedures on site.

1.4. PROTECTION OF WORK AND BUILDING

A. The Contractor shall protect all work and stored materials from injury or loss caused by or resulting from operations under this Contract, including but not limited to:

1. Physical damage

a. Poor stacking practices
b. Abuse damage due to adjacent operations or exposures
c. Weather related damage

2. Failure to have reasonably secured stored and in progress work.

1.5. MOVING OF MATERIAL

A. Contractor materials which are temporarily located or stored shall be relocated as needed to allow access by the Contractor, other Contractors and the Owner's personnel in and around the construction area.

1. Prior to storing materials coordinate the operations to avoid conflicts.
2. Such moving of any material shall be at no additional cost to the Owner.

B. At no time shall tools, materials or workmen block an exit unless same has been coordinated with other trades on site and reasonable alternative options are maintained.

1.6. SHORING, BRACING, AND BARRICADES

A. The Contractor shall provide, construct and finally remove all temporary shoring, bracing, underpinning, scaffolding, needling, barricades, etc. as required by local restrictions and as necessary for to protect persons and property from damage or injury.

1. The Contractor shall determine the need for these items.
2. The Contractor shall be responsible for the performance or failure of performance of same and shall repair damages caused by failure or absence of same.

B. Specific temporary shoring supports, etc., may be noted in the Documents, such as for new openings or certain renovations in existing work.

1. All such needed shoring is always not noted but the responsibility of the Contractor or Sub Contractor making the opening or installing the new work as needed
2. Notation on the drawings is an observation that existing support conditions are being impacted by the work and shall be attended to by the Contractor as needed by conditions discovered.
3. In all cases, observe actual conditions of the work, same may be different than the anticipated conditions and may require shoring bracing and barricades.

1.7. MATERIALS, WORKMANSHIP, AND LABOR

A. All installed materials and equipment shall be new and shall be installed and completed in a first class, workmanlike manner.

B. The Architect reserves the right to direct the removal and the replacement of any item which, in his opinion, does not present a proper, orderly or reasonably neat installation. Such removal and replacement shall be done promptly when directed by the Architect or the Owner. All installations will be subject to the Architect's and Owner's inspections, tests, and approval at all times from commencement of the work to Final Acceptance of the completed Contract.

C. Work needing correction or replacement that is not corrected with reasonable promptness shall be subject to written notice thereof by the Architect. The Contractor by virtue of having tendered his bid for the work, agrees that progress payments by the Owner may be held (no payment

made) until said faults have been corrected.

1.8. ALIGNMENT BALANCING

A. The Contractor shall be responsible for supervision of the installation of equipment.

1. Level, adjust, balance and align new equipment and reinstalled or relocated equipment.
2. Provide all alignment per manufacturer set up recommendations, align and balance pumps, belts and pulleys and adjust equipment to work properly.

1.9. CLEANING

A. Work areas shall be maintained reasonably clear of accumulated debris, cartons and unused equipment to allow orderly pursuit of the Work.

B. All surfaces shall be cleaned of any paint, plaster, mortar, gook and other stains.

1. Care shall be taken that no surface is scratched, marred or damaged by the cleaning process.
2. Damaged, marred or scratched surfaces of any type shall be repaired to new or original condition or replaced if necessary to provide a final installation acceptable to the Architect.

C. Final Cleaning - All areas new and renovated areas:

1. Clean and dusted.
2. Floors cleaned ready for occupancy.
3. Marks and scuffs repaired.

1.10. OPENINGS IN CONSTRUCTION

A. Openings required for construction work shall be provided by the Contractor, complete with all necessary reinforcing, lintels, trim, finishing, etc. as shall be needed to complete the Work including openings required for electrical and mechanical work.

1. Openings to be provided for other trades must be laid out and noted by the trade needing same prior to construction of the surface through which the opening is needed.
2. Untimely note of required openings shall be the responsibility of the Contractor or Subcontractor not requesting same.
3. All sleeves, flanges and forms, etc., shall be furnished by the Contractor requiring the opening.

B. Concrete slabs, joists, concrete floors, finished floors, walls and structural elements, and other structural items shall not be cut or disturbed, except as approved by the Architect IN WRITING.

C. Pipes or elements passing through floors or partitions shall have sufficient clearance around pipes to prevent damage to the adjacent finish from

expansion and contraction.

1.11. FIRE SEALS

A. All penetrations of fire walls, smoke barriers and floors shall be properly fire sealed to prevent the passage of smoke and maintain the integrity of fire barriers.

1. Such seals are the responsibility of the contractor for whom the penetration is provided.
2. Fire seals shall use products intended for that purpose and as recommended by the manufacturer such as fire caulks and fire foams.

a. Fire seals may be individually inspected by the A/E or and independent inspector at conclusion of the work.
b. Repairs or replace seals that are found to be inadequate.

3. Installed neatly and finished to match surrounds where exposed to view.

1.12. SUPPORTS

A. The Contractor shall provide all concrete, steel bases and anchorage except as herein specified otherwise: vibration absorbing foundation bases, hangers, platforms, anchor bolts, etc. for all equipment which he furnishes. These foundations or supports shall be as specified under their respective headings, as shown on the drawings and/or as recommended by manufacturers.

1. Materials and installation requirements for curbs and pads shall be commensurate with the need.
2. Concrete shall be 3500 psi minimum strength, air entrained 5% to 8% by volume. Install following commercial practices.
3. Framed curbs or foundations shall be properly supported.

1.13. PROTECTION OF WORK

A. The Contractor shall protect his work and adjacent existing work from injury by keeping all piping, ductwork, etc. capped, plugged, drained, or otherwise protected from injury including damage done by freezing and damage from building materials, cement and/or dirt, concrete traffic or exposure.

1.14. ELECTRICAL SERVICES TO EQUIPMENT

A. Unless otherwise specified the Contractor shall furnish and install electrical feeders of proper size, and furnish, install and complete all power wiring and the control wiring for each motor, electrified signage and/or piece of equipment affected by the Contract.

1. Although circuits may be called for on the drawings, ALWAYS verify the final equipment requirements before pulling wire in the event it needs to be increased in size.
2. Contractors providing equipment shall verify the circuits and

protection level and need for safety switches matches what they are providing.

B. All electrical procedures shall comply with the National Electric Code, whether temporary or permanent.

1.15. SEALANTS

A. Provide sealants in all locations where shown on the Drawings or called for in the Specifications and as necessary for infiltration tight and weather tight building envelope and finished visual appearance.

B. Sealants shall be provided in locations as directed by the Architect, where equipment components or fixtures fit to surrounds, and when cracks between equipment and surrounds are undesirable or excessive. Provide sealants in all interior locations, as necessary to properly trim out.

C. Sealants shall be installed and tooled in strict accordance with the Sealant Manufacturer's recommendations for joint preparation, using foam rope backer bars, etc. Sealant shall be installed by the respective Contractor providing the item requiring sealant installation.

1.16. PAINTING

A. All exposed surfaces or equipment reworked and installations leaving damaged or unfinished surfaces shall be painted or have a corrosion resistant or factory applied finish.

1. Unfinished non ferrous metals such as aluminum and stainless steel do not require painting.
2. Field paint unfinished equipment and surfaces for corrosion protection and visual appearance, except where clearly stated to the contrary on the Drawings.

END 00 2213

1. BASE BID

1.1. DESCRIPTION

A. The Base Bid is to provide the Owner with all materials equipment and labor to complete the specified contract work.

1. All work is a single Contract, Safe Room addition and associated work at the MacArthur Early Childhood Center. The Base Bid proposal must be for the specified work as may be modified prior to the bid time and date by addendum.

a. Do not add any additional description of what is included or excluded from the bid on the proposal form, this may disqualify the bid.

b. Fully fill out the proposal/bid form, omissions and failure to sign will disqualify the bid. Minor irregularities in filling out the bid form may be considered by the Owner as inconsequential to the intended bid and may be declared as such and the bid be accepted.

2. Voluntary Alternates or Substitutions may be offered on the Voluntary alternate and substitution form if provided or on the Contractor's letterhead if desired. Such options should not materially change the intent of the proposal. These may be considered or disregarded at the Owner's discretion without explanation.

1.2. UNIT PRICES

A. None unless requested by addendum

1.3. ALLOWANCES

A. **Include an allowance of $25,000** for unexpected conditions. Excess to be refunded – assignment by agreed change order with the Owner.

1.4. ALTERNATE BIDS

A. The alternates are to provide the Owner with options expanding or reducing the project scope and content and for comparative material or equipment prices for use in determining the final construction contract.

B. Work included in alternates shall be commensurate with and in compliance with all the applicable and similar project specifications and conditions and shall include all necessary adjustments and additional labor and/or material as may become apparent to properly complete the alternate into the work. No additional charge will be considered after bidding for the purposes of making additional construction or adjustments in order to accomplish alternative work which has been included in the Contract.

C. Incidental Work: All necessary adjustment in the work shall be made to accommodate accepted alternates without cost change in and above the alternate cost.

D. ALTERNATE BIDS

1 Alternate #1 – Additive: 4’-0” to the safe room addition

1. All work associated with extending the proposed addition 4’-0, including but not limited to, Concrete, Masonry, structure, interior finishes, Mechanical and electrical work and everything commensurate with the base bid work.

2 Alternate #2 – Additive: 8’’-0” to the safe room addition

2. All work associated with extending the proposed addition 4’-0, including but not limited to, Concrete, Masonry, structure, interior finishes, Mechanical and electrical work and everything commensurate with the base bid work.
3. Electrical work requires additional light fixtures noted on plans.
4. HVAC work requires additional capacity equipment noted on plans

3 Alternate #3 – Deductive: Adjust the geo well field to 6 wells.

5. Loop pipe sizing and pumps to stay the same.
6. Provide valved and capped headers so well field could be expanded in the future to the base bid design.
7. This will include valves also on the loop pipe as needed for closing off the short loop connection in the future,

1. Alternate #4 6’ Chain link Fence around north playground

1. 50’ x 70’ area
2. Three (3) gates, two at 10’ (5’ pairs, and one at 3’ east side.
3. Verify installation conditions as front yard slopes to Grant Street.
4. Phase 1 complete at beginning of the project if accepted.

2. Alternate #5 space on bid form in the event additional alternates are requested by Addendum.

END 00 2413

1. GENERAL

1.1. SCHEDULING

A. Master Schedule

1. The General Contractor as the Coordinating/Pacesetting Contractor shall maintain a Master Schedule.

2. Prior to preparation of the Master Schedule, all Subcontractors shall coordinate scheduling needs with the General Contractor.

3. Upon preparation of a detailed schedule, same shall be reviewed by the Architect and the Owner. Once accepted, it shall become the basis for determining the on time progress of the work.

    a. Provide manpower, overtime, and equipment as needed to maintain the schedule. The Owner will not authorize additional payment for overtime or additional manpower needed to maintain, achieve, or make up time to meet the schedule.
    b. The General Contractor shall notify the Architect and the Owner promptly of any deficiency in performance, which is unacceptably impacting the schedule or delaying progress.
    c. The Subcontractor(s) shall immediately notify the General Contractor, in the event any trade area Contractor's progress is impeding their ability to maintain the schedule.
    d. The General Contractor shall immediately provide notification of this report to the Architect and the Owner and shall include a plan of action to regain schedule.

B. Schedule

1. Contractors proposed schedule and timeline shall be delivered for review within seven (7) days or at the Pre-construction meeting.

    a. Schedule will be subject to review and negotiated revision after Owner and Architect input are considered.
    b. Schedule should be available for the Preconstruction meeting.
    c. See also, scheduling shown on sheet C-1.0. It is the intent that work will proceed in the most expedient and least disruptive manner practical, including consideration of second shift hours for noisy or particularly disruptive activities.
    d. It is further the goal that the front entrance and the existing office be encumbered for the least amount of time to reasonably complete the work. There will be acm floor removal to coordinate during the transition to remodel the existing space.

2. Submittals shall be delivered forty-five (45) days following award.

    a. This schedule is adjustable shorter or longer depending on the size and content of the project

3. Upon receipt of review submittals, schedule material and equipment for delivery as needed

4. Confirm that manpower is available and Contractor has adequate capacity to complete the work on a timely basis.

    a. Materials and equipment may be stored on site in trailers or in suitable insured warehouses in or near Macomb.
    b. Materials and equipment delivered on site or suitably stored with proof of insurance may be submitted for payment, subject to inspection.
    c. The Owner requests that equipment and materials to do the work be on site or readily available for delivery prior to the start of operations.

5. Schedule

    a. Project is planned for execution over the 2023-24 construction period with the schedule to be coordinated with the Owners schedule and in an orderly fashion.

        1) It is desired that the project be completed by the end of 2023.
        2) The Bid form includes a request for estimated completion date. A date of completion in 2023 may be given precedence over lowest cost due to grant dates.
        3) Contractor shall prepare a proposed schedule showing the planned substantial completion date.

    b. Occupation of the kitchen and new gym must be coordinated to allow these new gym and kitchen and serving to be occupied. There cannot be a down time between demolishing the old kitchen and occupying the new, nor can the cafeteria move prior to having the new gym available.
    c. It is intended all work to be complete and fully operational 30 days after receipt of substantial completion punch list.
    d. See requirements for Manning the work described hereafter.
    e. Work on the addition to begin promptly and as much as possible completed prior to winter

C. Manning the work

1. Contractors shall work overtime, Saturdays and/or double shifts if work falls one (1) week behind prepared schedule or agreed to

revision and shall continue to work Saturdays and double shifts, full crews or with additional crews until lost time is recovered.

2. Prepare a plan of action to recoup lost time for the A/E and Owner.

End 00 3000

PROJECT TITLE: 2023 Safe Room Addition to MacArthur School

DATE OF PROPOSAL: **Friday, June 30, 2023** TIME: **2:00 p.m. prevailing local time**

LOCATION OF BID: SUPERINTENDENT'S OFFICE
MACOMB CUSD #185
323 W WASHINGTON STREET
MACOMB IL 61455

NAME OF FIRM _____

PROPOSAL FOR: All work single contract

A/E PROJECT NO. 2592 0221

THE BID ACKNOWLEDGES THE FOLLOWING ADDENDA:
Failure to acknowledge may cause bid rejection

NO. 1 _____, NO. 2 _____ , NO. 3_____, NO. 4_____, NO. 5 _____

EACH BID SHALL INCLUDE:

A. THE BID FORMS AND CERTIFICATIONS COMPLETED AND SIGNED, (*this form may be copied.)*
B. BID SECURITY (*standard industry forms may be employed)*
C. BIDS SHALL INCLUDE $35,000.00 ALLOWANCE – SEE 00 2413

BASE BID: SAFE ROOM ADDITION TO MACARTHUR SCHOOL, THE BIDDER AGREES TO PERFORM ALL BASE BID WORK, PER SCHEDULE, INCLUSIVE OF ALL TRADES FOR THE SUM OF:

_____**Dollars**
WRITTEN AMOUNT

$_____

ALTERNATE NO. 1: Add four feet (4'-0") in length to the base bid proposal, all trades affected.

_____**ADD $**_____
WRITTEN AMOUNT

ALTERNATE No. 2: Add eight feet (8'-0") in length to the base bid proposal, all trades affected.

_____**ADD$**_____
WRITTEN AMOUNT

ALTERNATE No. 3: Modify Geo thermal field for this project only with accommodation to expand

_____**ADD$**_____
WRITTEN AMOUNt

ALTERNATE No. 4: 6' chain Link fence north play ground.

_____**ADD$**_____
WRITTEN AMOUNt

Estimated date of substantial completion award by July 18, 2023 _____

Proposed time of construction may/will be considered in making the award, earliest completion is desired.

ALTERNATE 5_____
SPACE LEFT FOR ALTERNATE 5 *IF REQUESTED BY ADDENDIUM*

_____**ADD/DEDUCT$**_____

____
WRITTEN AMOUNT

ALTERNATE 6_____
SPACE LEFT FOR ALTERNATE 6 ***IF REQUESTED BY ADDENDIUM***

_____**ADD/DEDUCT$**_____
WRITTEN AMOUNT

VOLUNTARY ALTERNATES OR SUBSTITUTIONS

Did you offer or include voluntary alternates or product substitution on form provided.

YES _____ **NO** _____

SEE PRODUCT SUBSTITUTION OR VOLUNTARY ALTERNATES FORM, ATTACH IF ANY ARE OFFERED. Voluntary alternates or substitutions may or may not be considered in making the award and are not required.

THE BIDDER AGREES TO:

1. Hold this bid open forty (40) calendar days after bid opening date.
2. Enter into and execute a contract with Macomb CUSD #185 if awarded this contract.
3. Comply with the contract and bidding documents with respect to bid security, all bonds, insurance, work requirements, schedule and Bonus / Penalty Clause
4. Comply with the Contract Documents with respect to scheduling as described in the documents, noted on drawings.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

A. A surety company has agreed to issue payment and performance bonds to fulfill the contracting requirements.
B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E.
C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
D. All on site labor and wage compensation provided by this contractor or his subcontractors will comply with the Illinois Prevailing Wage Act (820 ILCS 130E).
E. This proposal is made without any connection with any person making another bid for the same contract, that the bid is in all respects fair and without collusion or fraud, that no member of the Macomb School Board, other officer or any person in the employment of Macomb CUSD #185 is directly or indirectly interested in the bid or any portion of the profit there from, except as allowed by the Illinois Law or the Illinois School Code.
F. I agree to provide a drug-free workplace as required by the Illinois Drug-free Workplace Act.
H. I do hereby certify that I am either the bidder or duly authorized agent of the referenced bidder, and I am authorized to execute the certifications hereon.
G. I certify that by submission of this proposal the bidder confirms that he is familiar with the site, existing conditions, the Bid Documents, requirements and the project schedule.

CONTRACTOR:

Firm Name: _____

Address: _____

Telephone: _____

FAX: _____

Email:_____
Date: _____

SIGNATURE:

_____

TITLE:_____
For Corporations only

END 00 4000

The Bidder should include this form with the Bid Forms if a material substitution is offered at that time.

The Base Bid and Alternate Bids include only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being added to or deducted from the Base Bid or Alternate Bids.

Bidder understands that acceptance of any proposed substitution is at Owner's option. Approval or rejection of any substitutions listed below will be subject to review after Contract award. Hold open for thirty-five (35) days from Bid Date.

SUBSTITUTIONS

MANUFACTURER'S NAME AND PRODUCT	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

VOLUNTARY ALTERNATE

DESCRIPTION	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

EVALUATION. Contract award will be made in accord with Instructions To Bidders. Only the lowest responsible bidder's Proposed Product Substitution Voluntary Alternates Form will be evaluated.

Attach with herewith or submit on day of bid a general description of the proposed option being offered.

Provide detailed information promptly upon request.

END 00 4010

1. GENERAL

1.1. GENERAL CONDITIONS

A. The conditions outlined in this and following paragraphs are to supplement and complement the conditions found in the articles of the AIA Document A201, 2007 Edition.

1. Included in these Specifications by reference is AIA Document A201 General Conditions.

B. AIA Document A201, 2007 Edition, can be purchased directly on line from a variety of vendors including the AIA and are available in electronic format as well as printed.

1. AIA A201 2007 version can be reviewed at the Architects office without charge.

C. To the page one of the AIA A201 General Conditions Document:

1. Project: Safe Room Addition, MacArthur Early Childhood Center, 235 W Grant Street, Macomb, IL 61455.
2. The Owner: Macomb CUSD #185, 323 W. Washington Street, Macomb, IL 61455.
3. The Architect: Middleton Associates Incorporated, 1702 W. College Ave., Suite E, Normal, IL 61761 www.middletonassociates.net
4. The Engineer: Mid Missouri Engineering Alliance Inc, 203 Eastland Drive, Jefferson City MO 65101, www.mmeaeng.com

1.2. SIGNING OF DOCUMENTS AND INSTRUMENTS OF THE CONTRACT

A. All documents shall be signed by persons fully and duly authorized to so sign. Any documents signed by a person other than person prescribed by the Contractor's legal organization shall enclose with his signature the evidence of "Power of Attorney."

2. SUPPLEMENTARY GENERAL CONDITIONS

2.1. SUPPLEMENTS TO AIA DOCUMENT A201 (2007 EDITION) THE GENERAL CONDITIONS OF THE CONTRACT.

A. The following sections represent modifications or additions to the AIA A201 -2007 Document.

B. TO ARTICLE 1/GENERAL PROVISIONS

1. Subparagraph 1.1.1 Contract Documents delete reference to Instructions for bidders and Addenda relating to bid requirements as not included in the Contract Documents.
2. Add Subparagraph 1.1.1.1 The information provided to the bidder

in Division 0 of the documents, shall be included without deletion as part of the Contract Agreement.

C. TO ARTICLE 2/OWNER

1. Add Subparagraph 2.2.2.1 Easements off site required by the Contractor to execute the work, such as space for storage, access, scaffolding, lane enclosure, etc., shall be arranged for by the Contractor and included in the contract amount.

D. TO ARTICLE 3 CONTRACTOR

1. To Subparagraph 3.3.1, delete the last two (2) sentences listed under 3.3.1 in their entirety.

2. To Subparagraph 3.3.1 insert: If the Contractor determines that such means, methods, techniques, sequences or proceedings may not be safe, or may not be appropriate to the equipment and task as becomes apparent, then said Contractor shall have included in his proposal amount allowance to complete this work per a revised plan for which he can assume responsibility and shall notify the Owner and Architect before proceeding. In no case do the Owner and Architect take responsibility for directing Contractor Operations.

3. To Subparagraph 3.12

   a. Add 3.12.6.1 Submittals unmarked will not be reviewed at the Architect's option. Said unmarked submittals may be returned to the Contractor for re-submittal and the time loss shall not extend the time of completion of the project.
   b. Add 3.12.6.2 Submittals reviewed by the A/E and returned or held as a record copy presume the Contractor responsibilities in paragraph 3.12.6 have been included whether noted or not.

E. TO ARTICLE 5 SUBCONTRACTORS

1. To Subparagraph 5.2

   a. Add 5.2.5 The assignment of work or a portion of the work by the Contractor to Subcontractor(s) is the election of the Contractor and in no way changes or reduces the Contractor's obligations under the Contract to properly complete the work and/or provide clear title to the work, including the work by said Subcontractor(s).

F. TO ARTICLE 7 CHANGES IN THE WORK

1. To Subparagraph 7.1.2

   a. Add 7.1.2.1 The Contractor and/or his Subcontractor shall

not proceed with any work, directive or change for which he intends to claim extra cost without providing timely written notice to the Architect.

b. Add 7.1.2.2 The Architect and Owner shall provide response to claims for additional cost within a reasonable time period upon receipt of notice or quote.

c. Add 7.1.2.3 Work for which an agreement cannot be reached prior to implementation can proceed as time and material work with all parties to agree on what is additional work over that which should have been included to complete the work as originally intended.

2. To Subparagraph 7.2.2

a. Add 7.2.2.1 Change Order quotes shall be based on an approved quote or estimate which shall be based on labor and material cost, actual or estimated as prior agreed upon, and:

b. Add 7.2.2.2 Overhead and profit may be charged proportional to this category of work on the Contractor's CSV or not to exceed the greater of:

1) Eighteen percent (18%) for the Contractor's own work forces

2) Ten percent (10%) Subcontractor plus ten percent (10%) Contractor, for twenty percent (20%) total for work completed under a Subcontractor arrangement.

3) These allowances shall include all off site and indirect costs, including insurance, project management, bonds and profit.

G. TO ARTICLE 9 PAYMENT AND COMPLETION

1. To Subparagraph 9.6.1

a. Add 9.6.1.1 Wherein the Owner is governed by a public Board, payment requests must be received by the A/E 5 days prior to the established time for entering into agenda prior to the next regular Board Meeting. Payments will be made within twenty-five (25) days following Board approval. Failure to make agenda dates will result in a minimum one (1) month delay in payment.

H. TO ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

1. To Subparagraph 10.2.1

a. Add 10.2.1.4 The Contractor shall be responsible to provide and maintain on site MSDS Sheets for all required materials to be brought on site.

1) These sheets shall be readily available upon request to the owner on remodeling renovation projects which are Owner occupied.
2) Comply with VOC regulations.
3) Comply with IEPA regulations.

2. To Subparagraph 10.2.3

a. Add 10.2.3.1 Provide for the general safety of public and Owners employees, such safety provision shall be adjusted as appropriate to the age and volume of public anticipated in the project vicinity.
b. Add 10.2.3.1 Provide for traffic safety as appropriate to the operations; cooperate with the governing authorities on road activities, lane closures, excavations, surface cleaning etc.

I. TO ARTICLE 11 INSURANCE & BONDS

1. To Subparagraph 11.1.2

a. Add 11.1.2.1 Minimum Limits of Liability for preceding coverage are:

1) Workers Compensation - Statutory Limit
2) Applicable Federal *(such as Longshoreman's)* Statutory limits.
3) Liability Insurance may be written as Comprehensive General Liability policy form or Commercial General Liability policy form with the following coverages:

a) Bodily Injury - $1,000,000 each occurrence, $3,000,000 aggregate
b) Property Damage - $1,000,000 each occurrence, $5,000,000 aggregate.
c) Property Damage – Broad Form - $1,000,000 each occurrence, $2,000,000 aggregate.
d) Personal injury (*with employment clause deleted*) $3,000,000 aggregate.
e) Products and completed operations $1,000,000 to be maintained one year following final completion.
f) Business Automobile Liability, (*including owned and non-owned and hired vehicles*), $1,000,000
g) Bodily Injury and Property damage $1,000,000 each person, $2,000,000 each occurrence.

4) Umbrella Insurance may be employed to supplement primary insurance limits to meet

required limits.

5) Contractor is responsible for any self insured limits not to exceed $10,000 for any self insured hazards each occurrence

6) In the event that a claim is filed or a settlement reached whether related to this project or not which compromises the aggregate limits of liability then the Owner and Architect shall be notified and arrangements shall be made to provide additional insurance as needed to keep aggregate limits in force for the remainder of the Contract.

2. To Subparagraph 11.1.4

a. Add 11.1.4.1 The Owner, Architect, and Consulting Engineers including their employees and representatives shall be included as Additional Insureds or Named Insureds on the insurance and shall be shown as such on the Certificate.

3. To Article 11

a. Add 11.1.5 Contractor's insurance shall be maintained in force through basic warranty and guarantee periods, not less than one (1) year following Final Completion.

4. To 11.3. Property Insurance

a. Add 11.3.1.1 The Owner's property and vandalism insurance has $1,000 deductible. The Contractor shall insure and thus pay the costs not covered by the Owner’s deductibles.

b. Add 11.3.1.2 The Owner's Builder's Risk will cover only normally included Owner risks, on site, Owner's interest only, excluding tools and property of the Contractor and improperly stored or unsecured materials or loss/damage resulting from contractors operations.

5. To Paragraph 11.4.1 add the following Subparagraphs:

a. Add 11.4.1.1The Contractor shall furnish Performance and Labor and Material Payment Bonds covering the faithful performance by the Contractor of the work specified in accordance with the plans and specifications and according to the time and terms and Conditions of the Contract, and also that the Contractor shall properly pay all debts incurred in the prosecution of the work, including those for labor and materials furnished and including labor obligations as interpreted by the Illinois Department of Labor and/or the courts.

b. Add 11.4.1.2 The cost of each bond shall be included in the Contract Sum plus any changes to the Contract Sum. The

Contractor shall include in all bonds provisions as will guarantee faithful performance of the prevailing wage provisions of the Contract if applicable.

c. Add 11.4.1.3 Bonds shall be written by surety, approved by Owner, with a minimum rating of B or better, Financial Class V, or higher, in A.M. Best's Insurance Guide, current edition. The company must also be licensed in the State of Illinois.

d. Add 11.4.1.4 The Contractor shall require the attorney-in-fact who executes the bonds on behalf of the surety to affix thereto a certified and current copy of power-of-attorney.

e. Add 11.4.1.5 The Contractor shall deliver the required bonds to the Owner not later than fifteen (15) days following the date the agreement is executed.

J. TO ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

1. To Subparagraph 12.2.2.1 After Substantial Completion:

a. Add 12.2.2.1.1 Latent Defects, for a period of 10 years after Substantial Completion, upon demand by the Owner, the Contractor shall promptly repair or replace, including associated work repairs and cleanup necessary, defective or non-conforming work resulting from or constituting latent defects, fraud, fraudulent concealment or gross negligence.

b. Add 12.2.2.1.2 Seasonal equipment such as temperature controls and building systems subject to seasonal loads such as heating equipment and air conditioning, shall be warranted to perform as intended for two years. Exception would be equipment damaged by incorrect operation or maintenance procedures, specifically covered in training, but improperly implemented by the Owner.

c. Add 12.2.2.1.3 Prompt Repair. Upon notice from the Owner or Architect of defects or nonconforming work, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or nonconforming work. The repair shall include all adjacent work not necessarily provided by the Contractor, but damaged as a result of correcting or remedying such defects or non-conforming work. If the Contractor does not promptly pursue correction, the Owner may repair or replace such work and charge the cost to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and shall be warranted by the Contractor in accordance with this Article.

d. Add 12.2.2.1.4 The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

1. To Subparagraph 12.2.2.3, Delete the word ‘not’. Clarification; all materials and equipment are expected to perform satisfactorily for

one year, items or equipment needing periodic attention during the first year of use, shall continue to be serviced by the Contractor until such time that the material, item or equipment is deemed to be doing its intended purpose without repeated service.

2. To Subparagraph 12.2.5

a. Add 12.2.5.1 Extended Warranties and Commercial Warranties. The Contractor shall deliver all commercial and extended warranties received from manufacturers to the A/E prior to Final Payment. Extended warranties and guarantees will be as described under the various trade work sections of these documents, and may be the responsibility of third parties to the contract such as dealers or manufacturer's from whom such extended coverage is specified or as advertised such as a commercial limited warranty of performance or service. Such extended warranties may or may not include labor unless specified, or in the case of commercially advertised warranties as offered by the party selling the product or equipment.

b. 12.2.5.2 Prompt Repair. Upon notice from the Owner or Architect of such defects or nonconforming work, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or nonconforming work. The repair shall include all adjacent work not necessarily provided by the Contractor, but damaged as a result of such defects or non-conforming work or as a result of remedying them. If the Contractor does not promptly repair or replace defective or non-conforming work, the Owner may repair or replace such work and charge the cost thereof to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and shall be warranted by the Contractor in accordance with this Article. The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

B. TO ARTICLE 13 MISCELLANEOUS PROVISIONS

1. To Subparagraph 13.1

a. Add 13.1.1 Location of the project is Illinois.

b. Add 13.1.2 The Contractor shall, to the best of his knowledge and capability, perform all work encompassed by the documents, in compliance with the Environmental Barriers Act (Ill. Rev. Stat. 1985, ch. 111-1/2, pars. 3711 et seq. as amended), the Illinois Accessibility Code, 71 Illinois Administrative Code 400; The Uniform Federal Accessibilities Standards (UFAS); Section 504 of the Rehabilitation Act of 1973, and the Americans with

Disabilities Act of 1990 (effective January 26, 1992) known as ADA requirements. This obligation shall apply to the contractual work described as the project and the conduct of work processes initiated to accomplish the work.

c. Add 13.1.3 All parties to this Contract are subject to the rules and regulations of the Illinois Department of Human Rights and the statutory requirements thereof, including the requirement that every party to a public contract shall have adopted written sexual harassment policies (PA 87-1257).

d. Add 13.1.4 It shall be mandatory that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or ancestry, age, marital status, physical or mental disabilities.

e. Add 13.1.5 Illinois Department of Labor requirements. It shall be mandatory upon the Contractor to whom the Contract is awarded and upon any Subcontractors thereof to be in compliance with applicable wage and reporting regulations. This project is a Prevailing Wage Public Works contract.

2. To Subparagraph 13.3.

a. Add 13.3.1 Notice served by facsimile (fax) to facsimile number used during bidding and construction shall be official written notice.

b. Add 13.3.2 Notice served by electronic means (email) to the electronic address used during bidding and construction shall be official written notice.

c. Add 13.3.3 The Bidder shall notify the Architect and/or the Owner at anytime of changes in the facsimile or electronic contact addresses that will reach the contractor. Failure to so notify is the Contractors responsibility.

C. TO ARTICLE 15 CLAIMS AND DISPUTES

1. To Subparagraph 15.3.1 Delete the word ‘SHALL’ and Insert the word ‘MAY’.

a. Add 15.3.1.1 Mediation may be employed to resolve disputes if agreed to by both parties to the Contract.

2. To Subparagraph 15.4.1 Delete the word Shall and insert the word ‘MAY’.

a. Add15.4.1.1 Arbitration may be employed to resolve disputes if agreed to by both parties to the Contract.

End 00 7000

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Work covered by Contract Documents

1. The Contract includes all phases of the construction work pursuant to the Addition & Renovation to MacArthur Early Childhood Center, 235 W Grant Street, as set forth in these Specifications and the accompanying Drawings.
2. All work, single Contract.

a. All labor and materials necessary to complete and finish properly and all systems operable unless specifically noted as by owner.
b. General Construction Work (GC) Prime
c. Plumbing, (PC) Subcontractor
d. Mechanical (MC) Subcontractor
e. Electrical Work (EC) Subcontractor
f. Interior and Exterior Work, site work, paving grading utilities
g. All work and Equipment as specified in the Documents

1.2. PRODUCTS FURNISHED BY OTHERS:

All products, components, spaces, and equipment furnished by the Owner are currently in place and are to be relocated, disconnected and reconnected as set forth in these Documents (Specifications and Drawings) and/or required to accomplish these Documents. All added components shall be new and furnished by the Contractor.

A. Contractor's Incidental Duties

1. Designate specific delivery date for each product in approved construction schedule.
2. Promptly inspect delivered products, report damaged or defective items.
3. Handle at site, including unloading, uncrating, and storage.
4. Protect from exposure to elements, from damage.
5. Repair or replace items damaged as result of Contractor's operations.
6. Install, connect and finish products in assembly function ready including incidental related work.

1.3. WORK SEQUENCE

A. The Owner will occupy the adjacent school facilities at varied occupation levels (full occupation during school year minimal occupation summer) during construction.

B. Coordinate the work schedule with the Owner and building administrator.

1.4. SCHEDULE

A. Project Schedule

1. Preliminary Schedule on Sheet T-1.0 of the Drawings.
2. Final Completion: **fifteen (15) days after Punch List.**

B. Work not completed prior to student occupancy to be completed:

1. Second shift
2. Weekends
3. Arrange schedule with Owner that will not disturb the learning environment.

1.5. CONTRACTOR USE OF PREMISES

A. Confine operations at site to areas permitted by:

1. Law
2. Contract
3. The Owner's Representative, per 1.3.B. above.

B. Do not unreasonably encumber site with materials or equipment. Do not block the Owner's pedestrian traffic patterns except as prior arranged with the Owner's approval.

C. Do not load structure, or components thereof, with weight that will endanger or damage structure.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move and relocate as necessary all stored products or equipment that interferes with operations of the Owner.

F. Obtain and pay for use of additional off site storage or work area needed for operations.

G. Limited use of site for work and storage

1. Use public access ONLY, now in service. Parking ONLY as prearranged with the Owner.
2. All vehicular on site activity shall have been prearranged and approved by the Owner.

H. Cooperate with the Owner’s use of the premises and other Contractors providing work on site under separate Contracts with the Owner.

1.6. CONTINUOUS OCCUPANCY BY OWNER

A. Owner will occupy areas for purposes of conducting educational athletic and physical education and general maintenance during construction.

1. This will include maintaining the existing south aluminum exit doors as an emergency exit in case all other means of escape are blocked.

a. This should not be interpreted to overly encumber the

Contractors operations, just the door is not blocked and if persons had to exit here, they could.

b. Coordinate with the Owner for operations as may impact this exit way such as when doors will be removed.

B. Contractors shall provide

1. Access by Owner's personnel and pupils when applicable.
2. Operation of Mechanical and Electrical systems with a minimum of down time.
3. Operation of exhaust systems with a minimum of down time.
4. Adequate security of the premises in which work is in progress.

C. Upon (after) the work being completed and accepted by Owner, the Owner shall provide:

1. Custodial services
2. Security
3. General custodial maintenance

1.7. ASBESTOS

A. ACM inspection reports are available at the site. The contractor shall perform his own examination of the buildings of concern on the project prior to bidding and be responsible for the determination of the existence or nonexistence of suspect asbestos in a state that is likely to be interrupted or become hazardous to the health of the Contractor, his employees, his subcontractors and their employees.

B. Known ACM on site that may impact the work includes the following.

1. None identified.
2. Always ask if there is any question, concern or risk im the existing facility.

C. The Contractor may deem it advisable to contact the Office of Superintendent of Schools and request access to the Asbestos Management Survey applicable to the building pursuant to Section 855.30 (including updated amendments thereto) of AN ACT KNOWN AS THE ASBESTOS ABATEMENT ACT: P.A. 83-1325, approved and eff. Sept. 5, 1984, amended by P.A. 84-0951, approved and eff. Sept. 20, 1985, and amended by P.A. 84-1096, approved eff. Dec. 9, 1985, amended by P.A. 84-1245, approved and eff. July 29, 1986, amended by P.A. 84-1346, and approved and eff. Sept. 10, 1986, inclusive of such amendments and regulations applicable since 1986.

1. Upon determination prior to bidding, or after bidding discovery by the Contractor that an asbestos hazardous condition does exist in the path of execution of the work of his Contract, he shall so notify the Owner IN WRITING.
2. Pursuant to Item 1.6.B.1 above, the Owner (Macomb CUSD #185, Macomb, IL) may implement the following action:

a. Eliminating that portion of the work by revision and change

order to these documents.

b. Institute removal or acceptance encapsulation.

3. Wherein concealed asbestos is discovered, the Contractor shall notify the Owner of the existence of said apparent asbestos which may require analysis for hazardous determination. This notification shall be IN WRITING at no cost to the Owner. Should analysis indicate that hazardous substance does prevail the procedure shall be set forth under Item 1.6.B.2. above.

a. NOTE: DELAY IN THE CONTRACTOR'S WORK DUE TO SUCH CONCEALED DISCOVERY AND/OR OWNER RESPONSE THERETO SHALL NOT BE GROUNDS FOR CLAIM FOR EXTRA EXPENSE BY THE CONTRACTOR CHARGEABLE TO THE OWNER AS AN EXTRA TO THE CONTRACT AMOUNT.

1.8. COORDINATION AND COOPERATION

A. It is the intent and purpose of the Owner to cooperate with the Contractor to the extent feasible under existing applicable laws and regulations and the Owner and the Contractor alike shall not construe this portion of the documents, that is, Section Paragraph 1.6.A, and B to the disadvantage of the other.

B. Should the bidding Contractor not understand the foregoing, he shall notify the Architect/Engineer for clarification prior to bidding in accordance with Section 00040, Paragraph 1.3, 1.4, and 1.15.

C. This Contractor shall cooperate with other Contractors and their Subcontractors working on site duly employed by the Owner to perform service related and unrelated to work outlined by these Documents.

D. The Owner has the right to employ other contractors or his own forces to be working on site in concurrence with this Contractor’s work. Coordinate and cooperate to the extent reasonable under the contract so all parties can collectively accomplish the work scheduled.

1.9. FITTING AND FINISHING THE WORK

A. Contractor shall verify all field conditions, dimensions, elevations that relate to the work and properly accommodate these in the work as appropriate to the intended result within the Contract amount.

1. In place construction, obstacles and site conditions and elements which can be seen and reasonably inferred.
2. New construction, obstacles and conditions that can be seen or are to occur in the completion of the work.
3. Allow to fit structural elements and all equipment as occur or will occur during the implementation of the Contract.
4. Make adjustments as needed to fit and properly complete the work. This includes coordination of work by all trades.

B. Contractor and his Subcontractors shall coordinate, accommodate, adjust

and fit as appropriate all work to achieve the intended finished intent to normal commercial industry standards.

1. Provide finishing elements, trim, sealants, scribes, receivers and accessories necessary and normal to the installations proposed and as recommended by manufacturers for proper use of products.
2. All construction (all trades) to be weather and infiltration tight. Include appropriate weather seals, infiltration barriers, sealants, non-corrosive flashings and sealants to properly complete the intent of the project.
3. Provide all necessary work to complete all installations, equipment and parts of the work to be complete and properly operable, under control for motorized equipment, in a finished appearance and condition, unless specifically noted otherwise.

    a. Conceal piping and conduit to the extent possible
    b. Run piping and conduit and supports parallel and/or perpendicular to main structural elements when possible.
    c. Avoid creating trip hazards or low headroom hazards when possible
    d. Always allow for service access.

4. Always comply with the Illinois Energy Code

    a. Infiltration tight
    b. Watertight
    c. Insulation and continuous insulation, types and assembly U or R values as well as component ratings.
    d. Air barriers continuous to the extent possible at assembly junctures, windows to walls, walls to roof assembly, walls floor to floor.

END 01 1000

1. GENERAL

1.1. SPECIFIED PRODUCTS

A. All bids shall be based on providing products exactly as specified or equal as prior approved.

B. Products specified only by reference or performance standards, shall be met or exceeded by the standards of any manufacturer's material and subject to the Architect/Engineer's approval.

C. Products specified by naming several products or manufacturers shall be selected from any product and manufacturer named.

1.2. SUBSTITUTIONS, BIDDER/CONTRACTOR OPTIONS

A. PRIOR TO BID OPENING - The Architect/Engineer will consider requests to amend the bidding documents to add products not specified, provided such requests are received in adequate time prior to bid opening date.

1. Requests received after ten (10) days before bid due date will not be considered.
2. If a request is approved, the Architect/Engineer will endeavor to issue an appropriate addendum not less than seven (7) calendar days prior to bid opening date.
3. Ten (10) days is based on the start bid date, and will not be extended by bid extension unless same is extended more than ten (10) days.

B. WITH BID - Substitutions will not be considered with the bids.

C. AFTER AWARD OF CONTRACT - No substitutions will be considered after Notice of Award, except under one or more of the following conditions:

1. Substitution is required for compliance with final interpretations of code requirements or insurance regulations.
2. Unavailability of specified products, through no fault of the Contractor.
3. Subsequent information discloses inability of specified product to perform properly or to fit in designated space.
4. Manufacturer/fabricator refusal to certify or guarantee performance of specified product as required. This does not alter the requirement.
5. When a substitution would be substantially to the Owner's best interest.

1.3. SUBSTITUTION REQUIREMENTS

A. Submit four (4) copies of each request for substitution. Include in each request for substitution:

1. Complete data substantiating compliance of proposed substitution with Contract Documents.

2. For products:

    a. Product identification, including Manufacturer's name and address.
        1) Manufacturer's literature, including, product description, performance and test data, reference standards.

    b. Samples, if applicable.
    c. Name and address of similar projects on which product was used and date of installation.

3. For construction methods substitution:

    a. Detailed description of proposed methods.

4. Itemized comparison of proposed substitution with product or method specified, including accurate and true cost data on proposed substitution in comparison with product or methods specified.
5. Data relating to changes in construction schedule.
6. Identify:

    a. List other contracts affected, if applicable.
    b. List changes or coordination required.

B. In making requests for substitution, bidder/contractor represents:

1. He has personally investigated proposed product or method and determined that it is equal or superior in all respects to that specified.
2. He will provide the same guarantee for substitutions as for product or method specified.
3. He will coordinate installation of accepted substitutions into work, making all such changes as may be required for work to be complete in all respects.
4. He will provide complete cost data including all related costs under his contract (and other Prime Contract's, as applicable) whose work may also be affected by the substitution in product or method.
5. He will assume full responsibility for all additional costs and expenses to the Owner, Architect/Engineer (and other contractors employed on the same project, as applicable).
6. The Contractor agrees that it is the Contractor's sole responsibility to stand any costs that may be attributable to an allowed substitution that may surface as construction proceeds toward finalization.

C. Substitution will not be considered if:

1. It is indicated or implied on shop drawings or product data submittals without formal request submitted in accordance with Paragraph 1.4 above.
2. Acceptance will require substantial revision of Contract Documents.

END 01 2500

1. GENERAL

1.1. MANAGEMENT OF THE CONTRACT

A. The contractor shall provide necessary project support to manage necessary support documentation in an accurate and timely fashion.

1. Following award, ten (10) calendar days, submit two (2) copies:

   a. Signed contracts
   b. Insurance *00 7000/ 2.1.I Supplementary Conditions*
   c. Bonds, Labor and Material payment and Performance or approved Owner protective bond.
   d. Subcontractor/supplier List – provide promptly prior to signing the of contract
   e. Contractor Schedule of Values, labor and materials and by trade and task breakdown.

2. Pre-Construction meeting:

   a. Provide proposed schedules
   b. Project access for remodel/renovation projects
   c. Project security plans, fences, storage facilities, public access control.
   d. Proposed schedule
   e. Contact information
   f. Identify Project management team, Superintendent of the work
   g. Provide minutes of the Pre-Construction meeting including list of attendees and copies of schedules, notices RFIs as applicable to the meeting

3. Periodic Progress meetings

   a. Schedule to be agreed to, not less than bi weekly nor more frequently than weekly during periods of active progress.
   b. Provide representation by subcontractors whose work is currently or projected to soon be active.
   c. Provide updates on recently completed progress since previous meeting and work planned for the immediate future.
   d. Provide Revised schedules or notice of major changes to projected schedules
   e. Provide minutes of the Progress meeting including list of attendees and copies of schedules, notices RFIs as applicable to the meeting

4. Prior to start of the work on site:

   a. NOI permit from IEPA as applicable on projects excavating over 1 acre or more.

      1) Contractor to provide necessary erosion control plan

as needed for the permitting process

b. Projects under permitting size, Contractor shall provide appropriate erosion control to prevent silt run off of the construction site or silt contamination of storm sewers, adjacent properties and/or ditches.
c. Background check information as applicable to this project.
d. Permits as applicable

1) Regulatory permit fees as applicable to this project charged by authorities having oversight.
2) IEPA payable by the contractor
3) ROE application and any fees by the Owner
4) City of Macomb, any fees charged will be negotiated by the District and is charged reimbursable.

e. Have in place the safety plan and assigned safety person on the site. Safety is the responsibility of the contractor, and is not monitored or directed by the Owner or the A/E except in apparent emergency situations where the Owner or the A/E might assist in determination of safety accommodations as identified by the contractor.
f. Have in place the fences and barricades to control public or non-contractor access to the site.

1.2. SUPERINTENDENT OF WORK

A. The Contract shall designate a person who shall be General Superintendent of on-site construction work encompassed by the Contract Documents.

1. Said designated superintendent shall have prior served as project superintendent of construction of similar nature and size. Qualifications shall be subject to the Owner's and Architect's review.

2. Superintendent shall remain superintendent for the duration of the project unless said person shall become disabled, no longer employed by the Contractor. The Contractor shall provide notice to the Architect and the Architect and Owner shall approve the personnel change.
3. Owner can request superintendent replacement for cause at any time.

1.3. AWARD AND LETTER OF INTENT

A. The Owner will make an award based on the selection of the lowest cost responsible bidder that has demonstrated past experience and evidence of adequate resources to accomplish the work. After the award, and the issuance of a Letter of Intent, the contract timeline is as follows:

1. Return signed agreement seven (7) days
2. Sub Contractor, Supplier, or any entity to be assigned a part of the work, provide list, addresses and contact information. Seven (7) days. Provide references upon request. Seven (7) days:
3. Labor and Materials, Payment, and Performance bonds, 15 days
4. Insurance, 15 days

5. Master Cost Breakdown (CSV), 15 days
6. Proposed Schedule and time line, 15 days

B. Failure or refusal to provide the preceding Contract information in a timely manner may be cause for cancellation of the award or termination of the agreement if signed and the Owner will be entitled to compensation under the terms of the bid security for failure to execute contract terms in good faith.

1.4. MATERIALS SPECIFIED AND QUALITY OF WORK

A. Materials shall be as specified or approved equal.

B. "Approved equal" and "or equal" shall mean that the Contractor shall be required to receive the Owner's approval (via the Architect) on any substitute materials seven (7) days prior to the bid due date.

C. Requests for substitution approval shall be submitted to the Architect/Engineer.

1. Prior to considering substitutions, the Owner and/or the Architect/Engineer may require submission of samples, descriptive, technical and catalog data and lab reports of tests for verification of equivalency.
2. Said submittals shall be presented to Architect/ Engineer.

1.5. PROGRESS PAYMENTS

A. All payments by the Board of Education require Board approval.

1. Payment requests must be submitted prior to the first Monday of the month for consideration and entry into the agenda.
2. Untimely submission of payment request will result in a one (1) month delay for consideration.
3. The Contractor will be notified of the regular Board meeting schedule upon request.
4. Payment will be made within twenty (20) days following board approval, or a notice of board concerns will be provided.

B. In accordance with the terms of the Contract periodic partial progress payments may be made monthly to the Contractor for: 90% of the value of the labor, materials, and/or equipment incorporated in the construction.

1. Payment will be for completed progress materials only.
2. Materials properly stored and protected on site may be billed
3. Payment for Materials off site may be considered if properly warehoused, dedicated to this project and insured, Submit all information and same will be reviewed and may be approved or denied for payment.
4. Progress pay requests shall indicate amounts completed of all items listed from the master breakdown.
5. 10% of each request will be retained by Owner until work has been satisfactorily completed.
6. Submit lien waivers for preceding payments made.

7. Submit lien waivers from subcontractors and suppliers.
8. Submit notarized Contractor's affidavits with each pay request showing that total owed on Contract by Owner (after subject request has been paid to Contractor) is more than the amount to become due the Contractor for material, subcontractors and labor.

C. All the applications for payment shall be made in three (3) copies with all copies bearing live seals and signatures, notarized and complete and accurately filled in.

1. Applications for payment shall be submitted to Architect/Engineer on AIA G-702A Forms or other standard formats containing similar information.

D. Public Projects require: One (1) copy of Contractor's Certified Prevailing wage payroll with Pay Request or on monthly schedule coordinated with payroll dates, in accord with Illinois Dept. of Labor requirements. Include Payroll for the major Subcontractors and upon request any minor or intermittent on-site Subcontractor.

1. Certified payrolls are not required for personal making deliveries of materials, Officers and management team making inspections but not doing physical work on site. The extent of compliance is as established by the IDL and state law and exception to or compliance with is the responsibility of the contractor.
2. Submit beginning with the first application for payment for all workers employed on site
3. Submit for each successive month or pay periods as applicable.

1.6. FINAL PAYMENT: The final application for payment shall not be made until all work and deficiency (punch list) items have been satisfactorily completed and approved by the Architect/Engineer for documents compliance.

1.7. EMPLOYEE-STUDENT RELATIONSHIPS

A. Except in an emergency situation involving safety, there is to be no intermingling of the Contractors' employees and the school faculty, staff and students violating this requirement shall be removed from employment at this site. Contractor employees experiencing problems with students or faculty shall report same to their project superintendent, who shall promptly report the problem to an authorized representative of the Owner and the Architect/Engineer.

1. Avoid profanity and inappropriate subject matter in conversation as students and staff may be within audible range and walls or ceiling spaces may allow sound transmission.
2. Verbal or physical action interpreted as sexual or sexually suggestive in nature or as sexual harassment will be grounds for removal of the employee from the site. Further legal action remains the option of the persons affected.
3. In all aspects of this provision, the Contractor's employees as adults have the greater responsibility and should not respond to inappropriate student behavior.

B. Authorized agents of the Owner include the District Superintendent, District Building and Grounds Supervisor, the District Financial Services Director and the Architect/Engineer. The School Principal is authorized to discuss concerns regarding operations on site, but is not authorized to order changes in the work.

End 01 3000

1. GENERAL

1.1. DESCRIPTION

A. Prior to commencing the work, the Contractor shall provide submittals on all materials and equipment proposed for the work.

1.2. Shop Drawings, Submittals, and Submittal Brochures

A. Submit four (4) copies minimum unless notes otherwise in a particular section.

1. Electronic PDF submittals may be employed.

a. Submit PDF directly to the A/E and NOT through any submittal service or second party vendor.

2. Electronic submittals shall be edited to be relative to this specific project. For example do not submit an electronic file of a manufacturers catalog with applicable selections circled or marked with in the body of the submittal. Select the applicable pages and submit only those.

B. Architect and/or Owner will retain two (2) copies.

C. Contractor will receive remaining copies for his use.

D. Shop drawings and material schedules shall be accompanied by catalog cuts or literature providing all data, description, function, and capacity of item or component submitted.

E. Catalogs and fliers with multiple component descriptions shall be clearly and precisely marked as to submittal item. The Architect/Engineer's office will provide no sorting to assure the submittals match with documents requirements.

1.3. Samples

A. When samples are requested submit 0ne set minimum.

1. Color and pattern related materials submit actual chip kits or sample rings or samples to allow accurate discernment, printed or electronic pdf is generally not adequate.
2. Upon request, provide an oversize, 12” x 12” or nominal cross section of actual color or pattern being considered to confirm a selection being made from a small color kit.

B. All samples will be retained unless otherwise noted in the documents or requested by the vendor. Samples for return may be held until the material is installed on site.

1.4. Project management information

A. The Contractor shall, within seven (7) days of Notice of Award, submit to the Architect the following:

1. Name of person under Contractor employment at the job site in charge of the work and safety.
2. Provide a contact list including emergency contact information for all relative parties to the work, including the superintendent, the project manager, major subcontractors, and major vendors.

1.5. Project Record Documents

1. Operating and Maintenance Manuals.

a. Submit three (3) bound, indexed copies minimum.

1) Optional one (1) copy bound and a PDF electronic copy

b. These manuals shall include all Shop Drawings and Submittals, all Equipment Brochures, Operating Manuals, Operating Instructions, names, addresses, and telephone numbers for guarantee work, all bound into a good quality binder or loose-leaf notebook, clearly labeled.

c. THE SHOP DRAWINGS RETAINED BY THE OWNER AND ARCHITECT ARE NOT AVAILABLE FOR PREPARING THESE MANUALS. If additional copies are required for this, the Contractor shall make allowance and copy additional sets.

d. Include warranty information and warranty contact information.

2. Record drawings: Maintain as work proceeds record drawings marked to show any variances in installations, particularly underground and concealed services.

1.6. AS-BUILT DRAWINGS

A. The Contractor shall provide the Architect/Engineer's Office with one marked set of drawings showing changes from the original drawings. Marked As-Built Drawings shall be submitted upon progress having Substantial Completion progress.

1. Preferably markings should be in red, clearly legible and easily understood.
2. Clearly and boldly label the set As Built or Record Drawings.

1.7. IDENTIFICATION OF SUBMITTALS

A. The Contractor shall clearly mark each submittal of the Shop Drawings, Catalog Cuts, Pamphlet, or Specification Sheet for identification and record, for example:

a. DATE: As submitted
b. BUILDING: Project Name
c. LOCATION: City
d. TYPE OF EQUIPMENT: (Example – AHU 1)

e. SUBMITTED BY: Contractor's Name and contact information for questions.

2. Data shall also indicate model number selected for furnishing and indicate capacities or conditions or operation.

a. Catalog data of general advertising nature, without specific outline or rating for equipment, will be rejected.
b. Marked product manufacturer's catalogs and engineering data shall accompany the submittal.

1.8. REVIEW OF SUBMITTALS

1. Submittals will be reviewed by the Architect and/or the Owner and will be checked for Contract compliance and the basic fabrication methods.

a. Submittals are reviewed as a convenience to the contractors and do not change the contract requirements unless specifically noted.

2. The Contractor must verify all the dimensions, field conditions, field clearances, and rough-in requirements with adaptations as necessary.

a. The A/E review may ask questions or make observations about dimensions and quantities, but actual conditions supersede.

3. Submittals are to be reviewed and corrected first by the Contractor. If submittals contain obvious oversights or conditions that make it apparent, they have not been checked, they will be returned for re-submittal.
4. Architect/Engineer review of a submittal shall not relieve the Contractor of contract compliance unless any variance is specifically brought to the attention of the Architect and/or Owner IN A LETTER FORM attached to the submittal data and subsequently responded to by the Architect/Engineer IN WRITING.
5. An omission on the shop drawings or a review oversight by the Architect/Engineer shall not be construed as the calling of specific attention thereto.
6. It is not the responsibility of the Architect Engineer to request submittals, failure to submit presumes contract compliance is understood.
7. It is not the responsibility of the Architect Engineer to provide rapid review turnaround on a delayed submittal to maintain schedule. The Contractor shall make submittals in a timely manner generally allowing at least fifteen (15) days for review.

a. If timely response to submittals is not forthcoming from the A/E please notify the A/E to be sure that the submittal has been received. Particularly with electronic submittals there can be delivery issues.

END 01 3300

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Contractor:

1. Coordinate work of all trades including that of subcontractors.

   a. Minor work in the existing building to extend power, water, hot water, access wiring, control wiring etc.
   b. Patch and repair to existing facility standards.

2. Schedule elements of remodeling and renovation work to expedite completion.

3. Schedule noisy or hazardous work to avoid problems with the Owner's day-to-day building functions and general maintenance operations, and when children are not present.

4. In addition to required incidental demolition specified in various sections, and that shown on Drawings, cut, move or remove existing construction to provide access or to allow remodeling and new work to proceed. Include:

   a. Removal of temporarily or permanent Electrical and Plumbing devices, circuits and piping plus the reinstallation of same as required to continue service.
   b. Removal of unsuitable or extraneous materials and non-functioning components not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals, abandoned electrical and mechanical components, and deteriorated concrete.
   c. Cleaning of surfaces. Remove surface finishes to install new work and finishes.

5. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a neat transition to adjacent new construction.

6. Move room furnishings to allow access to specified floor, wall and ceiling work. Relocate same in place at the completion of specified rehab work.

7. Cooperate with the Owner and schedule ahead pursuant to rehab work at locations involving preparatory work by Owner - see 1.1.B. of this section.

B. Owner:

1. Remove, store and replace books and files to allow Contractor access to floors, walls and ceiling, room by room, on schedule determined by the Contractor.

2. Cooperate with the Contractor pursuant to providing Contractor access to rooms and areas scheduled for rehab - see 1.1.A. 6 & 7 this section.

1.2. ALTERATIONS, CUTTING AND PROTECTION

A. Assign moving, removal, cutting and patching work to crafts qualified to perform the work in a manner to cause least damage to each type of work, and provide means of restoring surfaces to appearance of new work.

B. Perform cutting and removal work to minimize removals, and in a manner to avoid damage to adjacent work.

1. Cut finish surfaces such as masonry, tile, plaster or metals by methods to terminate surfaces in a straight line at a natural point of division.

C. Perform cutting and patching in accordance with the general and supplementary General Conditions.

D. Protect from damage existing finishes, equipment and adjacent work which is scheduled to remain.

1. Protect existing and new work from weather and temperature extremes.
2. Provide weather protection, waterproofing, heat and humidity control to prevent damage to remaining existing work and to new work.

2. PRODUCTS

2.1. SALVAGED MATERIALS

A. The Contractor shall:

1. Remove all existing reusable components such as hardware, (hinges closers, locks, panic sets, door stops, kick plates and latch sets) and deliver same to the Owner at a location to be determined by the Owner.

2.2. MATERIALS FOR PATCHING, EXTENDING AND MATCHING

A. Ensure that work is complete:

1. Provide same materials or types of construction as that in existing structure, to patch, extend or match existing work.

a. Contract Documents may not define products or standards of workmanship present in existing construction.
b. Consult the Drawing Details and/or consult the Architect/Engineer.

2. Presence of a product, finish or type of construction requires that patching, extending or matching be performed to make work

complete and consistent to identical or better quality standards.

3. EXECUTION

3.1. REMOVE EXISTING CONSTRUCTION

A. Consult the drawings for removals and replacements as set forth.

3.2. PERFORMANCE

A. Patch and extend existing work using skilled craftsmen capable of matching existing quality of workmanship.

B. For patched or extended work, provide quality equal to that specified for new work.

3.3. ADJUSTMENTS

A. Where existing construction and components are removed, patch floors, walls, doors, trim, and ceilings with finish materials to match existing as closely as possible.

3.4. DAMAGED SURFACES RESULTING FROM CONTRACTOR WORK

A. Patch and replace all portions of the existing finished surfaces found to be damaged, lifted, discolored or showing other imperfections, with matching material.

1. Provide adequate support prior to patching the finish.
2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
3. When existing surface cannot be matched, refinish entire surface to nearest intersections.

3.5. TRANSITION FROM EXISTING TO NEW WORK

A. When new work abuts or finishes flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance as closely as possible.

1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

2. Refinished surfaces must be weather tight as appropriate to the exposure

3.6. CLEANING

A. Perform construction cleaning as specified in Section 01 7800.

1. Clean Owner occupied areas, where work prevails, daily.

2. Clean all spillage, overspray and heavy dust collections in Owner's occupied areas immediately.

B. At completion of work of each craft, clean area and make surfaces ready for work of successive crafts.

C. At completion of alterations work in each area, provide final cleaning for occupancy and return space to a condition suitable for use of Owner.

END 01 3516

1. GENERAL

1.1. GENERAL TERMS USED IN THE CONTRACT

A. OWNER: Macomb CUSD #185
323 W. Washington Street
Macomb, IL 61455
Telephone: 309/837-0560 Fax: 309/836-2133

B. CONTRACTOR: A person, firm or corporation with whom a Contract or Agreement is made by the Owner.

C. GENERAL CONTRACTOR: The General Contractor furnishes all of the work in the documents. Pursuant to these Documents the Designating Contractor, General Contractor and Prime Contractor shall be one and the same.

1. Abbreviations employed on the drawings include:

a. GC General Prime Contractor
b. PC Plumbing subcontractor
c. MC Mechanical subcontractor
d. HC, HVAC, or VC is referring to subcontractors involved in the installation of heating ventilating and/or air-conditioning systems.
e. EC electrical subcontractor
f. TC Temperature Control subcontractor

D. ARCHITECT OR A/E: Middleton Associates, Incorporated, 1702 W. College Ave., Suite E, Normal, IL 61761 - Telephone 309/452-1271, Fax 309/454-8049, e-mail: russ@middletonassociates.net

E. ENGINEER: Mid MO Engineering Alliance, Inc., 203 Eastland Drive, Jefferson City, MO 65101 – Telephone 573/636-2116, e-mail: wayne@mmeaeng,com

F. DOCUMENTS: The Drawings, Specifications and Contract as apply to all areas of the work.

G. WORK: All obligations undertaken by the Contractor, pursuant to the Contract Documents.

1. Work includes, but is not limited to, the furnishing of all of the materials, labor, equipment, supplies, plant, tools, scaffolding, transportation, unloading, superintendence, insurance, bonds, taxes and all other services, facilities, required demolition (major and minor as applicable) and expenses necessary for the full performance and completion of requirements of the Contract Documents.
2. Work also means that which is produced, built, or constructed, pursuant to the Contract Documents.

3. Work includes all labor and materials to properly install and make functional.

H. PROVIDE: Furnish and install (including materials, accessories and labor) ready for the Owner's use. Comply with manufacturer's installation requirements as minimum standard, Drawings and Specifications where installation requirements exceed manufacturer's recommendations.

I. EQUAL, APPROVED EQUAL: Alternative products meeting or exceeding the base specification product or process and approved by the Architect/Engineer IN WRITING as suitable for this application. If not accepted prior to bidding, acceptance is discretionary.

J. SUBSTANTIALLY COMPLETE: When work progress has arrived at the point where the Owner may have full use of the installation for the purpose for which the same was installed, all components installed, equipment operating under control and minimum code compliance achieved, then, the work may be declared substantially complete if so requested by the Contractor and specifically approved by the Owner.

K. PUNCH LIST: Those items, components, installation inclusive of labor and materials (in place) which, in the opinion of the Architect/Engineer or the Owner do not conform to the intent of the Contract Documents and/or adequately satisfy the purpose and intent of the Owner.

L. DESIGNATED WORK: Wherein the documents designate that one contractor shall provide specified material and labor for another trade area contractor, the cost of the work and material shall be included in the bid of the contractor that is designated to provide the material and labor.

M. AND/OR: Wherein employed in the documents shall be either and both, singularly and together, as applicable to the intent of the Project Documents.

N. CONCEALED: Concealed building components, services, and obstacles subject to Change Orders, shall be limited to those components, services, obstacles, etc., not designated or known to exist, not typical to the type of construction observed and not available for inspection without destructive action. Opening of access panels, looking above accessible ceiling systems or inside chase walls is not considered concealed items.

1.2. In general, definitions of words employed in the Contract Documents shall be as defined in "Webster's New World Dictionary" the latest edition. The Architect shall be the interpreter in the case of multiple meanings. Exceptions to this shall include longstanding meanings in the construction industry but have not been so defined in Webster's Dictionary. Determination shall be in accordance with these Specifications.

END 01 4216

1. GENERAL

1.1. WORK INCLUDES

A. Contractor shall provide and maintain specified temporary utilities.

B. Contractor may extend electrical and water services from Owner's existing sources.

1. Tap on and extension of services shall be implemented and paid for by the Contractor requiring utility.

a. Tap on arrangements must be coordinated with the Owner, and shall not compromise the Owners operations or equipment.

2. Return tap on surrounds to original or contracted configuration and circumstances at close of job by the Contractor.
3. Extension shall not compromise Owner’s operations.

C. Contractor shall furnish (included in his Base Bid):

1. The cost of all utilities required by him which:

a. Are in excess of existing available at the building and are necessary for the completion of his work.
b. Exceed the capacity of existing or permanent systems and are necessary for the completion of his work.
c. Required prior to permanent enclosure.

2. Power Center, Extension cords, extension lights, temporary lights and portable lamps from approved temporary power centers to his work.
3. Ventilation for his storage spaces containing volatile or hazardous materials.
4. Ventilation for his storage of materials that may suffer humidity or moisture damage
5. Security for materials and equipment.
6. Heating as needed to protect construction form freezing or frost damage.
7. Temporary Toilets
8. Dumpsters and disposal resources.

D. Furnished by Owner

1. Authorization of existing facilities for temporary use.

a. Electrical power service
b. Water service extended from existing outlets by the

Contractor

2. Owner will pay all costs of power and water consumables used for construction purposes for utilities properly extended from the owners services.
   a. Any/all utilities, power, water, sanitary, gas extended for the construction operations shall be the responsibility of the contractor, costs and infrastructure.

3. The Contractor requiring Owner-furnished services, shall provide and pay for extension or modification of services to perform the work and for restoration of services and Owner equipment at completion of the work.

E. Water Service:

1. For construction purposes:

   a. The Contractor shall provide and maintain temporary water service connection throughout construction period.
   b. The Contractor shall supply adequate water hoses from hose bibs to the point of his operations.

2. For temporary fire protection and cleaning.
3. Maintain adequate volume of water for all purposes.
4. The Contractor provides drinking water for his own forces.
5. Water source: On or off site.

1.2. COST OF INSTALLATION, OPERATION, MAINTENANCE & CONSUMABLES

A. Installation, operation and maintenance:

1. The Contractor requiring service extensions shall pay all costs of installation, operation, maintenance, restoration and equipment warranty extension of temporary utilities for designated time periods.
2. The Contractor shall not overload the system.

B. Consumables:

1. Contractor pay all costs of consumables for temporary utilities, as designated:

   a. Heating Fuel via Temporary Heating Units: Contractor requiring same.
   b. Heating
   c. Electrical Energy Contractor except as properly extended.
   d. Lamps: Contractor requiring same.
   e. Water: Owner as properly extended.
   f. Toilets and Supplies: Contractor.

1.3. MONITORING OF TEMPORARY UTILITIES

A. The Contractor extending or providing a temporary utility extension shall be responsible for all damage to his work or to the existing facility caused by a

defect in temporary utilities or utility extensions.

1. Enforce compliance with specified codes and standards.
2. Enforce safe practices.
3. Prevent abuse of services and utilities.
4. Prevent damage to finishes.

B. Upon completion of work, or when directed by Architect/Engineer, restore existing systems to original condition.

2. PRODUCTS (Not applicable)

3. EXECUTION

3.1. ALL TEMPORARY UTILITIES AND EXTENSIONS

A. Comply with DIVISION 15 and DIVISION 16 Specifications and Federal and State regulations.

B. Install work in a neat and orderly manner.

C. Be made structurally, mechanically and electrically sound throughout.

D. Be maintained to give safe, continuous service, and to provide safe working conditions.

E. Be modified and extended as work progresses.

3.2. INSTALLATION

A. Electrical:

1. Protect branch circuits or extension wiring on floor or on ground from damage.
2. Provide ground fault outlets
3. Wiring for temporary heating and ventilating equipment:

    a. Wire all safety devices specified for operation or equipment.
    b. Verify proper operation of all safety devices.

3.3. REMOVAL & REINSTALLATION

A. At the conclusion of the work, completely remove temporary materials and equipment.

B. Repair all damage caused by installation. Restore to original condition or better.

END 01 5000

1. GENERAL

1.1. WORK INCLUDES

A. Completed Deficiency List

B. Final Cleaning

1. Clean all finished areas ready for occupancy, dust, remove debris, mop or vacuum as appropriate, seal and wax if specified. Concrete sealers free of scuffs and scratches
2. Unoccupied areas, above ceilings, tunnels, chases, Mechanical areas, roof, etc, free of debris reasonably cleaned up of construction scraps, tools boxes.
3. Equipment cleaned and ready for occupied use, new filters, and spare filters stored in location directed.
4. Site and exterior cleaned up, no debris, equipment, tools removed.

    a. Sidewalks clean
    b. Earthwork finish graded, seeded if specified
    c. Drainage ways open

C. Project Record Drawings

1. Contact list of Installing Contractor and/or Subcontractors.

D. Guarantees, Warranties and Bonds

1. Contact list for warranty claims.

E. Submittal

1. Care and maintence instructions for all finishes and operable equipment
2. All materials shall be submitted in multiple copies in an orderly and labeled fashion.
3. Generic documents not filled in, dated, and job specific are not acceptable.

1.2. EVIDENCE OF COMPLETION OF THE CONTRACT

A. Equipment and Building

1. All equipment operational as intended, under control, installed per Manufacturer’s recommendations.
2. All construction completed, finished and in new condition.
3. All deficiencies addressed to the satisfaction of the A/E and Owner.

    a. Return Punch List with each completed item initialed by the Contractor representative who has inspected the corrective

work.

1.3. COORDINATE FINAL CODE INSPECTIONS

A. Work with governing authorities for occupancy inspection.
1. Municipality
2. Regional Superintendent of Schools (school project).
3. IDPH for plumbing and any other IDPH permitted work.
4. A/E for called inspection when applicable.
5. Fire Marshall, local / state / compliance certifications for:

a. Elevator, if applicable
b. Sprinklers, if applicable.
c. Fire alarm, if applicable.
d. Walk-through
e. Boilers
f. As requested by authorities

1.4. WARRANTIES

A. Extended warranties beyond the one (1) year 100% labor and material overall warranty shall be provided showing:

1. Terms and dates
2. Contact information
3. Installing Contractor
4. Exact system / material as applicable.

B. Extended warranties

1. As listed in various Specification Sections.
2. As advertised by Manufacturers.
3. As required for:

a. Hardware – five (5) years
b. Refrigeration equipment – five (5) years.
c. circulator pumps – three (3) years
d. Roofing – twenty (25) years
e. Insulated glass – ten (10) years
f. Carpet – Contractor: two (2) years; Manufacturer: fifteen (15) years
g. HDPE Toilet Compartments – fifteen (15) years HDPE material; five (5) years hardware material
h. Visual Display Surfaces – Manufacturer – five (5) years

4. Items requiring chronic repair during the warranty period shall have an extended 12-month warranty until repairs are not needed over a 12-month period.

1.5. PROJECT RECORD DOCUMENTS

A. Submit Project Record Documents to reasonably provide information on:

1. Hidden utilities
2. Products used.
3. Any hidden from view structural or mechanical or electrical variations from plans.
4. Notation of alternates where same impacted the Base Bid Drawings.

B. Provide listing:

1. Contractor / Subcontractor / Vendor list with:

a. Product or service.
b. Contact information.

1.6. FINAL PAY APPLICATION

A. Final Lien Waivers – Major Subcontracts and direct Suppliers.

B. Final Affidavit showing $0.00 due to all vendors.

C. Letter from Bond holder approving closeout payment.

D. Final paperwork on allowances, adds or deductions agreed upon by Change Order.

E. Final acceptance as applicable.

END 01 78 00

1. GENERAL

1.1. DESCRIPTION

A. General Contractor shall furnish all of the labor and materials necessary to complete all concrete work of every description called for in the Documents, including forming, finishing, placement, preparatory work, reinforcing, stripping, rubbing, curing and sealing.

B. Construction joints, score joints and slab panels shall be selected to optimize concrete strength and performance and minimize shrinkage, cracking or other undesirable performance characteristics.

1.2. QUALITY ASSURANCE

A. All materials and mixes shall comply with applicable ASTM Specifications. All requirements of the American Concrete Institute Building Code Requirements for Reinforced Concrete (ACI 318-71); as applicable to the forming, placement and handling of concrete materials shall be followed.

B. Admixtures shall be employed in accordance with Manufacturer recommendations. The compatibility of admixtures to achieve proper results shall be verified by the Ready-Mix Supplier. NO INCOMPATIBLE ADMIXTURES SHALL BE EMPLOYED. The Architect/Engineer shall approve any alternative mix design proposed.

C. TOLERANCES

1. Footings: True to top grade, 3/8” high to 1" low; true to width - 0" and + 6"; true to bottom grade 0" high, 4" low.
2. Slabs: True to grade and plane, F 50, maximum variance 1/8" in 4’ ¼” in 10', 3.8" overall; slope uniformly to drains over areas identified on the Drawings; no ponding of water shall occur at any location on slabs, unless so specified.
3. All Other Work: Not exposed to view, 1/2"; exposed to view work 1/16" in 2' and 1/4" overall.
4. Steel Placement: All work 3/8" plus or minus from specified position.

    a. Never closer than 3” to unformed earth exposure.
    b. Never closer than 2” to formed face earth exposure
    c. 1” to exposed face exposure unless noted otherwise.

1.3. SUBMITTALS

A. Identify the Concrete Supplier.

B. Submit a description of the mix to be employed, identifying the quantities and types of all materials and admixture to be employed in the mix.

C. Submit reinforcing steel shop drawings for all prefabricated steel work.

1.4. TESTING

A. The Contractor shall be responsible for securing and paying for all testing as requested by the inspector at the job. Tests may be requested on the average of every fifty (50) cubic yards of work and on each day of pouring, whichever is the greater frequency.

1. Testing clarification: Testing of concrete is to be included in the Contractor's Contract. Air entrainment testing will rarely be requested and will only be applied to concrete subject to freeze-thaw cycles such as sidewalks or curbs. Typically concrete supplies have access to an air meter and we will accept the results provided by on site personnel who know how to use such a device. All concrete testing can be done by on site personnel with break results being provided by an engineering lab. The Contractor should keep at the site a slump cone and cylinder molds.

B. Test date shall be sent directly form the Testing Laboratory to the Architect and shall include the following information:

Project Name
Date of pour
Location of job
Job conditions, temperature, weather, etc.
Type of failure
Strength at failure
Slump results (if requested by the inspector)
Air entrainment (if requested by the inspector)

C. At any time pouring is contemplated the Contractor shall have available, at the job, standard concrete testing cylinders. The Contractor, when requested to test, shall make three (3) at twenty-eight (28) days and one (1) in reserve to allow for verification in the event unsatisfactory results occurred at the twenty-eight (28) day test.

D. The Contractor or his Supplier shall have available a slump cone and an air meter which can be brought to the job, if such a request is made by the inspector.

2. PRODUCTS

2.1. MATERIALS

A. Cement - to comply with ASTM C-150, Type I Portland Cement.

B. READY MIX - to comply with ASTM C-94.

C. AGGREGATES - to comply with ASTM C-33, maximum size aggregate to pass 1-1/2" ring for footings, 1" ring for other work.

D. WATER REDUCING ADMIXTURE - without chloride ions to comply with ASTM C-494, Type A. Use Type D retarding at temperatures exceeding 90 degrees F.

E. **VAPOR LOCK ADMIXTURE:** Admixture TO lock water vapor against movement into other substrates applied over the concrete. To be product such as SPG VAPOR LOCK 20/20. ASTM $($ and NSF-61. Follow manufacturer instructions for warranty

1. Use in all interior floor slabs
2. and in roof deck slab.

F. AIR ENTRAINMENT ADMIXTURE - to comply with ASTM C-260, "Air Mix", MB-VR, Darex".

G. ANTI-SPALLING COMPOUND - to be combination product, minimum 50% linseed oil, meeting ASTM D-260 and maximum 50% mineral spirits or approved VOC carrier, meeting ASTM D 235.

1. Application only required in horizontal concrete poured after September 15 and potentially subject to salt during the winter.
2. Other materials such as Thompson water seal may be employed subject to approval.
3. Apply on warm days 4 weeks after concrete was poured.

H. WATER - shall be clean, potable water, free of dissolved salts or detrimental substances at a minimum temperature 50 degrees F.

I. BONDING agent- for rubbing and repairs shall be "Daraweld-C", "Elmer's Pro Bond", or "FlexCon" latex bonding agent.

J. REINFORCING STEEL - to comply with ASTM A615, Grade 60 deformed bars.

1. Epoxy coated reinforcing where noted

    a. Exterior work or high moisture exposure structural work.

K. WELDED WIRE FABRIC - to comply with ASTM A185, Grade 60 minimum.

L. EXPANSION JOINT MATERIAL - minimum ASTM A185, Grade 60.

1. Two (2) part/top 1/2" removable to allow S-4 sealant installation where appropriate on exterior pavements and sidewalks.

M. JOINT FILLERS - asphalt impregnated, 1/4" interior, 1/2" for exterior and as noted on Drawings and in Specifications.

1. See sealant specification for joint sealants over fillers.

N. VAPOR BARRIER - shall be 10-mil (.010") polyethylene or vinyl film, Visqueen, WR Meadows, or equal.

O. CURING COMPOUND - to comply with ASTM C-309 and to be compatible with finish treatments, adhesive and floor coverings.

P. FLOOR SEALER, acrylic or polymer base sealer such as Sherwin Williams 4401, apply minimum 2 coats or as needed for uniform shine

Q. ANTIFREEZE ADMIXTURES WILL NOT BE ALLOWED.

R. CONCRETE - shall be designed to conform to the following in-place minimum standards:

Seven (7) day strength	2500 psi.
Twenty-eight (28) day strength foundations	3500 psi.
Twenty-eight (28) day strength, other work	3750 psi
Cement content foundations - minimum/cu. yd 5 bag..	470 lb bags
Cement content other work – minimum/cu yd 5.5 bag..	517 lb
Air content by volume, all work	5% to 8%

Concrete shall contain water reducing admixture and air entrainment admixture, as recommended by additive manufacturers.

S. POLYPROPYLENE FIBER REINFORCING

1. When noted on the drawings or specifically called out in these specifications, Material shall be incorporated in the mix at 1.5 lbs. per cu. yd. concrete, use in all unreinforced slabs. If rebar mat or WWF is installed fiber mesh is not required.
2. Manufactured by Fibermesh, Inc., or equal, 4019 Industry Dr., Chattanooga, TN 37416 or equivalent by ASTM standards.

3. EXECUTION

3.1. ENVIRONMENT AND JOB CONDITIONS

1. Concrete shall not be poured at an air temperature below 40 degrees F. or above 100 degrees F.
2. The concrete, as specified, shall not be poured at temperatures below 40 degrees F. and shall be provided a means of maintaining not less than 70 degrees F. for five (5) days or 50 degrees F. for seven (7) days.
3. NO USE OF CHLORIDES OR ANTIFREEZE WILL BE ALLOWED.
4. When WRITTEN APPROVAL is issued, pouring of concrete at below 40 degrees F. may be allowed.
5. When so approved, and when outside temperatures are between 25 degrees F. and 40 degrees F., Type III cement shall be used or an additional one (1) sack per cubic yard of cement shall be used and placed materials shall be maintained at 60 degrees F. for three (3) days or 45 degrees F. for four (4) days and concrete shall have a temperature of 70 degrees F. to 80 degrees F. at the time of placement. Additional requirements may apply, depending upon the applicable circumstances.

6. NO CONCRETE SHALL BE PLACED OVER A FROSTED BASE, ON FROSTED FORMS, OR WITH FROSTED REINFORCING, ALL SURFACES SHALL BE ABOVE FREEZING IN TEMPERATURE.
7. All concrete shall be protected form direct sun, direct wind and adverse weather for two (2) days after placement, regardless of air temperature.

3.2. FORMING

A. Construct forms accurately to the shapes; and dimensions set forth and adequately brace, secure and tie forms to maintain line and level during pouring operation. Form bracing shall be of a type to allow adjustment thereof.

B. Any failure of the forms to properly maintain position or properly perform in any manner shall be the responsibility of the Contractor.

C. Forms shall be designed and installed in a manner which will not be injurious to the concrete when removed. Forms shall remain in place until the concrete is hardened, two (2) days minimum.

D. Bank forming is allowed for footings only.

3.3. REINFORCING

A. Size and locate reinforcement as called for in the Documents and accurately position and secure reinforcement to prevent shifting during pouring. Reinforcing steel shall be continuous around corners and through points of thickness variation.

1. Epoxy coated nose bars, exterior stairs if applicable.

B. All reinforcing steel shall be kept covered and protected from deterioration at all times. Reinforcing steel shall be free of rust, scales, pints, form oil or bond reducing surface condition prior to pouring.

C. Bars larger than #4 shall be shop fabricated to shape. Field heating for bending is not permitted.

D. All splices shall be 36-bar diameters minimum. Welded wire fabric shall be lapped one (1) wire spacing (two (2) parallel cross wires).

E. All steel shall be positioned to provide minimum concrete clear cover as noted for the following conditions:

Earth, banked formed such as footings……3"
Earth, formed ..... 2"
Exterior weathering ..... 1-1/2"
Interior ..... 1"
Interior, fire rated ..... 1-1/2"
Slab steel *(includes wire mesh)* ..... 3/4"

F. Form oils employed shall be non-staining and shall not leave a residue that will be detrimental to sealants, mastics or finished which may be applied to the surface.

G. All elevated slabs on steel deck to be reinforced as detailed.

H. All other slabs, sidewalls, paving, to be polypropylene fiber reinforced 1.5 lb. / cu. yd. unless detailed otherwise.

3.4. FOOTINGS

A. All of the footing trenches shall be clean cut and full in measurement. Fill or backfill under footings shall not be permitted on the job. All footings shall rest on solid undisturbed earth unless specifically set forth otherwise.

B. No loose materials (dirt knocked in during excavation or forming), debris of any type, muck or water shall be present within the footing trench at the time of concrete pour.

C. All concrete shall be thoroughly mixed to achieve a uniform consistency of cement, fine aggregate and course aggregate without lumps or segregation at the point of placement. The water content shall be controlled by the Supplier to assure a workable mix at the point of placement.

3.5. PLACEMENT AND HANDLING

A. Concrete shall be deposited in place in a manner to minimize segregation of aggregates. It shall be accurately deposited in the forms in a manner which will not allow significant horizontal flow of the concrete.

B. Forms shall be uniformly filled the full length of the pour in appropriate lifts maximum.

C. All concrete, except slabs, shall be compacted by means of a vibrator (slabs optional). The vibrator shall not be used to convey the concrete. Where a vibrator is employed in a vertical pour, it shall be used in a manner which does not disturb previous lifts and cause injury thereto.

D. All of the interior slabs on grade shall be poured on 10 mil polyethylene vapor barrier. Lap joints and tape, or roll joints and secure.

E. Concrete shall be placed in a continuous operation until the pour is completed. Construction joints not called for on the Drawings shall be approved by the Architect.

3.6. CONSTRUCTION JOINTS, EXPANSION, CONTRACTION, BOND BREAKERS

A. Provide expansion joints, bond breakers and thermal breaks as detailed on the drawings.

1. In all cases, where an expansion material is required, there shall be NO contact between the slab concrete and the CMU or concrete surrounds
2. Makes sure there is no contact along low edge.

B. Slabs shall have asphalt impregnated or foam expansion joints along all building walls, curbs and at approximately twenty-foot (20') center to center. In long pours exterior

1. Material shall be two (2) piece with top removable to provide for sealant S-4 at exterior slabs
2. ½" at exterior locations
3. ¼" at interior locations

C. Exterior sidewalks shall have uniformly spaced score joints nominal 5'-0" o.c. or as noted

1. Expansion joints with sealant at nominal 20' spacing but coordinated with conditions.
2. Joints shall present a uniform appearance.

D. Where practical, slab pours shall be made in approximately square sections. In no case, should the proportion of length to width on a slab pour exceed 3 to 1 without a joint.

1. "Green" cut scores will be allowed on large pours, interior slabs and parking surfaces
2. Sidewalks score tool joints are preferred.
3. Joints and cut scores shall be planned to be unobtrusive, extend off inside corners of surrounds.
4. Fill joints after 30 days and prior to floor installation. Select filler appropriate to floor cover.
5. Coordinate with floor finishes.

E. All construction joints in walls subject to weathering or earth shall have 1/2" X 1" reglet, provided with Styrofoam rope and be sealed with appropriate sealant.

F. Joints shall occur where detailed or where approved by the Architect. Do not provide construction joints at locations other then those detailed, unless approved. Additional reinforcing may be required at non-detailed construction joints and shall be installed as directed at no additional charge to the Owner.

3.7. SLABS

A. True to grade, full thickness.

1. Checked any time prior to completion: slabs shall be within assigned level,

a. Interior slabs F 50 1/8” in 4’, ¼“ in 10’, 3/8” max. across entire floor.

2. Ponding of water shall be limited to small areas, in compliance with above and not over ¼“ ponded depth.

a. Exterior slabs shall not present ponding in areas of pedestrian traffic.

3. Floor drains shall always be below slab perimeter unless called out otherwise.

a. Sump around drain, approximately 1/8” per foot in 4’ X 4’ area.
b. Slope toward drains full rooms or marked areas 1/16” per foot.
c. Sump at open site drains ¼“ to 3/8” per foot 2’ X 2’ area.

4. Floors sloped to drains should not pond water.

a. Grind and repolish if necessary to achieve drainage.

5. Level areas beyond drains should not be lower than rim surrounding the sloped floor area. In some cases shaping the sump creates an artificial rim effect; this shall be avoided.

B. Depress slabs as appropriate for level transition at epoxy, wood, terrazzo floors, as occurs.

C. Reinforcing

1. Slabs

a. Interior slabs on grade 6 X 6 10/10 WWF UNO
b. Roof Deck slab on metal deck 6 X 6 0/0 or #3 at 12” oc both ways.
1) Provide chairs to support mesh in place

2. Exterior slabs

a. For pedestrians 4” with 6 “x 6” 10/10 WWF
b. For traffic 6” minimum 6” x6” 6/6 WWF or 8 “ and as noted, 6” x 6” 4/4 WWF
c. Integral curbs, edges exposed to traffic or snow plow #4 continuous

3. Walls, foundations structural members as noted on details

4. Joints in slabs

a. Construction joints smooth dowels 3/8ths x 16” at 12” mid point of slab, interior, exterior, all locations

b. Green cut joints extend WWF through below the cut line, do not cut mesh.

3.8. FINISHING

A. Concrete footings and foundation footings shall be given float finish unless specifically set forth otherwise on the Drawings or herein these Specifications.

B. All slabs, stairs and horizontal surfaces shall be toweled to a very dense, hard, smooth surface.

C. Walls at occupiable spaces, crawl spaces, tunnels, subject to backfill shall have voids filled, ties removed, lattice removed and be suitable to coating with damproofing.

D. The walls above grade, not subject to view, utility and mechanical areas, shall have forms removed, voids filled, and ties removed.

1. Polish walls above grade with limestone block using 50-50 cement and sand plus 2.1.H. bonding admixture.

E. Walls in basement areas subject to view shall be filled, shall have ties removed and shall receive a medium rubbed surface of 50/50 sand to cement plus 2.1.H. bonding admixture.

F. Trowel in abrasive, non-slip grit on stair treads and landing surfaces.

G. Sidewalks shall be steel troweled and light broom finished.

H. NO MISTING OR ADDITION OF WATER TO THE SURFACE FOR FINISHING OPERATIONS WILL BE PERMITTED. All concrete shall be poured at a workable slump and at a rate that will allow proper finishing with the manpower provided.

3.9. CURING

A. All work shall be properly cured.

B. All slabs shall receive a coat of Curing-Sealing Compound immediately following finishing. Sealer applied as curing does not count as seal coat to be applied at conclusion of job.

C. Keep all freshly poured concrete protected for a period of seven (7) days with forms in place or mist frequently to prevent drying out. Maintain at 50 degrees F. during this period.

D. Avoid loading or causing impact loading on new concrete for seven (7) days.

E. Apply anti-spalling compound on all new exterior concrete slabs in

October of the year of Owner occupancy. Apply no sooner than twenty-one (21) days following placement on all exterior slabs placed later than October when Owner occupancy is scheduled during that winter or spring season.

3.10. SEALING FLOORS

A. All floors shall receive the following cure and seal treatment.

1. All concrete

a. Cure and seal at time of pour ASTM C309

2. Sealed floors *(Any floor not receiving a floor finjish)*

a. Thoroughly clean up of spots, stains and repair of abrasions
b. Wash and prep as appropriate, provide PH treatments as recommended in seal application instructions.
c. Two (2) coats minimum (as needed to uniform sheen) or of a clear urethane type floor sealer suitable for wet locations
d. Strictly follow the product Manufacturer's recommendations.
e. For multi coat system to bring floor to uniform maintainable sheen.

END 03 3000

1. GENERAL

1.1. WORK INCLUDES

A. All masonry work of every description or the project.

1. Clay units, including face brick

a. Allowance $1000/M

2. Concrete units, CMU

B. See drawings for extent of work

1. Sizes and dimensions
2. Details of installation

C. Coordination

1. Provide openings requested by various trades prior to laying walls.
2. Install sleeves and/or lintels.

D. Provide openings in masonry for ducts.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. 03 30 00 – Concrete
2. 05 31 00 – Metal Decking
3. 05 50 00 – Metal Fabrication
4. 07 21 13 - Insulation

1.3. QUALITY ASSURANCE

A. Qualifications of installing contractor

1. Five (5) years experience on similar size commercial prevailing wage work.
2. Experienced and trains masons.

B. Code Compliance

1. International Building Code (IBC)
2. ACI 530-92 / ASCE 5-92
3. ACI 530.1-92 / ASCE 6-92

C. Mock-up panel

1. Lay up a 4’ X 4’ mock-up exterior wall to demonstrate reinforcing, insulation, jointing, color, workmanship.
2. A second mock-up of brick panel only may be required if brick panel determines brick selection must be revised.

1.4. SUBMITTALS

A. Mortar – each type, data sheet
B. Grout – each type, data sheet
C. Brick – samples, at job site
D. Concrete masonry units – samples at job site
E. Flashings – sample of each type
F. Reinforcing – data sheets
G. Stone

1. Material samples to A/E
2. After material acceptance, provide cut samples of each shape – samples at job site.
3. Clips

1.5. DELIVERY AND HANDLILNG

A. Deliver and handle carefully.

1. Protected from abuse, chipping, fire or other detrimental handling conditions.

B. Store materials in a manner to prevent damage.

1. Protect from excess moisture exposure.
2. Keep clean; do not employ muddy units.
3. Protect from excess handling, chippage or unit edge damage.
4. Mortar cement and lime to be kept dry prior to use.

1.6. JOB CONDITIONS

A. Cleanliness

1. Do not lay units that will have loss of bond due to dirt, water, foreign substance.
2. Surfaces to receive masonry shall be clean and provide suitable bond.

B. Protection

1. In place masonry shall be protected form water accumulation in cores.
2. Fresh masonry shall be protected from joint erosion due to rain, wind or abuse.

2. PRODUCTS

2.1. FACE BRICK

A. ASTM C216 Grade SW, type FBS, standard size brick, match existing.

B. Delivered allowance Face Brick, $1000 allowance, Red hard face brick to match existing.

1. Contractor option modular or standard, to match existing conditions.
2. Accent Brick, none required.

2.2. SPLIT FACE CMU None specified

2.3.

2.4. STONE None specified

2.5. GLAZED STRUCTURAL TILE none specified

2.6. COMMON BRICK, BEARING BRICK, MASONRY BEARINGS

A. Common brick and concrete brick shall be sound and of uniform size. Brick shall be employed in all locations shown on Drawings or called for in these Specifications. Where not exposed to view, common brick or sound face brick which does not conform to chippage for dimensional requirements may be employed in locations calling for common brick, if this brick conforms to the following requirements.

1. Bricks employed shall be full units, except where cut to fit. Joints shall be of a consistent nature not exceeding 1/2" in thickness nor less than 1/4" for head and bed joints.
2. Brick may be Type FBA, Grade NW except that Grade SW shall be employed, if exposed to weather in any manner, meeting ASTM C62 or C216 requirements for performance and strength. An average of five (5) bricks shall be 3000 psi minimum. Brick shall be solid concrete brick where exposed to view in block walls.

a. See Drawing Notes requiring specific beams and columns bearing.

B. Masonry bearing: Always provide solid bearing for all steel structural members bearing on or embedded into masonry construction.

1. As detailed.
2. If not detailed, brick bearing or grout core filled 8" X 8" up to 8' span.
3. Over 8' span, grout filled hollow or solid masonry, 12" X 12" minimum, but not less than 1" X 1" per foot of span (i.e., 12' span 12" X 12" / 20' span 20" X 20").
4. Embed bolts or studs into grout.

2.7. CONCRETE BLOCK

A. All CMU block used shall be:

1. Standard sand/gravel aggregate

a. Coordinate with the GC and painter for impact on block filler absorption.
b. Outside wall corners and window sills to be bullnose ..

B. All units shall be sound, straight, free of cracks and voids and shall have reasonably clean, full edges. Block shall be 7-5/8" in height and laid one (1) course equals eight inches (8"). The running dimension shall be 15-5/8" laid to equal sixteen inches (16"). Dimensional variance shall not exceed three percent (3%) between like units.

C. Average compression strength of five (5) units at the time of delivery onto the job site shall be based on an 8 X 8 X 16 unit gross area compressive test. The Contractor shall furnish said test record upon the Architect/Engineer's request. The block shall conform to ASTM-C90T. Type P-1, except block exposed to weather shall be Type U-1; moisture content shall not exceed three percent (3%).

1. Hollow CMU units 2000 psi gross area (3750 psi net).
2. Hollow lightweight CMU units 1700 psi gross area (3200 psi net)

D. Chippage and honeycombing in block shall be repaired to be indistinguishable in all exposed locations. Repairs may be made after the first coat of wall finish where a multiple coat system is employed. Replace unsatisfactory units.

2.8. MORTAR

A. All prepared mortar shall conform to ASTM C270, Portland Cement/lime mortar.

1. Face brick and stone exterior or veneers, Type N, 750 psi at twenty-eight (28) days.

a. Type N mortars or masonry cement shall contain approximately equal proportions of Portland and hydrated lime; multi-use mixes that adjust sand ratio for N and S are not acceptable.
b. Colored to match existing adjacent existing mortars as closely as possible.
c. Colored mortar required at Split face CMU veneers

2. Concrete block, foundations, brick bearings, Type S, 1800 psi at twenty-eight (28) days.

3. Bond beams, core fill, etc., Type S or grout, may use up to 3/8" aggregate limited by flowability in large voids.

B. Prepared masonry cement may be employed, such as "Brixment" as manufactured by Louisville Cement Company, Lone Star, Lehigh, or approved equal, in proportions of one (1) part masonry cement to not more than three (3) parts damp loose sand. Sand shall have a fineness modulus of 1.96.

1. Type ‘S’, all CMU and brick work except exterior veneers.
2. Type ‘N’ exterior veneer work.

C. All mortar shall include a water-reducing plasticizer as manufactured by Master Builders or approved equal, in strict accordance with the Manufacturer's directions.

D. The mortar shall be installed within 2-1/2 hours of adding moisture to the mix. Mortar 2-1/2 hours old shall be discarded and replaced with new.

E. USE OF CEMENT ACCELERATOR OR ANTIFREEZE WILL NOT BE

ALLOWED.

2.9. GROUT

A. Where called for, grout to be per ACI 530-92.

1. Minimum 2000 psi.
2. Aggregate size per ACI 530.1.
3. Consolidate into place.

B. Non-shrink where called for at steel bearings.

1. Non-metallic cement based, ASTM C-827.
2. Exterior rated.
3. Protect from freezing.

C. Where shown core filled, may be mortar, grout or concrete as available.

2.10. MASONRY REINFORCEMENT

A. Exterior wall reinforcement double wythe, hot dip galvanized eye and pintle ladder style, 16" eye spacing 9-gauge by 9-gauge cross ties and 9-gauge eyes with adjustable seismic clip interlock and #9 gauge veneer joint reinforcing snapped into seismic clips.

1. Dur-o-wal, D/A 3700ES, adjustable seismic tie and clip
2. Hohmann and Bernard, LOX-ALL, adjustable seismic tie and clip
3. Masonry Reinforcing Corp., Wire Bond Series 800 with seismic tie and clip
4. Or equal
5. See Plans for wall thickness and conditions.

B. CMU wall reinforcement - single wythe, hot dip galvanized ladder style, 9-gauge X 9-gauge.

1. See Plans for wall thickness.

C. Interior wall reinforcing - single wythe, mill galvanized, or hot dipped galvanized ladder style, 9-gauge X 9-gauge.

1. See Plans for wall thickness.

D. Face brick shall have seismic pintle tie to block 16-gauge

1. Use seismic clips and #9 continuous wire.

E. Bond beams and vertical reinforcement shall be clean Grade 50 or Grade 60 deformed reinforcing steel. Lap splices 18".

1. May use H and B “Spyra Lox” in lieu of rebar laps in masonry.
2. See plans for bar size and quantity.

F. Control joints

1. CMU, 3/8” X 24” oiled smooth bars, (1) 4” and 6” walls, (2) 8” and 10”

walls, (3) 12” and 16” walls

2. Unbonded intersections, ½” square, hot dip galvanized, 3” x 8” x 16 gauge mesh wall ties, 2” X 8” or as appropriate, alternate courses.
3. Masonry veneers, ½” square, hot dip galvanized, 16 gauge mesh wall ties, or 6” lapped #9 wire, one side.

G. Ties

1. To embedded steel, weld on wire ties and Vee slip anchors
2. To intersecting walls , foundation support to wall support, galvanized 3” x 8” x16 gauge galvanized fabric ties.
3. Appropriate ties for other conditions, all unbounded intersections veneers or other conditions to be tied.

2.11. FLASHING

A. Through wall flashings or termite shield shall be two flexible long life adhesive type such as:

1. Hohmann and Bernard H&B Mighty Flash
2. W R Grace Perma Flash

B. Splicing cement

1. Shall be modified asphalt cement for metal flashing for all horizontal laps. Not required for joints lapped shingle fashion
2. Not required for adhering flexible types.

C. Drip flashings, 26 or 28 gauge stainless steel for **ALL** unprotected exterior wall openings, full length of lintel. *Unprotected means no overhang above within 2’ vertically*

1. Such as Mason Pro type 304 stainless steel
2. Bottom edge hemmed on 28 gauge
3. Required at louvers, windows, doors, penetrations, ledge angles, lintels of an type.
4. No exception unless directed IN WRITING.
5. Seal laps.
6. Provide end dams at discontinuous applications such as doors and windows.
7. Exception: at brick sill condition at least 8” below finish floor on a concrete foundation, flexible flashing may be used with weep ropes.,

D. At through wall louvers provide:

1. Full wall width sill flashing. Coordinate with Mechanical Contractor. Flashing shall be 30 gauge stainless steel or as detailed. Provide 1/2" turned up back edge and jamb edges and seal corner where possible.
2. Drip flashings above louver. Coordinate with louver style.

2.12. MOISTURE REPELLENT: SEE 07 9116

2.13. INFILTRATION BARRIER:

A. Fluid applied air barrier such as W R Meadows Air Shield, or similar.

B. Apply directly to the exterior surface of the CMU exterior walls.

1. Follow manufacturers recommendations for application
2. Check and reseal and breaches, cracks or surfaces which might allow the passage of air.

2.14. WEEP ROPES: $^{5}/_{16}$" ~ $^{3}/_{8}$" cotton rope

3. EXECUTION

3.1. WORK INCLUDED

A. All masonry work and materials.

B. General Contractor shall furnish all labor and materials and complete all masonry work, of every nature, called for on the accompanying drawings, as need to complete the work and specified herein these Specifications.

1. Limited locations require the installation of structural glazed tile.

a. Door infill's, up to wainscot height.
b. Throughout, small repairs will be required to point in individual units where pipe holes or openings in walls must be repaired.
c. Restrooms sink and urinal wall repairs, to remove full height urinals, and re-space and install new and rework the sink wall.

C. OPENINGS

1. The Contractor shall leave or cut all of the openings in masonry construction required for work by the other Contractors and/or Subcontractors.
2. Provide and install lintels of proper size over all openings needed.
3. Where said lintel sizes are not established by schedule on the Drawings or herein these Specifications, sizes shall be determined in conference with the Architect.
4. Install sleeves in the walls as provided by the various Contractors and Subcontractors at locations as directed.
5. Provide openings in walls as coordinated with other contractor/sub contractors in a timely fashion prior to construction of the work and when noted on the drawings.

D. INSTALLATION OF MASONRY

1. This Contractor shall make all repairs needed at masonry openings, etc., after other Contractors and Subcontractors have completed their work.
2. All masonry work shall be laid straight, plumb and true, and in a workmanlike manner, employing full head joints and continuous bed joints.
3. All masonry walls are to be carried up to the exact heights that are

properly leveled for sills, joists, beams, floors, etc. All masonry shall be properly protected from damaging weather. The Contractor shall be completely responsible, and shall replace, at his own expense, all masonry which, in the Architect's opinion, has been damaged by adverse weather conditions.

4. Where masonry work is called for to be laid up immediately over structural steel, a header course shall be laid directly over the steel.
5. All masonry units shall be sound and reasonably straight as judged by the Architect, in keeping with specific use to which the units are put. Unit sizes shall be standard for the material and shall comply with the coursing set forth on the Drawings.
6. All joints shall be struck evenly and regularly and in a manner and style as shall be determined in conference with the Architect.

    a. All put-log holes shall be determined in conference with the Architect.
    b. All put-log holes shall be carefully filled and struck.
    c. All head bed joints shall be cut clean at their intersections.

7. Wherein the Drawings show masonry fill-in at the abandoned openings, the same shall comply with these documents, with each face finished to match the existing adjacent wall finish.

E. MASONRY BEARINGS:

1. All steel or concrete beams, lintels, headers, columns require solid bearing.

    a. embeds when called out in schedules or detailed.
    b. Core filled and re-bar walls as noted on plans or details
    c. Brick or grouted bearings

        1) As detailed
        2) If not detailed not less than 8” x 8” or 1” x 1” per foot of span, i.e. 15’ span 15” x 15”, 20’ span 20” x 20”

    d. Set joist bearing plates, embed studs.
    e. Set Beam bearing plates and anchor bolts as coordinated with the steel work.

F. WEATHER-TIGHT

1. Where sealants or flashings are to be employed, joints shall be raked to proper dimensions. Sealants employed shall be as per sealant specifications.

2. Install flashings at all exterior openings.

    a. Flexible flash from CMU and lap over Stainless steel drip flashing applied over lintel

        1) Full length of lintel unless noted otherwise and uniform in appearance end to end.
        2) Sealed laps not less than 4”

3) End dams

b. Drip flashing to extend length of lintel (uniform each end)
c. Weeps at all exterior flashing at 24” spacing (uniform space and not more than 16” from ends).

1) Cotton rope type lap horizontal and then 4” to 6” vertical behind veneer

G. INFILTRATION TIGHT

1. Coordinate with other trades to accommodate compressible infiltration barriers
2. All exterior masonry work to be complete and properly jointed to provide barrier to wind through assembly.

3.2. INSTALLATION

A. OUTSIDE CORNERS

1. Bull nose

a. Outside corners of interior walls
b. Window sills
c. Window jambs

2. No bullnose

a. At hollow metal frames
b. At aluminum windows frame side flush with corner.

B. BONDING

1. All masonry work shall be bonded unless specifically indicated otherwise on the accompanying Drawings or herein these Specifications.

a. All be3aring walls and safe room grouted walls bonded
b. Intersecting walls to those walls may be tied with galvanized mesh ties.

2. All piers shall be bonded each course, insofar as this is practical. All walls and piers intersecting structural walls shall be bonded with structural wall every other course.
3. Where bonding is not practical, approved galvanized metal ties shall be used and the ties shall be set approximately one (1) per 1¾ square feet of wall surface.
4. All block work shall be laid in common bond.
5. Bond intersecting corners of foundation supported walls.
6. Rake and caulk and tie intersecting walls slab supported with foundation supported.

C. JOINTS, BACKPLASTERING AND PARGING

1. All joints shall be struck evenly and regularly and in a manner and

style as shall be determined in conference with the Architect. All put-log holes shall be carefully filled and struck. Head and bed joints shall be cut clean at their intersections.

2. All head and bed joints in all masonry work shall be full joints and SHALL BE CROSS WEBBED when possible.
3. Tool all joints with V groove or round groove toll as directed.

D. COLD WEATHER CONSTRUCTION

1. Strictly comply with ACI 530-99/ASCE 5-99/TMS 402-99.

2. Implement the following requirements when the ambient temperature falls below 40 deg. F. or the temperature of masonry units is below 40 deg. F.

3. Do not lay masonry units having a temperature below 25 deg. F. Remove visible ice on masonry units before the unit is laid in the masonry.
4. Heat mortar sand or mixing water to produce mortar temperatures between 60 deg. F. and 120 deg. F. at the time of mixing. Maintain mortar above freezing until used in masonry.
5. When the ambient temperature is between 25 deg. F. and 20 deg. F., use heat sources on both sides of the masonry under construction and install windbreaks when wind velocity is in excess of 15 mph.
6. When ambient temperature is below 20 deg. F., provide an enclosure for the masonry under construction and use heat sources to maintain temperatures above 32 deg. F. within the enclosure.
7. When mean daily temperature is between 40 deg. F. and 32 deg. F., protect completed masonry from rain or snow by covering with a weather-resistive membrane for 24 hours after construction.
8. When mean daily temperature is between 32 deg. F. and 25 deg. F., completely cover completed masonry with a weather-resistive membrane for 24 hours after construction.
9. When mean daily temperature is between 25 deg. F. and 20 deg. F., completely cover completed masonry with insulating blankets or equal protection for 48 hours after construction.
10. When mean daily temperature is below 20 deg. F., maintain masonry temperature above 32 deg. F. for 24 hours after construction by enclosure with supplementary heat, by electric heating blankets, by infrared heat lamps, or by other acceptable methods.
11. Do not lay glass unit masonry during cold weather construction periods.

E. HOT WEATHER CONSTRUCTION

1. Strictly comply with ACI 530-99/ASCE 5-99/TMS 402-99.
2. Protect from wind when air temperature exceeds 90 deg. F.

F. RAIN / FLOWING WATER

1. Protect newly laid masonry from exposure to rain or running water.
2. Consult A/E prior to surface repair of eroded joints in an unexpected exposure.

G. FLASHINGS AND WEEPS

1. Provide flashings and weeps at all exterior veneer condition with solid bearing surface, open below, and at building sill line near grade.

   a. Above all roof lines, coordinate with roof flashing System

   b. Above all openings provide stainless steel drip flashing with turned up rear edge

      1) Seal laps
      2) End dams where discontinuous
      3) Always provide weeps
      4) Lap over turned up edge with flexible flashing system installed into the cmu back up at least 8" up or secured and sealed to sheathing system at least 12" above flashing line.
      5) At concrete, steel, such as ledge angle or grade line
         a) At grade line or lower edge of brick veneer the stainless steel flashing is not required in the flashing course is at least 8" below the interior lowest finish floor, then only the flexible flashing is required.

   c. Weep @ 24" U.N.O.

      1) Not less than 4" from ends of flashing such as at lintels
      2) Weep ropes to lay horizontal in bed joint at least 4" then rise up at least 4" against the back up surface.

   d. Weep ropes, $^{3}/_{8}$" cotton, to lay at least 12" horizontally then up 6" in space behind face veneer.
   e. Seal all flashing splices. Splices approximately 4" minimum
   f. Provide stainless steel drip flashing at all openings.

      1) End dam all ends of flashings inside veneer.
      2) Flexible flashing laps over a rear turn up not less than 2" on drip flashing turn up of 3"

   g. Flexible flashing only required at sill condition unless specifically detailed.

      1) Place to face of wall.

   h. In all cases, the flexible flashing concealed in the wall shall lap up *(in front or behind the cavity insulation)* into the next CMU joint not less than 6" above the horizontal plane of the flashing.

      1) Lay into the CMU joint approximately 2"

H. REINFORCING

1. Horizontal joint reinforcing

   a. Reinforcing shall be placed in bed joints continuous at 16" spacings, measured vertically, beginning a maximum of 16" above footing. Extra reinforcing in the first bed joint immediately above and below openings shall be continuous for a distance of 4'-0" beyond each jamb of the opening.
   b. Lap reinforcement sufficiently at splices, 8" minimum, to ensure continuity; corners shall be cut and bent.
   c. Reinforcing shall not pass through vertical masonry control joints, except where required for structural reasons as noted on the Drawings.
   d. Reinforcing shall be proper size for all thicknesses.
   e. See Drawings for Bond Beams.

   f. Pintle and tie veneer reinforcing loops, min. one (1) per two (2) sq. ft.

      1) Seismic clips and wire in brick joints.

I. CLEANING DOWN FINISHED MASONRY:

1. All block work shall be cleaning of mortar drippings, joints finished down, and the entire surface stoned or brushed as required and chips repaired.

J. MOISTURE PROOFING

1. See Section 07 19 16 Moisture Repellent

   a. Apply waterproofing to **ALL** new exterior masonry surfaces.
   b. Lap onto adjacent masonry walls/min. 2'-0" unless designated otherwise on the Drawings.

K. WINDBREAK AND WALL TO WALL ANCHORAGE

1. Wherein the Drawings indicate new exterior masonry wall abutting existing masonry walls, provide the following system:

   a. 4" X 4" X 1/4" windbreak steel angle full height of intersection walls/leg bolt to (E) wall - 3/8" dia. X 4" at approximately 2'-8" spacing.
   b. Provide corrugated anchors/wall to wall at 8" spacing/each wythe.
   c. Provide foam rope and sealant bead struck smooth/full height at exposed wall intersections.

2. Wherein the Drawings indicate interior new masonry walls abutting existing masonry walls,

   a. Provide ¼" drilled shear pins spaced max. 16" vertically per wythe/two (2) ties per wythe where masonry wythe exceeds 6".

b. Where new walls abut existing masonry walls exposed to view/rake the joint and provide paintable sealant bead struck smooth.

END 04 2000

1. GENERAL

1.1. DESCRIPTION

A. Provide structural steel as shown on the Drawings and specified herein, including but not necessarily limited to:

1. All steel normally falling under definition of structural steel as set forth in latest edition of AISC Code of Standard Practice, Section 2.
2. All steel items reasonably implied but not specifically mentioned on the Drawings or specified herein to render work secure and complete. This includes all connections and erection accessories.
3. All structural steel (beams, lintels, bearing plates, etc.) exposed to the building exterior envelope - atmosphere shall be galvanized (see 2.1.F.) and finish coated/09 90 00) after shop welding.

1.2. RELATED WORK

A. Specified elsewhere:

1. DIVISION 00 - PROCUREMENT REQUIREMENTS
2. DIVISION 01 - ADMINISTRATIVE REQUIREMENTS
3. 03 30 00 – Concrete
4. 04 0200 – Unit Masonry
5. 05 5500 - Metal Fabrications

1.3. QUALITY ASSURANCE

A. Manual of AISC, Fourteenth Edition – Allowable Stress Design (ASD)

1. ASIC "Code of Standard Practice for Steel Buildings and Bridges"
2. AISC "Specifications for the Design, Fabrication and Erection of Structural Steel of Buildings" including Supplement No. 3

B. ASTM A6-72 "General Requirements for Delivery of Rolled Steel Plates, Shapes and Bars for Structural Use"

C. AWS - "Standard Code of Arc and Gas Welding in Building Construction"

D. "Specifications for Assembly of Structural Joints Using High Strength Steel Bolts" as approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation

E. Prime coat, whether factory or field applied, shall have nicks and skins touched up, wherein the primer coat is the final coat or the primer coat is base for the pursing coatings.

F. Structural welding shall be completed by certified welders in shop or field.

1. Non structural critical welds such as back to back lintels, accessories welded to structure, masonry accessories such as wire ties, may be welded by a competent welder subject to inspection for uniform

penetration and good appearance.

G. PROOF TESTING SERVICES Testing shall be applicable only whereupon the Architect/Engineer has rejected the Contractor's work and so notified the Contractor thereof.

H. The Contractor may employ, at his own expense, a Testing Laboratory (or laboratories) selected by the Architect/Engineer to perform all tests and submit reports of all tests specified.

I. The Testing Laboratory shall be responsible for conducting and interpreting the tests and shall state in each report whether or not the test results conform to the Contract Documents.

J. The Owner may employ an independent inspector.

1.4. SUBMITTALS

A. Submit shop drawings with complete fabrication and erection details and schedules in accord with 01 78 00.

1. Shop drawings shall have been thoroughly checked by the Fabricator before being submitted to the Architect/Engineer for review. Review is a precautionary measure only and shall not relieve the Fabricator of full responsibility of correctness of all materials, sizes, dimensions and details.
2. In case structural sections or details indicated on Drawings cannot be readily obtained, substitution of sections of details of equal strength which conform tot he requirements of design may be made only if approved.
3. Fabrication shall not proceed until shop drawings have been reviewed. Fabrication, assembly and erection shall conform to reviewed and approved shop drawings.

2. PRODUCTS

2.1. MATERIALS

A. Structural Steel: ASTM A 36-70a.

B. Welding Electrodes: AWS Specifications, Designation A233 (E-60 or E-70)

C. High Strength Bolts: ASTM A325-71a – beam to beam / beam to column

1. Always provide washers.
2. Beveled washers where needed.

D. Standard Bolts: ASTM A 307-76b – anchor bolts

E. Galvanizing: ASTM A 123 two (2) oz. per square foot for all steel embedded in exterior walls supporting the exterior wythe (brick).

F. Priming: All steel shall be given one (1) shop coat (two coats for members, embedded in exterior walls) of Red Oxide Alkyd primer, lead free.

1. Not required on fully embedded face brick hot dip galvanized members

2.2. FABRICATION

A. Material shall be properly marked and match-marked where field assembly so requires. The sequence of shipments shall be such as to expedite and minimize the field handling of material.

B. Beams and girders shall be cambered as required for loading conditions.

C. Built up sections assembly by welding shall be free of warpage and all axes shall have true alignment.

D. Welding

1. Welds not specified otherwise shall be continuous fillet welds, using not less than the minimum fillet as specified by AWS.
2. 1/16" less than thinnest material up to 1/4" weld, then as specified.
3. Structural welding shall be completed by certified welders in shop or field.
4. Non structural critical welds such as back to back lintels, accessories welded to structure, masonry accessories such as wire ties, may be welded by a competent welder subject to inspection for uniform appearance and penetration.

E. Take field measurements as required to verify and supplement dimensions shown on the Drawings.

F. Provide anchor bolts and embedded plates for anchoring structural steel to the supporting concrete and masonry. Furnish, as soon as possible, detailed plans showing exact locations of all bolts to be built into concrete or masonry. Furnish templates as required.

G. Connections:

1. Field connections shall be bolted, unless otherwise noted on the Drawings. Field welded connections shall be used only where they are specifically shown on the Drawings or with A/E's approval.
2. Shop connections may be riveted, welded or bolted with high strength bolts at Contractor's option. All shear connections shall be welded or bolted with high strength bolts.
3. If high strength bolts are used, they shall be installed in strict compliance with AISC Specifications and ASTM A325 requirements for installation of A325 bolts.
4. All structural critical field and shop welds shall be by certified welder only. The Certificates should be available for inspection by the Architect/Engineer.
5. All connections not specifically shown shall fully develop critical load for member being connected.
6. Bolts, where used, shall have cut washers under nuts and no threads allowed to bear on parts being connected.
7. Bearing ends of columns shall be milled or sawed for true bearing on base plates. Rough bearing ends shall not be used.

H. At brick plates and supporting flanges, provide No. 9 wire full length three inches (3") inside exposed edge – one-inch (1") tack weld at sixteen inches (16") spacing.

1. See Drawings for specific exceptions and designations.

I. All columns adjacent to unit masonry shall have adjustable anchors at twenty-four inches (24") o.c.

1. See Drawings for specific exceptions and designations.

2.3. CLEANING - SHOP PAINTING

A. All steel furnished shall be cleaned of rust, mill scale, dirt and foreign matter before application s to shop coat of paint.

B. Paint structural steel with one (1) coat of red oxide alkyd paint. Apply additional coats as needed on surfaces skinned, nicked, burnt or peeled after assembly and erection. Horizontal steel embedded in exterior masonry wall such lintels and beams shall receive one (1) coat of epoxy primer.

C. All steel under this heading, unless specifically noted otherwise shall be given one (1) smooth, shop coat of 2 mil dry film thickness.

D. Hand clean and solvent-clean all unpainted and damaged shop coat areas and touch up with a compatible shop coat primer.

2.4. GALVANIZING - all lintels embedded in and supporting exterior face brick shall be hot dip galvanized. Only the portion effecting brick work is required to be galvanized.

3. EXECUTION

3.1. INSTALLATION

A. Material stored at the job site shall not exceed design loads on structures so the members will not be distorted or otherwise damaged and all materials shall be protected against corrosion or deterioration.

B. Confer with other contractors and procure necessary templates and other information required to establish number, size and location of holes or other details necessary for attachment of blocking, windows, purlins.

C. Burning shall not be used to form holes, enlarging of holes or matching of unfair holes. No member shall be altered in field unless approved IN WRITING by the Architect/Engineer.

D. Throughout all phases of erection and construction temporary bracing shall be introduced wherever necessary to take care of all loads to which structure may be subjected including equipment and operation of same. Wherever piles of material, erection equipment, or other loads are carried during

erection, proper provisions shall be made to safely support these abnormal loads.

E. All members shall be cut neat, square and should be erected true and flush without twists and open joints. Light drifting to draw holds together may be used. Reference should be made to codes and specifications listed in this Section under Quality Assurance which governs all phases of fabrication, details, erection and workmanship. Responsibility for all errors of fabrication and for proper fitting of various members shall be assumed by the Contractor.

F. Column bases shall be set on steel shims. Grouting of column bases shall be with a non-shrink, non-metallic grout.

G. All steel exposed to view shall be free of surface imperfections and ground off to true surfaces. Exposed welds shall be ground smooth.

H. Provide steel lintels at all locations of mechanical work passage through walls.

1. Locate in conjunction with mechanical installers.

3.2. CONSTRUCTION BRACING

A. A/E design and detailing is for finished product only. Erection rigging, bracing and handling practices are the Contractor's responsibility.

1. A/E neither directs nor schedules installation.
2. A/E inspects only for installation conditions related to finished product.

B. Provide all necessary additional bracing, clips, anchors and reinforcement as needed.

1. Remove after erection when exposed to view or when design load shifts will result.

3.3. ANCHORAGE

A. All structural steel shall be mechanically anchored.

1. As detailed.
2. Similar to detailed work for items not specifically detailed.

B. Masonry lintels may be an exception.

1. Loose set except where noted.
2. Weld back to back lintel angles 2" weld at 12" spacing top to bottom.

C. Fully embed steel in masonry unless detailed otherwise directed by A/E in field.

3.4. BEAM FLANGE SHEAR AND UPLIFT STUDS

A. Studs are to be installed and welded through the deck to the top flange

following good practice for to assure full weld to beam flange through the decking

1. Top flange of beam clean of rust, mill scale, paint, moisture or contaminants to the welding process
2. Fit up deck to beam flange to be tight
3. Lap deck just off beam edge such that stud weld is thru one layer of deck metalDeck to be clean
4. Provide a proper structural ground to assure proper penetration.
5. Adjust weld gun settings for conditions and shear connector selection.
6. Allow for visual inspection of all welds prior to cover.
7. Selected studs are ½" x 4" to be spaced from each bearing point of the beam, (5) at 12", then remainder of beam at 24" spacing or as detailed.

3.5. PROOF INSPECTIONS

A. Welded connections shall be inspected by the Architect/Engineer in accordance with the following:

1. All welds will be visually inspected for minimum size, length and for defects.

B. Bolted connections will be inspected in accordance with the following:

1. High strength bolted connections shall be checked and approved by the "inspecting wrench" method outlined in the "Specifications for Assembly of Structural Joints Using High Strength Steel Bolts" hereinbefore specified.
2. Proof test as requested by the Architect.

END 05 1200

1. GENERAL

1.1. BASE BID WORK INCLUDES

A. Roof deck, slab support

1.2. ALTERNATE BID WORK INCLUDES

A. Alternate 1 add 4’ length to base bid
B. Alternate 2 add 8’ length to base bid.

1.3. UNIT COST WORK INCLUDES

A. None

2. PRODUCTS

2.1. MATERIALS - ROOF

A. Metal Decking - Roof

1. 18 gauge galvanized decking, Type B, ACOUSTICAL, but filler insulation strips not required.

2. ¾’ puddle welding as recommended for I-90 anchorage to supporting structural system.

a. 3000 pound average uplift test resistance per weld, 5,000 pound average shear.

1) washers for decking less than 22 gauge

b. Mechanical fastener systems tested to not less than 3000 pull out/pull over and 3000 shear ultimate average test may be considered

1) Washers for decking less than 22 gauge.

c. Subject to approval Power actuated drive fasteners with tested pull out/pull over for selected deck and structure.
d. Mid span lap screws at spans exceeding 34”

1) Not less than # 8 self drill or equivalent

B. Reinforcing Flat Metal

1. 16 gauge galvanized x minimum 16” wide, as required for change in direction or deck transitions, ridge, valley or similar conditions.

a. Fasteners # self tap screws pattern as conditions warrant.
b. Areas subject to reinforcement are to be laid out in conference on site with the A/E representative

C. Trim and closure pieces

1. Provide 16 gauge or as detailed deck perimeter closures
2. At all roof perimeters, J edge closure
3. All points of discontinuity
4. Roof edges to wall closure pieces to be installed following insulation work to seal deck connection.

D. Foam Seal Strips

1. Provide upper and lower deck profile self adhesive foam infiltration seals at all deck ends along perimeter walls.

a. Top and under side as appropriate to resist infiltration or compromised insulation value.

3. EXECUTION

3.1. INSTALLATION

A. Openings in structural decking.

1. Openings greater than 16” should be reinforced
2. Openings greater than 23” should receive structural frame

a. Consult with A/E if frame is not called for or opening was not anticipated.
b. Provide foam seals where appropriate.

B. Reinforcing flat metal

1. The intent is none or minimum locations.
2. Where deck changes direction, or is warped and misaligned
3. Where deck requires cutting top of deck to fit or bend to slope change.
4. Any odd closures which become necessary such as over cut openings, wall closures, etc.

C. Provide anchorage to structure.

1. Anchorage is directly to main structural’s.

a. Upper Gym roof

1) 36/7 along all supports, field
2) Double fastener on perimeter 10’ 36/7 double weld or mechanical coverage.

b. Low roofs

1) 36/5 pattern field,
2) 36/7 ends of pieces.
3) 36/7 pattern field of triangular area within 20 of

outside corners of the structure each roof level

c. Anchorage screws approved mechanical screws, power actuated or ¾" puddle welds.

1) Provide test data on any mechanical fastening system
2) Puddle welds by certified welder and inspected for integrity

D. Insulate flutes underside to walls as needed for sound and/or infiltration protection.

1. Foam seals exterior perimeter or infiltration risk
2. Mineral wool stuffed interior at fire walls or for sound, room to room, room to corridor, room to rest room.
3. Fire seal at fire walls (determined by rated openings into space).
4. All walls extended to deck above, unless noted as through ceiling only, see roof structure plan
5. At deck ends over and under blocking or insulation install profile match seal strips as infiltration barrier.

E. Fill flutes at fire walls and fire separations with mineral wool insulation. Mortar or fire seal.

END 05 3100

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. The Contractor shall provide rough carpentry (white wood) as shown on the Drawings, specified herein, and as needed to complete the work.

1. Treated lumber is not specified or required unless required by application, code or ground contact. If treated is employed, fasteners must be rated for exterior treated use or be stainless steel.
2. Framing, blocking, furring and miscellaneous carpentry.

1.2. RELATED WORK

A. Specified elsewhere

1. Means and methods, AIA A201 General Conditions and Supplementary General Conditions.

1.3. PRODUCT DELIVERY, STORAGE AND HANDLING

A. Immediately upon delivery to site, place materials in area protected from weather.

B. Store materials a minimum of 6 in. (150 mm) above ground on framework or blocking and cover with protective waterproof covering, providing adequate air circulation or ventilation.

1. Do not install wet materials

C. Seasoned materials shall not be stored in wet or damp areas.

2. PRODUCTS

2.1. MATERIALS

A. Lumber

1. Dimensions

a. Specified lumber dimensions are nominal: verify actual field conditions and field verify dimensions and provide materials required to accomplish the intent of the details shown.

1) Rip or adjust sizes as needed to accomplish detail results.

b. Lumber dimensions conform to industry standards established by the American Lumber Standards Committee and the rule writing agencies.

2. Moisture content: fifteen percent (15%) maximum at time of permanent close in of building or structure, for lumber 2" or less nominal thickness.
3. Surfacing: surface four sides (S4S), unless otherwise shown, or specified.
4. General framing lumber: Nominal 2” (51 mm) to 4” (102 mm) thick X 2” (51 mm) to 12” (306 mm) wide/deep:

    a. Any commercial softwood species, stud/standard grade unless otherwise noted or specified.
    b. Free of unruly warp or wind, bark, splits or major knots or defects affecting the strength or stability of the board or ability to maintain line and level.

5. Structural Framing lumber: Nominal 2” (51 mm) to 4” (102 mm) thick X 2” (51 mm) to 12” (306 mm) wide/deep:

    a. Yellow Pine, Douglas Fir, Hemlock or other approved species, grade stamped.
    b. Not less than Construction grade for bearing stud walls and plates, unless noted otherwise.
    c. Not less than #1 and better for horizontal framing, unless noted otherwise
    d. Not less than Select Structural for horizontal free span framing where span to nominal depth ratio exceeds:

        1) Roof joists – 25
        2) Roof Beams – 15
        3) Ceiling rafters - 20
        4) Floor joists – 18/Floor Beams – 12
        5) LVL and Glue Lam type products may be considered if appearance is not an issue.

6. Boards: 1 in. (25 mm) to 2 in. (51 mm) thick; any commercial softwood species, unless otherwise shown or specified. Furring and grounds shall be minimum No. 1 Common Grade.

B. Heavy timber structure, nominal 4” x 6” or larger primary members.

1. May be Glue Lam, Micro Lam or similar manufactured timber product

    a. Sized on drawings
    b. Bending F_b =2400 or greater min.
    c. Elasticity E = 1.8 x 10^6 min.
    d. Compression parallel F_c 750 min.
    e. Shear F_v =275 min.
    f. Waterproof glue

2. May be Structural graded #2 or better, fir larch or southern yellow pine.

    a. Kiln dried,

b. Straight
c. Free of parallel to grain splits and major checks.
d. Graded not less than 1500 psi in bending.

C. Plywood: CDX exposure rated and clearly stamped on material, thicknesses and listed on Drawings.

1. 5 ply minimum.

D. Sheathing, if applicable.

1. Huber R-6 Zip system, weathering sheathing with Huber Zip seam tape
   a. **Huber Engineered Woods**
      10925 David Taylor Drive
      Suite 300
      Charlotte, NC 28262
      1.800.933.9220
   b. 7/16" Oriented Strand Board with water resistant surface film and 1" rigid foam insulating board with minimum R-6 insulating value.
   c. Seam tape to be Huber permanent seam tape to meet Energy code infiltration specifications.
   d. Screws to be self drill #8 galvanized TEK screws.
   e. Or equal approved prior to bidding.

E. Rough Hardware:

1. Any hardware used in treated lumber or plywood shall be stainless steel or finish rated for treated lumber use.
2. Any fasteners used in exposed to weather applications shall be stainless steel, or other corrosion finished appropriate for the application, zinc plated is not a weathering corrosion finish.
3. Drawings may detail framing plates, and accessories:

   a. TECO, Simpson, Phoenix or similar, galvanized minimum.
   b. Details may use catalog numbers for one of the above, to establish shape, gage and load applications, but similar shapes by all may be used.

4. Bolts: FS FF-B-575C
5. Nuts: FS FF-N-836C
6. Expansion Shields: FS FF-B-561C (limited use, see Drawings)
7. Lag Screws and Bolts: FS FF-B-561C
8. Toggle Bolts: FS FF-B-588C
9. Wood Screws: FS FF-S-111C
10. Nails and Staples: FS FF-N-105B
11. FABCO/H-3, or equal, Stainless Steel Top Seal Fasteners
12. Top Seals/H-3 Stainless Steel, Carbon Steel and Cadmium plated as applicable with Weath-R-Seal washers
13. Tuff Tites #305 Stainless Steel and Cadmium plated as applicable.
14. Top Seal/H-3 stainless steel, cadmium plated and carbon steel (as applicable) structural screws.

15. RED HEAD, Fastenal, Hilti or approved equal, structural rated stud anchors

    a. Wedge type, double wedge when noted
    b. Epoxy
    c. Drive in type

F. Heavy timber connectors

1. TECO, Simpson, Phoenix or similar, galvanized minimum.
2. Details may use catalog numbers for one of the above, to establish shape, gage and load applications, but similar shapes by all may be used.
3. See drawings for selections using Simpson catalog

    a. Miter intersection HSULC 412
    b. Perpendicular HUCTF 412
    c. Tie down HTS 30”
    d. All 16 gauge or heavier

2.2. QUALITY ASSURANCE

A. Grading Rules:

1. Lumber grading rules and wood species shall conform with Voluntary Product Standard PS 20-75.
2. Grading rules of the following associations shall also apply to materials produced under their supervision:

    a. Northeastern Lumber Manufacturer's Association, Inc. (NELMA).
    b. Southern Pine Inspection Bureau (SPIB).
    c. West Coast Lumber Inspection Bureau (WCLIB).
    d. Western Wood Products Association (WWPA).
    e. Redwood Inspection Service (RIS).

3. Plywood shall conform to the following:

    a. Softwood Plywood - Construction and Industrial: Product Standard PS 1-74.
    b. Hardwood Plywood: Product Standard PS 51-71.

B. Identify all lumber and plywood by official grade marks.

1. Lumber: Grade stamp to contain symbol of grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable, and condition of seasoning at time of manufacture.

    a. S-GRN: Unseasoned.
    b. S-Dry: Maximum nineteen percent (19%) moisture content.

c. MC-15 or KD: Maximum fifteen percent (15%) moisture content.
d. Dense.

2. Softwood Plywood: Appropriate grade trademark of American Plywood Association.

a. Type, grade, class and identification index.
b. Inspection and testing agency mark.

C. Requirements of Regulatory Agencies:

1. Preservative Treated Lumber and Plywood: American Wood Preservers Bureau, Quality Mark.

3. EXECUTION

3.1. PREPARATION

A. Examine receiving surfaces and verify that no rot or detrimental condition such as poor anchorage exists.

1. Application or installation of materials constitutes acceptance of existing application conditions.

B. Verify all dimensions of in place and subsequent construction.

1. Adjust framing or additional framing as needed to accomplish the intent of the work and as needed to complete the work properly.

C. See Drawing Details.

3.2. INSTALLATION

A. Frame wood members to be close fit, set accurately to required lines and levels and secured rigidly in place in accordance with the Drawings.

1. In continuous runs, stagger members of such as multiple member plates or curbs.
2. Anchor all members typical to industry standards as a minimum.

a. As detailed
b. Sill plates not more than 48” anchor spacing, ½” bolts nor 12” from plate ends.
c. Roof edge curbs, not less than 60 pounds per lineal foot pull off resistance any direction.

3. Cut and fit framing, blocking etc. to accommodate the other work, other trades and MEP work.
4. Interlock plate and curbing corners.

B. Framing Roof perimeter

1. Provide dimensioned wood for all framing, blocking, furring, nailing strips built into, or adjacent to, exterior masonry walls, wood in contact with concrete and wood in conjunction with roofing.

    a. Roof perimeter is intended to be infiltration tight, provide sealant, foam fill shields, and or insulation as need to accomplish this.

C. Sheathing Alternate #1

1. Install and seal tape as recommended by the manufacturer.
2. #8 TEK screws 4” perimeter / 6” field fastener spacing.
3. Include Penthouse section drawing note for 16 gauge x 2” continuous horizontal strip behind Zip Board system to receive siding screws.

END 06 1000

1. GENERAL

1.1. WORK INCLUDES

A. The Contractor shall provide finish carpentry as shown on the Drawings, required to execute the documents, and specified herein.

1. Provide in accordance with requirements of Section 08200 Flush Wood doors.
2. Verify all door sizes on the job.
3. Install and reinstall hardware as indicated per drawing notes.
4. Install new doors, frames, and hardware as noted on the Drawings, Sections 08 11 13, 08 14 00, and 08 71 00.
5. Provide trim as required to complete the project.
6. Provide 5/8" Type "X" gypsum wallboard and ceiling in all areas where single thickness material is designated.
7. See Drawings for double twin layered separation wall between (E) and new addition.

1.2. RELATED WORK

A. Specified elsewhere:

1. DIVISION 0 - PROCUREMENT REQUIREMENTS
2. DIVISION 1 - ADMINISTRATIVE REQUIREMENTS
3. 06 1000 - Rough Carpentry
4. 06 4116 - Laminate Clad Cabinets
5. 08 1113 - Hollow Metal Work
6. 08 1400 - Flush Wood Doors
7. 09 2116 - Gypsum Wallboard
8. 09 9000 - Finishes

1.3. QUALITY ASSURANCE:

All custom woodwork shall comply with the applicable requirements of the AWI Quality Standards established by the Architectural Woodwork Institute.

2. PRODUCTS

2.1. MATERIALS

A. Softwood for Paint Finish: Ponderosa Pine, Sugar Pine, or Northern White Pine.

B. Softwood Plywood: Product Standard PS 51-71.

C. Solid Core Doors. See Section 08 1400.

D. Hollow metal. See Section 08 1113.

2.2. FABRICATION

A. Exposed wood trim shall be 3/4" clear select Birch

B. Install architectural trim plumb, level and in line; scribe to other finished work. Miter corner on casing trim. Provide blind fastenings and nailing to the extent feasible. Set all exposed nails with a nail set below the surface of the wood and fill all nail holes flush and color compatible.

3. EXECUTION

3.1. INSTALLATION - GENERAL

A. Examine all surfaces to receive the parts of the work that are specified herein. Verify all dimensions of in-place and subsequent construction. Application or installation of materials constitutes acceptance of conditions.

B. Install architectural woodwork plumb, level and in line; scribe and cope to other finished work. Miter corner on casing trim. Provide blind fastenings and nailing to the extent feasible. Set all exposed nails with a nail set below the surface of the wood and fill all nail holes flush and color compatible.

C. Ease edges -- finish ready.

1. 1/16" bevel on all exposed edges, trim, doors, etc.

3.2. INSTALLATION OF METAL FRAMES

A. Set metal frames accurately in location, in perfect alignment, plumb, straight and true.

B. Brace frames to prevent displacement. Extend frame anchorages below fill and finishes, except over membrane-waterproofed areas, or as shown otherwise.

C. Anchor bottom of frames to floors with anchor bolts or with power fasteners. Coordinate the installation of built-in anchors for wall and partition construction, as required with other work.

3.3. INSTALLATION OF DOORS

A. Apply hardware in accordance with the Hardware Manufacturer's instructions.

B. Drill and tap for machine screws, as required. Do not use self-tapping sheet metal screws except as otherwise shown or specified.

C. Adjust door installation to provide uniform clearance at head and jambs and to contact stops uniformly.

D. Remove and replace doors which are found to be warped, bowed, or otherwise damaged and cannot be properly fitted in frames.

3.4. INSTALLATION OF FINISH HARDWARE

A. Receive finish hardware as shown and called for on the drawings and/or sections of these Specifications. Store in a locked space to prevent loss.

B. Apply finish hardware as recommended by the Hardware Manufacturer and as required. Fit lock and latch sets in their respective doors and remove before finishing of doors. Reinstall hardware after finishing of doors is completed.

C. Upon completion of finish hardware installation, adjust and lubricate hardware for proper operation.

3.5. INSTALLATION OF FLUSH DOORS

A. Doors shall open and close smoothly, with out bind, pull warp, even edge clearances and nominal ¾" sill clearance.

1. Verify conditions and floor coverings for the sill clearance conditions and adjust as appropriate.

3.6. REHAB INSTALLATIONS

A. Match existing conditions where encountered.

1. Wood species, quality and profiles.

END 06 2000

1. GENERAL

1.1. DESCRIPTION

A. Provide all laminate clad cabinetwork shown

1. Base bid case work

a. Work Room
b. Staff Rest rooms
c. Window sills solid surface

2. Alternate bids

1) Non unless issued by addendum

B. Provide all accessory items needed to complete the cabinetwork including coat rods, coat hooks, locks, shelf brackets, drawer guides, handles, hinges, catches and general hardware.

1. Counter tops ½" solid surface:
2. Provide 3" wire way grommets through top each side of each knee space.
3. Coordinate with the Electric subcontractor to run power and communication work through the casework.

C. Associated work

1. Base bid Solid surface (Corian or similar) window sills

a. All new windows in new Addition.

1.2. RELATED WORK

A. Specified elsewhere

1. 00 2413 – Scope of Work
2. 06 1000 - Rough Carpentry

1.3. QUALITY STANDARDS

A. All work is to be in compliance with Architectural Woodwork Institute (AWI) Quality Standards

1. Custom Grade for assembly, fit, finish, performance, laminate selection and construction methods.

2. PRODUCTS

2.1. CASEWORK - LAMINATE CLAD

A. AWI quality grade: custom grade.

B. Construction: Details shall conform to design. Flush overlay or exposed face frame.

C. Casework doors to be 3/4" particleboard (or plywood) laminated both sides and edged.

D. All shelves shall be laminated over 3/4" thick, 5 ply fir plywood or 5/4" particleboard shelf core board.

2.2. PLASTIC LAMINATE

A. Exposed surfaces: to be high pressure Laminate, Formica, Nevamar, Wilson Art or approved equal submitted prior to bidding.

1. Colors to be selected in each room.
2. Tops will be acrylic solid surface.

B. General Purpose 50 (.050") horizontal work surfaces and edges subject to high use, color and pattern to be selected.

C. General Purpose 28 (.028") for vertical and medium use surfaces, color and pattern to be selected.

D. Cabinet liner 20 (.020") for interior surfaces.

1. Includes backs and shelves in open shelving condition.
2. White, off white or white on white patterned.

E. Backer 20 (.020") for backs of doors and any surface not rigidly supported and anchored to resist warp, wind or curling.

2.3. CASEWORK HARDWARE

A. All cabinet hardware shall be furnished and installed by the casework manufacturer. Hardware to be as follows:

1. Drawer guides: manufacturer's heavy duty, 100 lb capacity easy close roller guide.
2. Shelf standards and brackets: type optional with manufacturer, adjustable as shown on drawings.
3. Hinges: 2-1/2" .083 (3" on 1" or heavier doors). Chrome finish.
4. Catches: Nylon roller type.
5. Pulls: Epco MC427 or equal, 1/2" diameter aluminum X 3" long.
6. Clothes hooks: Ives #572 or equal. (staff Rest Rooms.

~~Locks: Five (5) disc tumbler casework locks.~~no locks.

2.4. TOPS

A. ½" solid surface tops and back splash.

1. Shall be able to support 300 lbs. at any location.

2.5. SHELVES

A. All shelves shall be 3/4" plywood. Particleboard, flake wood or compressed wood substrates are NOT acceptable except 5/4 thickness.

B. All shelves shall be designated for not more than length divided by 240 (48" = 3/16") deflection when solidly loaded with paper or books.

1. Provide stiffeners when needed.

C. Shelf and shelving brackets or clips shall be adequate to hold without failure four (4) times the actual load of the shelf fully loaded with books or papers.

2.6. CABINET BOX

A. AWI Custom Grade, 3/4" particle board basic construction.

1. 24" deep lowers, 12" deep uppers
2. Provide bracing and corner hardware as required for rigid sturdy construction.
3. Backs against walls may be less than 3/4", select for service.
4. Cabinets to be fully plastic laminate lined.
5. Coordinate adjacent cabinets for alignment and fit.

2.7. DRAWERS

A. Drawers by definition shall have **full height** sides and backs.

1. Full height means drawer face height less ½" lap space.

B. Drawers to be laminate lined or finished plywood.

C. Drawer guides

1. Full extension, side mount, zinc, chrome or nickel plated steel
2. Heavy duty 100 pound capacity
3. Easy close style

2.8. WINDOW SILL/STOOL

A. 3/8" or heavier solid surface (Corian or similar)

1. Approximately 1” overhang to actual masonry face
2. Rounded corners.
3. Set with silicone adhesive-sealant

3. EXECUTION

3.1. INSTALLATION

A. Cabinetwork shall be set level and square with surrounds. Provide filler strips and sealant as needed to finish installation.

B. Provide mechanical counter anchors for counter top joints. Joint shall be tight and uniform. Install with sealant in joint before tightening and clean off immediately.

C. Coordinate with mechanical and electrical trades for installation services.

D. All tops shall be mechanically anchored to base cabinets.

E. All cabinetwork shall be mechanically anchored to floors and walls.

F. Apply resilient base to all cabinets with flooring work.

END 06 4116

1. GENERAL

1.1. WORK INCLUDES

A. Base Bid

1. Contractor shall provide moisture repellent of all new exterior masonry.

1.2. RELATED WORK

A. Specified elsewhere:

1. 00 1000 - Summary of Work
2. 07 5323 - EPDM Elastomeric Membrane Roofing
3. 07 6200 - Sheet Metal Flashing & Trim
4. 07 9200 - Sealants & Caulks

1.3. QUALITY ASSURANCE

A. Qualifications of Installers: Employ only experienced craftsmen, skilled in the installation of the specified products.

1.4. REFERENCES

A. Standards: Moisture absorption shall have been determined by ASTM-C-642.

1. Water submersion test on concrete shall not increase test cube weight beyond 2% of 56 days submersion.

B. Manufacturer's catalogs: The acceptable manufacturer's current catalog at date of bidding documents is incorporated by reference to the same force and effect as if repeated herein at length.

1.5. SUBMITTALS

A. Make all submittals in accord with 01 3300.

B. Product data:

1. Materials description - three (3) copies.
2. Manufacturer's current printed installation instruction for each product - three (3) copies.
3. ASTM-C-642 Test Record - three (3) copies.

1.6. DELIVERY, STORAGE & HANDLING

A. Deliver all materials in manufacturer's original containers, with seals unbroken, labels, and product's and manufacturer's names intact and legible.

B. Store all products in a manner to prevent damage, in a secure place, out of way of construction operations. Provide protection until ready for use.

C. Handle in accordance with manufacturer's recommendations.

1.7. SEQUENCING/SCHEDULING

A. APPLICATION SHALL BE PRIOR TO INSTALLATION OF FLASHING.

B. The applicator shall be responsible to protect all adjacent and nearby material components of the building.

1.8. WARRANTY

A. Contractor's Warranty

1. Two (2) years in accordance with General Conditions.

B. Product Manufacturer's Warranty: Provide Product Manufacturer's certificate that the Manufacturer's product is of a quality that qualifies for a 10-year warranty against water migration through masonry.

1. Manufacturer Warranty is not required.

2. PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS. Use only the specified product of the following manufacturers, listing here does not mean Manufacturer / application meets warranty requirements.

SEAL CODE BRAND NAME	MANUFACTURER
BSM 40 VOC	Huls America, Inc. Bristol, PA
Sure Klean VOC H40	ProSoCo, P O Box 1578, Kansas City, KS 66117, ph. 913/281-2700
Diedrich 303-S	Diedrich Technologies Inc., 7373 S. Sixth St., Milwaukee, WI 53154
Dur A Pell 40	Tnemec, Taylor Coating Sales, 708/387-0305

3. EXECUTION

3.1. PROJECT/SITE CONDITIONS

A. Masonry shall be clean of foreign deposits and shall be dry. The determination of percent of dry shall be in accordance with the project manufacturer’s recommendation.

B. Environmental conditions:

1. Weather: Do not install products during adverse weather conditions.
2. Temperature: Ensure that surface and ambient temperatures are within the range recommended by the manufacturer.

3.2. INSPECTION

A. Thoroughly inspect all existing construction and the conditions under which the work will be performed.

B. Report to the Architect/Engineer IN WRITING all conditions that would adversely affect installation of the work.

C. Verify that all pre-application conditions are reasonably in accord with manufacturer's recommendations.

D. Start of work constitutes acceptance of the construction and conditions.

3.3. PREPARATION

A. Clean and prepare in accordance with Manufacturer's instructions. Remove all loose materials and other foreign matter that might impair penetration.

3.4. INSTALLATION

A. New exposed block walls shall receive two (2) soaking coats.

B. Comply with the Product Manufacturer's printed instructions.

1. Installation shall follow the Manufacturer's recommended procedures corresponding to the installation procedure for a ten (10) year application guarantee.
2. Application shall precede sealant and caulking application at wall penetrations.

C. SPILLAGE

1. Do not allow compounds to overflow or spill onto adjacent building material that may be subject to damage.
2. Use catch sheets or other precautionary devices to prevent staining of adjoining surfaces as shall become necessary.

3.5. CURING

A. Cure applied compounds in compliance with manufacturer's instructions.

B. Comply with required environmental conditions pursuant to post application as recommended by the Product Manufacturer.

3.6. INSPECT & CLEAN UP

A. Carefully examine all work to confirm installation compliance and adequacy of application.

B. Clean up. Remove all surplus products, containers and rubbish and dispose

END 07 1916

1. GENERAL

1.1. WORK INCLUDES

A. Exterior Insulation and Finish systems related to window replacements

1. Base Bid: Room

a. Entry soffits south
b. As detailed on the drawings

1.2. SYSTEM DESCRIPTION

A. Full surface reinforcing mesh

B. Provide exterior insulation and finish system assemblies complying with the following requirements for system performances:

1. Bond Integrity: Free from bond failure within or between any components.
2. Weather tightness: Resistant to water penetration from exterior into assembly, through it or degradation of assembly components including substrate, joint sealers and supporting wall construction.

a. Air Leakage: Installation classified Type III air barrier.
b. System shall be provided with components to allow drainage of internal cavities.

3. System to be field assembled and finish system field applied.
4. The 1 ½" insulation board shall be completely encapsulated by the substrate.
5. The base sheathing shall be Dens-gold or equal.

C. Fire Performance Characteristics: Provide materials and construction which are identical to those whose fire performance characteristics as listed below have been determined by testing, per methods indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.

1. Surface Burning Characteristics: Flame spread rating of 25 or less per ASTM E 84 for installed system.

1.3. RELATED REQUIREMENTS

A. Specified elsewhere
1. Division 00 – Procurement Requirements
2. Division 01 – Administrative Requirements.
3. 05 4000 – Cold Formed Metal Framing
4. 07 9200 – Joint Sealants

1.4. QUALITY ASSURANCE

A. Single Source Responsibility: To ensure consistent quality of appearance and performance, obtain materials for exterior insulation and finish systems from either a single manufacturer or from manufacturers approved by the system manufacturer as compatible with other system components.

1. All materials to be included in the manufacturers' warranty.

B. Installer Qualifications: Engage an Installer/Applicator that is certified IN WRITING by system Manufacturer as qualified for installation of systems indicated.

1.5. SUBMITTALS

A. Product Data: Submit manufacturer's product data for each component of exterior insulation and finish system.

1. Submit promptly after award such that reviews and color selections can be made in a timely manner.
2. Sealants

B. Relief design, none

1.6. SEQUENCING/SCHEDULING

A. Sequence installation of exterior insulation and finish system with related work specified in other sections to ensure that wall assemblies, including flashing, trim and joint sealers, are protected against damage from effects of weather, aging, corrosion or other causes.

1.7. WARRANTY

A. Provide Standard Product Manufacturer's Warranty for ten (10) years f

1. Warranties of other approved systems must have similar for more inclusive provisions.

2. PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS

A. Subject to compliance with requirements, provide products of one (1) of the following:

1. Manufacturers of EIFS

a. Dryvit Outsulation System
b. USG equal to a. above
c. Synergy equal to a. above

2.2. POLYMER-BASED PROTECTIVE COATING, EXTERNALLY REINFORCED SYSTEM

A. Sheathing Board, Gold sheathing meeting ASTM C1177, Dens Glass or

similar fiberglass scrim waterproof board

1. 5/8” thick
2. Flame spread and smoke developed ASTM E84: 0 maximum

B. EIFS flashing systems:

1. Dryvit Aquaflash and recommended mesh, or equal.

C. Air/Moisture Barrier

1. Manufacturers recommended over the substrate condition

D. Adhesive

1. 100% acrylic based.
2. Base coat materials: System Manufacturer’s standard, job-mixed formulation of Portland Cement complying with ASTM C150, Type I, white or natural color; and System Manufacturer’s standard 100% polymer-based adhesive designed for use indicated.

E. Insulation Board (OMD Board)

1. One & one half inch (1½”) molded expanded polystyrene and approved for EIFS drainage system installation.

F. Reinforcing Mesh

1. Weight of Standard Reinforcing Fabric: Not less than 4.3 oz.
2. Weight of Strip Reinforcing Fabric: Not less than 4.3 oz.

G. Finish

1. Shall be 100% pure acrylic finish with sandblast type finish.

    a. Polymer/cement base coat
    b. Reinforcing mesh
    c. Additional base coats as needed to finish mesh, details and properly prep for finish coat.
    d. Acrylic finish

2. Color and finish using Dryvit Sand Pebble finish.

H. Water: Clean and potable.

2.3. MIXING

A. General: Comply with system manufacturer’s requirements for combining and mixing materials. Do not introduce admixtures, water or other materials except as approved by system manufacturer. Mix materials in clean containers. Use materials within time period specified by system manufacturer or discard.

3. EXECUTION

3.1. INSPECTION

A. Installer shall examine the substrate and determine and/or provide that a factory condition exists to receive exterior insulation and finish system. Do not proceed with installation of system until unsatisfactory conditions have been corrected.

3.2. PREPARATION

A. Substrate Preparation: Perform preparation and cleaning procedures in compliance with system manufacturer's requirements to obtain optimum bond between substrate and adhesive used to attach insulation.

1. Apply surface-sealer over substrates where required by system manufacturer for improving adhesion.

3.3. INSTALLATION - GENERAL

A. Comply with system manufacturer's current published instructions for installation of exterior insulation and finish system as applicable to each type of substrate indicated.

B. Provide surface reinforcing fabric over full area of fascia and soffit.
1. Reinforcing to be fully embedded and covered.

C. Provide expansion control at approximately 20' spacing.
1. Sonneborn NP-1, or similar, non-sag urethane sealant, color to blend.
2. Use this material around all windows and door frames.\
3. Uniform spacing
4. Coordinate reasonably with relief design

D. Anchorage of installation board.
1. Glue and mechanical (with nylon oversize washer).
2. Mechanical anchorage, one (1) per 6 sq. ft. (6 per 4' X 8' sheet minimum) and two (2) per piece minimum.
3. Mechanical anchorage specified is redundant anchorage and does not replace adhesive.

3.4. CLEANING AND PROTECTION

A. Remove temporary covering and protection of other work. Promptly remove protective coatings from window and door frames, and any other surfaces outside areas indicated to receive protective coating.

B. Provide final protection and maintain conditions, in a manner suitable to installer and system manufacturer, which insures exterior insulation and finish system being without damage or deterioration at time of substantial completion. If, despite these precautions, damage occurs, restore to a condition indistinguishable in appearance from and equivalent in performance to, undamaged areas by replacing or repairing in compliance with system manufacturer's recommendations.

END 07 2400

1. GENERAL

1.1. WORK INCLUDES

A. Base Bid

1. Contractor shall provide moisture mitigation coatings on all new concrete to facilitate rapid completion of flooring and roofing.
2. Product shall carry a 25 year warranty against moisture transfer into roofing and flooring systems and failure of adhesion.

1.2. RELATED WORK

A. Specified elsewhere:

1. 00 1000 - Summary of Work
2. 00 3300 - concrete
3. 07 5323 - EPDM Elastomeric Membrane Roofing
4. 09 6500 – Resilient Flooring

1.3. QUALITY ASSURANCE

A. Qualifications of Installers: Employ only experienced craftsmen, skilled in the installation of the specified products.
B. Follow manufacturer’s instruction for surface preparation and application rates.

1.4. REFERENCES

A. Standards: Moisture absorption shall have been determined by ASTM-C-642.

1. Water submersion test on concrete shall not increase test cube weight beyond 2% of 56 days submersion.

B. Manufacturer's catalogs: The acceptable manufacturer's current catalog at date of bidding documents is incorporated by reference to the same force and effect as if repeated herein at length.

1.5. SUBMITTALS

A. Make all submittals in accord with 01 3300.

B. Product data:

1. Materials description - three (3) copies.
2. Manufacturer's current printed installation instruction for each product - three (3) copies.

1.6. DELIVERY, STORAGE & HANDLING

A. Deliver all materials in manufacturer's original containers, with seals

unbroken, labels, and product's and manufacturer's names intact and legible.

B. Store all products in a manner to prevent damage, in a secure place, out of way of construction operations. Provide protection until ready for use.

C. Handle in accordance with manufacturer's recommendations.

1.7. SEQUENCING/SCHEDULING

A. APPLICATION SHALL BE PRIOR TO INSTALLATION OF FLASHING.

B. The applicator shall be responsible to protect all adjacent and nearby material components of the building.

1.8. WARRANTY

A. Product Manufacturer's Warranty: Provide evidence or letter that the Manufacturer's product is of a quality that qualifies for a 25-year warranty against water migration into flooring and roofing assemblies applied over the product.

2. PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS. Use only the specified product of the following manufacturers, listing here does not mean Manufacturer / application meets warranty requirements.

A. Bone Dry Pro or coating as recommended by the manufacturer for the application and time after concrete placement.

1. BoneDry Products , Inc, 9009 58th Place, Kenosha, WI 53144, (262)694 9748

B. Or equal subject to A/E review and approval.

3. EXECUTION

3.1. PROJECT/SITE CONDITIONS

A. Masonry shall be clean of foreign deposits and shall be dry. The determination of percent of dry shall be in accordance with the project manufacturer’s recommendation.

B. Environmental conditions:

1. Weather: Do not install products during adverse weather conditions.
2. Temperature: Ensure that surface and ambient temperatures are within the range recommended by the manufacturer.

3.2. INSPECTION AND PREPERATION

A. Thoroughly inspect all existing construction and the conditions under which the work will be performed.

1. Follow instructions for surface cleaning and preparation
2. Apply only to clean dry surfaces.
3. Verify that all pre-application conditions are reasonably in accord with manufacturer's recommendations.
4. Start of work constitutes acceptance of the construction and conditions.

B. SPILLAGE

1. Do not allow compounds to overflow or spill onto adjacent building material that may be subject to damage.
2. Use catch sheets or other precautionary devices to prevent staining of adjoining surfaces as shall become necessary.

3.3. INSPECT & CLEAN UP

A. Carefully examine all work to confirm installation compliance and adequacy of application.

B. Clean up. Remove all surplus products, containers and rubbish and dispose

END 07 2600

1. GENERAL

1.1. WORK INCLUDES

A. The Contractor shall provide single-ply synthetic EPDM rubber adhered roofing with flashing system(s) as shown on the Drawings and specified herein, and related work for roof tie ins and flashing existing roofs as encountered

1. New roof Warranty NDL manufacturer 25 year.

    a. Membrane
    b. Insulation
    c. Flashings
    d. Perimeter meatal system

2. The existing Roof tie in is into a 20 year warranted adhered system.

    a. Firestone, tie in and drainage modifications shall comply with warranty requirements and be certified as compliant
    b. Firestone FBCO GB8688, Warranty #RO 31931
    c. All work on existing roofs shall comply with manufacturer's warranty repair requirements. Seam shall be warranted with new roof to the terms of the old roof

3. See also **Alternate #1** and **Alternate 2** for additional roofing area as may become contracted.

4. All work on existing roofs shall comply with manufacturer's warranty repair requirements. Seam shall be warranted with new roof to the terms of the old roof

B. Provide new materials as needed and as shown on the detail drawing sheets.

1. Compliance requirements

    a) 120 MPH wind rated total system

2. Insulation

    a) 2 layers 2" Poly-Isocyanurate
    b) 1/8" taper system starting at ½"
    c) 1 layer cap layer of ½" HD Pol-yIsocyanurate or ½" Densglass
    d) Foam adhesive attachment
    e) offset joints 6" minimum half sheet offsets preferred.
    f) crickets and saddles as detailed.
    g) The roof deck is flat, no structural slope 1/8th"

3. Roofing membrane

a. 60 Mill EPDM black or white

4. Resilient flashings
5. Metal cap flashings
6. Roof Drains and storm water collection (gutters or downspouts if shown
7. Expansion and construction joints if shown
8. Counter flashing and termination bars
9. R.U.S.S strips around perimeter
10. Roof projection flashings
11. Wood blocking addition extensions and reconstruction
12. Raised curbs, vents, roof edges as detailed or as needed for warranty.
13. Remove flash, replace and reset rooftop equipment or flashings as needed.
14. Temporary cap curbs watertight as appropriate to progress.
15. Support blocks and walkway pads as shown on plan
16. **Double strip in all seams, three-inch (3") seam tape and six-inch (6") lap strip.**
17. Top quality butyl adhesives and accessories
18. Manufacturer's two part urethane expanding adhesive

a. Select as appropriate for the installation conditions.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. DIVISION 00 - PROCUREMENT REQUIREMENTS
2. DIVISION 01 - ADMINISTRATIVE REQUIREMENTS
3. 06 1000 - Rough Carpentry
4. 07 2000 - Insulation
5. 07 6200 - Sheet Metal Flashing & Trim
6. 07 9200 - Sealants & Caulks

1.3. MECHANICAL WORK

A. Contractor shall coordinate with any mechanical work that penetrates or other wise sits on the rook system or above the roof system

1. Curbs
2. Rails
3. Platforms
4. Vents or piping.

1.4. DEFINITION ROOFING SYSTEM MANUFACTURER. Any of the manufacturers whose systems are specified under "Acceptable Systems" in this Section, and herein called "Manufacturer".

1.5. QUALITY ASSURANCE

A. Qualifications

1. Installers shall be experienced craftsmen, skilled in the installation of the specified products set forth in these and related documents.

2. Contractor shall:

a. Have a minimum of five (5) years experience as certified applicator for this or for like roofing systems specified in this document and shall be certified by the Product Manufacturer whose product is to be installed.
b. Be licensed by the State of Illinois in accord with the Illinois Roofing Industry Licensing Act, as amended. (Illinois Revised Statutes ch. 111, Par. 7501 et seq.)
c. Be qualified/approved to work on a Firestone warranted roof

B. Requirements of regulatory agencies

1. Permits: Contractor shall apply for any permits that become necessary, if there is a permit fee it will be reimbursed.

2. Tests or standards by independent agencies whose classifications and requirements have general acceptance as regulatory:

a. American Society for Testing and Materials (ASTM).
b. Factory Mutual Laboratories (FM).
c. National Fire Protection Association (NFPA).
d. Underwriter's Laboratories, Inc. (UL).

C. Source Quality Control - The Roofing System Manufacturers shall assume full responsibility for certifying that:

1. Prior to the start of work and material acquisition, the Contractor may be requested to submit a letter to certify that the manufacturer has reviewed the project and:

a. They have examined project drawings, specifications, on site conditions and warranty requirements.
b. Their products herein specified are acceptable for and compatible with the roofing and flashing system design.
c. If their system is used, they certify that all products delivered to the site will meet or exceed project specification requirements.
d. Upon completion inspection, they will issue the specified warranty for the roofing and flashing system is installed in accordance with the documents. See 1.8 of this Section.

D. Referenced catalogs: The catalogs, current as of date of bidding documents, of the manufacturers specified are incorporated herein by reference.

1.6. SUBMITTALS. Make all submittal in accordance with 01 33 00.

A. Roofing firm endorsements: At least fifteen (15) business days prior to starting the work submit roofing firm's name, address, telephone number and Manufacturer's endorsement of roofing firm to Architect/Engineer.

B. Shop drawings

1. Submit shop drawings of Roofing System Manufacturer for approval.
2. Submit only system manufacturer approved shop drawings to Architect/Engineer.
3. Minimum scale: 1-1/2" = 1'-0" for details except where otherwise specified.
4. Submittal shall incorporate the Architect/Engineer prepared documents that is Drawings and these specifications, wherein said documents exceed the Manufacturer's recommendations.
5. Include wherein applicable:

    a. Resilient flashing, cap and counter flashing details.
    b. Gutters/scuppers/perimeter curb related sheet metal.
    c. Fasteners.
    d. Expansion and control joints.
    e. Mechanical/electrical equipment curbs.
    f. Copings.
    g. Flashing of extended roof curbs.
    h. Flashing of through roof pipes and columns.

C. Product data

1. Insulation
2. Joint seal or tape. (Self-adhering battens, etc.)
3. Manufacturer's specification and instruction manual for all components of roofing system.

D. Samples wherein same are applicable to the project

1. Constant thickness isocyanurate insulation: two (2) pieces 12" X 12".
2. Sheet metal in conjunction with roofing: two (2) pieces of each type, 4" X 4".
3. Membrane: two (2) pieces 12" X 12".
4. Fabricated metal flashing end caps, miters and flashing lap systems and covers: one (1) assembled sample each configuration.

1.7. PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver all materials in Manufacturer's original, unopened containers and rolls with all labels intact and legible.

B. Deliver materials requiring fire resistance classification packaged with labels attached as required by labeling service.

C. Deliver materials in sufficient time and quantity to allow continuity of work and compliance with approved construction schedule.

D. Handle rolled goods in manner to prevent damages to edges or ends.

E. Store all materials on clean raised platforms with weather protective covering when stored outdoors.

F. Store rolled goods in accordance with Manufacturer's instructions.

G. Provide continuous protection of materials against damage or deterioration.

H. Remove damaged or defective materials from site.

I. Comply with fire and safety regulations.

J. Follow Manufacturer recommendations as minimum except where contract documents exceed Manufacturer recommendations. Where Contract Documents are in excess of the Manufacturer recommendations, the contract documents supersede.

K. PROTECT INSTALLED MATERIAL FROM TRAFFIC DAMAGE

1.8. JOB CONDITIONS

A. Contractor to avoid concentrated material loads. DISTRIBUTE LOADS AND ALWAYS ACROSS JOISTS -- NEVER PARALLEL WITH FRAMING MEMBERS.

B. Environmental requirements: Except as otherwise authorized by Architect/Engineer, follow Manufacturer's written request for variance:

1. Apply roofing in dry weather.
2. Apply roofing only when dry substrata and substructures prevail.

C. PROTECTION

1. AVOID HEAVY TRAFFIC ON COMPLETED WORK.

a. Protect finished roofing materials from subsequent damage

D. Sequencing and scheduling prior to commencement of work.

1. The Roofing Contractor's on site foreman shall assign and coordinate all operations of the Roofing Contractor, his Subcontractors and his Suppliers for the work in the Contract Documents.
2. Coordinate with other trades

1.9. WARRANTY

A. Contractor shall provide the following minimum warranties:

1. Contractor: 2-Year Warranty
2. Manufacturer: On the new roof system, provide a twenty-five (25) year comprehensive Manufacturer's No Dollar Limit, (NDL) Warranty

1.10. WARRANTED TIE-INS

A. Existing roof is warranted system.
B. Comply with and provide letter approving the tie in.

2. PRODUCTS

2.1. MATERIALS. For the entire system, use materials either manufactured by or certified as compatible by one of the acceptable system manufacturers.

2.2. Roofing Membrane System

A. Rubber Membrane 060-mil EPDM rubber system fully adhered.

1. Carlisle Syn Tec Systems, Carlisle, PA
2. Firestone Building Products, Co., Carmel, IN - Firestone Rubbergard

B. Resilient Flashing; 060 mil uncured formable EPDM shall be of same source by name as the membrane system.

1. Additional materials and adhesives recommended by the manufacturer

C. Adhesives

1. Adhesives for adhering membrane shall be the manufacturer recommended contact type adhesive for the substrate condition.
2. Seam adhesive shall be the membrane manufacturer's top grade butyl base type contact seam adhesive or manufacturer self vulcanizing seam tape.
3. Insulation adhesives, to be two part expanding urethane adhesive in manufacturer labeled containers.

D. Seam sealant and seam tape shall be manufacturer's recommended seam sealant or tape.

1. Provide necessary seam work or seam primers as recommended.

E. Anchor bars

1. Manufacturer's recommended type as a minimum standard unless detailed otherwise.
2. See drawings for heavier or stiffer bar anchors at detailed conditions.
3. Conditions not detailed but similar to detailed conditions shall be handled with similar bar anchor materials.
4. Finishing termination bars (where exposed to view) and as noted on the Drawings:

a. Metal Era, Inc. - Model CB-175 with .040" CF 175 Snap On Cover.
b. Carlisle - Design Accessories per drawing details with .040 " Snap On Cover.
c. J.P. Stevens Accessories Elastormerics Corp. - High-Tuff with .040" Snap On Cover.
d. First and last anchor hole in any bar segment shall be 1" from ends.

F. Walkway pads, Manufacturer's standard adhered rubber pads, see Plan for application and provide as required by the manufacturer warranty requirements at ladders, walkways, downspouts, roof top equipment service areas.

G. Insulation - see 07 2113.

H. Screws and mechanical anchors

1. Insulation system anchors to be manufacturer's band label and/or approved anchors with oversize washers, self drilling
2. Anchors for term bars manufacturers' approved non-rusting
3. Screws and anchors for sheet metal systems to be stainless steel, seal head type
4. Screws for general assembly to be stainless steel
5. Pop rivets used where allowed by the A/E to be rust resistant or aluminum.
6. Always follow good practice to protect different metals from galvanic action.

I. Ballast - not required at this project.

3. EXECUTION

3.1. NIGHT CUT OFF (See 1.1. of this Section).

A. Provide tie-off per EPDM Manufacturer's recommendations between new/old roof or deck system each day, watertight and wind resistant.

B. Avoid situations where water can run under the newly installed assemblies in deck flutes.

3.2. BLOCKING AND ANCHORAGE. Where Drawings Sectional Details do not account for surface of the insulation and surface of the wood blocking lying in same plane and wherein same is a Manufacturer's requirement, the Contractor shall so provide by tapering wood blocking so the concealed base EPDM anchor shall be screwed into the wood blocking as detailed. This requirement applies to perimeters, curbs, parapets, equipment rails, saddles and crickets as shown on the drawings specifically or reasonably inferred by similarity, and as required for warranty.

3.3. INSPECTION

A. Verify that all work of other subcontractors that penetrates roof deck or requires men and equipment to traverse roof deck has been completed. Protect all reroof work from traffic damage. See Paragraph 1.7.C of this Section and Paragraph 3.3.A.3 of Section 07 6200.

B. Examine all surfaces for inadequate anchorage, foreign material, moisture, unevenness or other conditions that would prevent execution and quality of installation of specified roofing and flashing system and accessory items.

C. Do not issue a proceed order to a subcontractor or proceed with work until all defects are corrected to the satisfaction of and with the written approval of the roof system manufacturer.

3.4. PREPARATION. Thoroughly clean all surfaces against or into which work will be installed. Ensure that all surfaces are clean and dry before starting and during performance of work. Follow roofing system manufacturer's recommendations.

3.5. INSTALLATION

A. Install roofing and flashing system(s) and all accessory items in strict accordance with system Manufacturer's printed instructions current at date of bidding documents.

1. Except wherein the Documents designate in excess of Manufacturer’s requirements; in such case proceed per Documents.

B. Contractor may employ membrane manufacturer's standard details in lieu of details shown on Drawings, **ONLY** upon confirmation IN WRITING to the A/E that the Manufacturer's system exceeds the quality, longevity and future ease of replacement of the system detailed on the Drawings, otherwise these specifications and accompanying drawing shall control materials and installations.

C. Double lap all field seams with second cross-lap. Provide additional material; tape/uncured and sealed. (i.e. strip in all seams after basic seam is completed).

1. Use minimum six-inch (6") strip or four inch (3") EPDM bonding tape.
2. Cross-lap to be included in warranty.

D. **Seal head stainless steel screws** shall be secured in all pre-punched (or drilled) holes

3.6. EXISTING ROOFS

A. Provide appropriate tie-in flashing where required.

1. Comply with the original Manufacturer warranty requirements, actual tie in to be covered under this warranty.

3.7. FIELD QUALITY CONTROL

A. Roofing System Manufacturer to provide on site observation, training, pull out testing and instruction as the Manufacturer deems necessary.

1. Adjustments in the system design necessary to meet manufacturer's requirements for guarantee are subject to Architect's approval and shall be included at no additional charge.

B. Carefully clean surfaces prior to applying adhesives.

C. Proper fit and lay out membranes.

1. Avoid wrinkles.
2. Avoid bubbles.
3. Install without stretching or applying under stress.
4. Handle carefully to minimize patching.
5. Keep seam adhesives in proper alignment to avoid seam sealant over adhesive.
6. Carefully apply contact adhesive in a thin uniform manner.

3.8. ADJUST & CLEAN

A. Carefully inspect all completed work. Correct all defects.

B. Clean up spill, debris and remove surplus materials at the end of each day.

C. Provide adequate protection of completed work until substantial completion. Prevent traffic, storage of materials or equipment on completed roofing. Finally, remove 3/4" thick X 4' wide plywood from traffic lanes over complete membrane installation. See 1.7.C of this Section.

D. Do not store materials or equipment on the completed roof.

E. Finally clean up all rubbish, debris, surplus materials, tools and equipment and remove from the site.

F. Provide manufacturer inspection and warranty paper work.

END 07 5323

1. GENERAL

1.1. WORK INCLUDES

A. Contractor shall provide metal flashing inclusive of trim, wall to roof guttering, downspouts, splash pans associated with the work as shown on the Drawings and specified herein.

1. Roof curb caps
2. Roof edge details
3. Roof to wall intersection detail, fascia trim
4. Where appropriate, match existing appearance profiles, metal pre-finish, but not necessarily gauges or anchorage, follow proper practices for all new work.
5. It is intended the facia system be a manufactured system such as Metal Era Anchor-Tite 8 ½" face fascia system, 215 MPH rated, 20 year warranty.

    a. Metal Era, 1600 Airport Road, Waukesha WI 53186, phone 800 558 2162, Fx 800 373 9156, Info@metalera.com
    b. Or equal approved by the roof membrane manufacturer warranty.

6. Lower step down face flashing, nominal 13" face girth with continuous clip along bottom edge and secured under the Metal Era system.

    a. Intent is a flashing assembly nominally matching the existing which is stepped system with total face of about 18½".
    b. The configuration will be different than exisiting in that it has two continuous clips and this will have one continuous clip at the bottom edge and the Metal Era.
    c. Lower face section may be Shop fabricated of matching finish metal or Manufactured such as Metal Era.

7. Verify existing conditions fit and flashing in place for finished installation in compliance with the existing membrane warranty

B. Contractor shall provide and coordinate HVAC, Plumbing and Electrical work curb revision therefore and flashing thereof.

1.2. RELATED WORK

A. Specified elsewhere

1. 06 1000 - Rough Carpentry
2. 07 5323 - EPDM Elastomeric Membrane Roofing
3. 07 9200 - Sealant & Caulks

1.3. QUALITY ASSURANCE

A. All sheet metal trim and flashings to be shaped installed by experienced Sheet metal workers.

B. Shall be installed in a manner to look attractive and always naturally shed water.

C. Seal all splices and laps to make water resistant

1.4. REFERENCE STANDARDS

A. ASTM B209-79, Alloy 3003-H-14: Aluminum

1. H-24 temper where required for spring action. See details on the Drawings.
2. See Drawings for thickness.

B. ASTM A617-77, Type 304: Stainless Steel

1. 2D finish, dull, cold-rolled, annealed.
2. See Drawings for location, configuration and thickness.

C. Galvanized steel ASTM A635/ A 65BM - hot dip process.

1. Box annealed steel.
2. Zinc coating 20½ oz. per sq. ft. of sheet metal.
3. Top coating in accord with AAMA 621-96 Standards.

D. Paint grip galvanized, ASTM A525, ASTM A361

1. G-90, surface treated and cleaned for field shop finishing.
2. See Drawings for gauge and fabrication.

E. Factory Mutual, flashing and edge pull off 60 lb./ft.

1.5. SUBMITTALS. Make all submittals in accord with 01 3300. Submittals are not returnable.

A. Product data:

1. Manufacturer's Literature: Materials description and current printed installation instructions for manufactured items.
2. Shop Drawings: Typical details of fabricated and formed configurations.

B. Samples:

1. Metals: One (1) 12" X 12" each type and gauge of material proposed.

a. Labeled proposed use.
b. List accessory item associated to installation.

2. Fabrication Samples:

a. Provide one (1) assembled sample of splice covers, and caps, inside and outside mitered cap corners.
b. Sample shall be completed, that is, soldered or welded as set forth in the Drawings.

1.6. DELIVERY, STORAGE & HANDLING

A. Deliver products to site in accordance with Section 00 2213/1.4. Store all products in a manner to prevent damage, in a secure place, out of way of construction operations. Provide protection until ready for use.

B. Handle in accord with manufacturer's recommendations.

1.7. SEQUENCING/SCHEDULING

A. Cap flashing on masonry walls and parapets shall be installed as set forth or salvaged per and assigned on the Drawings.

1.8. WARRANTY. The Contractor shall warrant metal flashing and trim to be free of faults and defects for two (2) years.

2. PRODUCTS

2.1. MATERIALS

A. Aluminum: Comply with reference standards.

1. All exposed to view to be prefinished to match exisiting dark bronze prefinished.

B. Manufactured fascia system

1. Metal Era anchor-Tite, 215 MPH rated two piece system, or equal
2. Face profile 8½" standard plus nominal 13" girth lower face section, see details.
3. Material minimum 0.040" prefinished aluminum or heavier, with galvanized or heavy aluminum or extruded aluminum concealed anchor strips, if galvanized design so there is separation between different types of metal.
4. Custom bottom closure clip to be 0.060" aluminum

C. Other Flashing and trim shall conform with the following:

1. Min. 0.040” thick minimum aluminum, except specified thicknesses where designated on the Drawings or in these specification

    a. Transition flashing to tie into existing
    b. Cap flashings, covers miscellaneous 0.04”

2. Specified requirements of the manufacturer of the metal.
3. Recommended practices contained in “Aluminum Construction,” from the Aluminum Association, 750 Third Ave., New York, NY 10017, latest edition.

D. Finish

1. Aluminum: Exposed to view flashing, gutters, downspouts, and trim Dark Bronze finish
2. Aluminum concealed and in roof system flashing, gutter: Mill finish.
3. Stainless Steel: Dull finish

E. Screws, Bolts and Nuts:

1. Stainless steel with sealhead washers where exposed to weather.

F. Washers

1. Same alloy as screw or bolt minimum .050” thick.
2. Material same as adjacent screw head.
3. All exposed washers shall be sealhead type: See Paragraph H, herefollowing.

G. PVC or EPDM Insolator: 20-mil thickness in sheet, strip or tape form.

1. At all locations separating soft metal from steel.

H. Sealant: single part urethane or silicone as deemed most workable for long life service in the conditions of application

1. Such as Sonnoborn NP-1urethane or Dow Corning CCS or CWS construction silicones
2. Always select following manufacturer’s recommendation for application, use and exposure.
3. Prepare or prime surfaces as is appropriate.

I. Resilient Washers: Neoprene, minimum .062 in. thick. Must be factory

1. Adhered to washers.

J. Gutters None proposed

K. Downspouts None proposed.

3. EXECUTION

3.1. INSPECTION

A. Thoroughly inspect all existing construction and the conditions under which the work will be performed. Report to the Architect/Engineer IN WRITING all conditions that would adversely affect installation of the work.

B. Start of work constitutes acceptance of the construction and conditions.

3.2. FABRICATION

A. Verify dimensions at site prior to shop production fabrications.

B. Form, fabricate and assemble all work in the shop to the extent feasible and, if necessary, mark to ensure proper installation at the project site. Disassemble only to the extent necessary for shipment. ASSEMBLY MARKS SHALL BE APPLIED TO BLIND SIDE.

C. Use the proper thickness of metal, adequate stiffeners, supports and proven details of assembly so that the finished product will conform to the highest standards of the industry. All clips shown on the drawing are to be continuous.

D. Fabricate items with the minimum number of joints, using concealed fasteners wherever possible. Lap or lock joints but so not rivet or otherwise restrict relative movement of sections. SEE DETAIL NOTES FOR EXPANSION PROVISIONS.

E. Limit all segments to ten feet (10') in length. Allow for minimum ½" expansion per segment length, unless otherwise specified. Miter and braze or weld all internal or exterior corners and end caps. Where exposed to view, a watertight cap can be installed below the finish flashing to accomplish this.

F. See the drawings flashing details and configuration. Running flashing and trim metal splices shall be separated ½" for expansion and covered with .040 X 5" wide cap flashing set in double bead of sealant. Anchor screws shall pass in the ½" no-contact expansion space. Lock splice caps in place securely.

G. Should cap lengths require more screws than shown on the drawing to hold the splice cap close to the flashing, the same shall be furnished and installed by the Contractor in a uniform pattern throughout the job.

3.3. INSTALLATION

A. Examine all surfaces to receive the metal flashing and trim.

1. Verify all dimensions of existing and subsequent constructions.
2. Installation of metal flashing and trim shall constitute acceptance of existing conditions.
3. Coordinate work with work of HVAC, Plumbing and Electrical Subcontractors.

B. Erect all the members plumb, level and in line securely anchored and properly related to other parts of the work.

C. Protect metal surfaces that are to be in contact with dissimilar metals.

D. Coordinate flashing installation with work under Section 07 9200.

E. All holes in sheet metal flashing anchored by screws exposed to temperature change and which is applied in segments in excess of 4'0" lengths shall be 1/16" diameter over size to accommodate expansion and contraction.

F. All flashings shall be adequately secured to substantial construction to comply with Factory Mutual requirements for blow off, 60 lbs. per lineal foot.

3.4. MECHANICAL FASTENERS - ACCESSORIES

A. Stainless Steel Screw Manufacturers:

1. Dynamic Fastener Services, P.O. Box 231, 13902 Century Lane, Grandview, MO 64030.
2. Guardian Fastener & Closure Systems, Telephone 800-633-GFCS.
3. Fasteral Co., 2001 Theurer Blvd., Winona, MN 55987
4. Fabco Fastening Systems, Townsend Div. of Textreon, Inc., West Newton, PA 15089.
5. Olympic Fasteners, 153 Bowles Rd., Agawam, MA 01001
6. All screws shall be of alloy that will field test zero magnetic attraction.
7. All weather-exposed screws shall be sealhead or provided with seal head washers.
8. Or similar.

3.5. ADJUST & CLEAN

A. Upon completion of installations, carefully examine all work to confirm installation compliance and adequacy and correct all defective work.

B. Clean up all rubbish, debris, surplus materials, packaging and tools and dispose of same off site in accordance with Federal, State and local regulations.

END 07 6200

1. GENERAL

1.1. WORK INCLUDED

A. Contractor shall provide infiltration barriers as shown on Drawings and specified herein, and as appropriate to protect against infiltration of air, uncontrolled humidity or water migration.

1. Exterior surface of CMU
2. At all intersections of dissimilar materials or major components forming the exterior envelope.

    a. Windows
    b. Doors and framing
    c. Glass to framing
    d. Masonry to dissimilar enclosing systems /materials.
    e. All joints forming the perimeter envelope.

3. Wall to roof, and roof deck, including deck deformations / flutes
4. Blocking to Masonry
5. Perimeter envelope penetrations

B. It is the project intent that the entire building envelope be infiltration and water tight

1. Exception is controlled HVAC intake or exhaust air systems.

1.2. RELATED WORK

A. Specified elsewhere:

1. 04 2000 – Unit Masonry
2. 04 7200 – Architectural Cast Stone
3. 05 3100 – Metal Decking
4. 06 1000 – Rough Carpentry
5. 07 1916 – Moisture Repellent
6. 07 2400 – EIFS
7. 07 6200 – Sheet Metal Flashing & Trim
8. 07 9200 – Sealants & Caulks
9. 08 1113 – Hollow Metal Work

1.3. SUBMITTALS.

Submit the Manufacturer's literature, materials description and installation instructions for each preformed filler or barrier filler in accordance with above.

1.4. WARRANTY

A. Contractor shall be responsible to repair infiltration breaches in the exterior envelope for a period of two (2) years.

1. Provide or replace sealants
2. Provide sealants where compressible seals have been found to have voids or failures
3. Repairs seals in the event of excess shrinkage of materials.

2. PRODUCTS

2.1. MATERIALS

A. Wood blocking to masonry, provide a compressible foam continuous seal, approximately 5½" wide.

B. Metal Deck to wood blocking or CMU.

1. Compressible foam seal or sealant bed as needed wood blocking meets dissimilar conditions.

2. Compressible profile contoured self-adhering seal where deck is perpendicular to the intersection surface. Provide in flutes above and below surface.

C. Masonry back up on exterior wall.
1. Fluid applied material such as W R Meadows Airshield
2. Sheet applied self-adhering as selected by the Contractor
3. Acrylic Latex Block filler applied liberally.
4. IEEC Code compliance is the governing requirement specification is intended to be flexible for contractor options.

D. Sealants as specified in the sealant section may be substituted for foam seal strips where same will accomplish the intended result.

END 07 9100

1. GENERAL

1.1. WORK INCLUDED

A. Contractor shall provide caulking and sealing of joints as shown on Drawings and specified herein, including backup fillers where required.

1. Typically required where any dissimilar material meets another
2. Where required for moister and infiltration control on exterior envelope
3. Where required on interiors where visual gaps need filled.
4. Not required where finished equipment that may move or require service or intentional decorative recesses or articulated joint is called for.

1.2. RELATED WORK

A. Specified elsewhere:

1. 07 1916 – Moisture Repellent
2. 07 6200 - Sheet Metal Flashing & Trim
3. 08 1113 - Hollow Metal Work

1.3. SUBMITTALS. Submit the Manufacturer's literature, materials description and installation instructions for each compound and filler in accordance with 01340.

1.4. HANDLING & STORAGE

A. When the Contractor chooses a product for a particular use for a sealant or caulk specified, that same product shall be used throughout the project for that specific assignment.

1.5. WARRANTY

A. Sealant Manufacturer: Contractor shall certify per Section 01 7800, as applicable.

1. Material performance - twenty (20) years against shrinkage and hardening - implied and advertised.
2. Loss of bond to substrate - five (5) years - Contractor or Manufacturer's Warranty.

2. PRODUCTS

2.1. MATERIALS

A. Exterior for metal-to-metal, metal-to-glass and for glass-to-glass installations.

1. Sealants shall be one (1) part type - silicone

2. Serviceable life expectancy shall be twenty (20) year minimum in Manufacturer's printed material for applications proposed.
3. Approved products are as follows: (Select proper product from product family).

    a. General Electric Silicone Series 1200.
    b. Dow Chemical CCS/CWS Silicone Rubber Sealant.

B. Exterior grade for masonry-to-masonry, metal-to-masonry, wood-to-masonry, and glass-to-masonry.
1. Material's serviceable life expectancy shall be twenty (20) year minimum in Manufacturer's printed material for the applications proposed – one (1) part urethane.
2. Approved products are as follows:

    a. Sonneborn NP-1
    b. Silaflex 1A
    c. Vulkem 116
    d. Tremco Mono
    e. Dow Corning CCS/CWS
    f. Select a sealant type appropriately recommended by the manufacturer for the application and as preferred by the installation contract best experience.

C. Interior grade caulk shall be one (1) part, paintable.

1. Chemical make-up shall permit 5% joint movement from 20 deg. F to 110 degrees F and shall be skinning type.
2. Approved products are as follows:

    a. DAP Latex Caulk
    b. Pecora BC 158
    c. Tremco Butyl Sealant

D. On grade horizontal joints, exterior/interior grade sealant shall be one (1) part, self-leveling for concrete contraction/expansion joints.

1. Approved products are as follows:

    a. Sonneborn Sonolastic S.L.1
    b. Vulkem 45
    c. Dow Chemical 880

2. If slope will cause flow, use one (1) part urethane listed above.

2.2. JOINT FILLER / BACKER

A. Joint Filler F-3, closed-cell polyethylene approved products shall be as follows:

1. Ethafoam by Dow Chemical.
2. Expand-O-Foam by Williams Products, Inc.

3. Filler Foam FF-4 by Progress Unlimited, Inc.
4. Safe-T-Grip Filler Gasket by Structural Specialties Corp.

2.3. JOINT CLEANER. Joint cleaner shall be that cleaner recommended by Sealant Manufacturer for specific joint surface and conditions.

2.4. JOINT PRIMER AND SEALER. Joint primer and sealer shall be those compounds recommended by Sealant Manufacturer for the specific joint surface and conditions.

3. EXECUTION

3.1. PREPARATION

A. Examine all surfaces to receive the parts of the work specified herein. The application or installation of materials constitutes acceptance of the substrate.

B. Clean surfaces and remove protective coatings that may fail in adhesion or interfere with bond of compound so surfaces are free of deleterious substances which might impair the work.

C. Prime surfaces per the Sealant Manufacturer's instructions.

D. Install bond breakers in locations and of type recommended by the Sealant Manufacturer to prevent bond or sealant to surfaces where such bond might impair the performance of the sealant.

3.2. INSTALLATION

A. Install all materials in accordance with Manufacturer's printed instructions. Unless otherwise directed, conform as follows:

1. Compounds shall not be installed at temperatures below 40 deg. F unless the Manufacturer specifically permits the application of his materials at a lower temperature.
2. If job conditions require installation of compounds below the minimum installation temperatures recommended by the Manufacturer, consult the Manufacturer's Representative and establish the minimum provisions required to ensure the satisfactory work.
3. Confine compounds to joint areas shown. Use masking tape to prevent staining of adjoining surfaces, spillage and/or migration of the compound out of joints. Tool surfaces to shape shown or, if none is shown, to a flush or slightly concave surface. Remove excess compound and clean adjoining surfaces as may be required to eliminate any indication of soiling or migration.
4. In joints which are not subject to traffic, apply sealants to a minimum depth of 50% of the normal joint width but not less than 3/8" or more than 1/2" deep.
5. Apply non-elastomeric compounds in exposed joints with the depth

of compound not less than the joint width.

6. Use appropriate sealants for all exterior joints and for the interior joints subject to movement, except traffic expansion and contraction joints and for all exterior and interior expansion traffic joints in concrete and tile work.
7. Use paintable sealant for all interior joints at locations to be painted not subject to movement in excess of 5%.
8. Pouring sealants shall be poured over a bond breaker tape joint filler. The joint shall be masked off adequately to assure a clean, flush and finished installation.
9. Sealants and caulks shall be a color selected to blend with adjacent material color.

B. Installations shall be neatly executed, smooth and regular in appearance, no lumps or globs or smears onto adjacent surfaces. Tool when appropriate.

3.3. SEALANT COLOR SELECTION

A. Sealant shall match surrounds for color.

1. Coordinate with Architect/Engineer regarding colors to insure approval.
2. Once a Manufacturer's product has been established for a use, that same product shall be used throughout the project for the particular situation and background.

3.4. SEALANT APPLICATION

A. For exterior/building envelope conditions: Select the proper sealant to provide resistance to air or water infiltration at all exterior envelope joints, connections of dissimilar materials:

1. Wall expansion joints
2. Door & windows

    a. Bed all thresholds in urethane sealant.

3. Wall penetration
4. Abutting dissimilar materials
5. As needed to control infiltration

    a. Water
    b. Air
    c. Vermin and insects

B. Appearance conditions: Throughout the interior of the construction provide sealants as needed to visually finish all installations.

1. Wall expansion joints
2. Construction joints
3. Abutting dissimilar materials

4. Wall, floor and ceiling penetrations
5. Joints subject to water penetration
6. Irregular joints
7. Unintended gaps, cracks or openings such as at poorly executed electrical device cover plates

C. Kitchen, Restrooms, etc.

1. Use appropriate approved sealants as needed for compliance with regulations and good housekeeping practice.

END 07 9200

1. GENERAL

1.1. WORK INCLUDED

A. The General Contractor shall provide hollow metal doors, frames, sidelights and vision panel frames as shown on the Drawings and specified herein.

1. Contractor shall verify quantities.
2. Contractor shall verify existing frame dimensions or existing masonry opening to install new material.
3. Verify for square, clearances, 5/8” undercut.

1.2. RELATED WORK

A. Specified elsewhere:

1. DIVISION 00 - PROCUREMENT REQUIREMENTS
2. DIVISION 01 - ADMINISTRATIVE REQUIREMENTS

B. See Door Schedule shown on the Drawings.

1.3. SUBMITTALS

A. Submit shop drawings in accord with 01 3300. Show type of door and frame for each opening, full scale sections of all typical members, dimensioned elevations, anchors, reinforcements, and other required components.

1.4. HANDLING AND STORAGE

A. Handle and store doors and frames at the job site in such a manner as to prevent damage. Wrappings or coverings shall be removed upon arrival of doors at the job site.

2. PRODUCTS

2.1. MATERIALS

A. Structural Steel Shapes: ASTM A36-70a.

B. Sheet Steel: ASTM A 366-72, commercial quality, cold rolled, stretcher leveled.

C. Galvanized Steel ASTM A 366-72 .5 oz/square foot per side.

D. Primer: Phosphate treated, gray zinc chromate baked on inside and outside of all sections.

2.2. MANUFACTURERS

A. Acceptable manufacturers of standard 16-gauge doors and frames:

1. Steelcraft - Cincinnati, Ohio
2. The Ceco Corporation - Chicago, Illinois
3. Mesker Door Co., Inc., Huntsville, AL
4. Fenestra Corporation - Erie, Pennsylvania
5. Curries Co., Mason City, IA
6. Amweld Building Products, Garrettsville, OH

2.3. FABRICATION

A. Fabricate hollow metal doors and frames as shown on the Drawings and in accordance with best shop practices. Frames shall be welded rigid, neat in appearance, and free from defects. Field measurements shall be taken as required for coordination with adjoining work.

B. Form exposed surfaces free from warp, wave and buckle, with all corners square, unless otherwise shown. Set each member in proper alignment and relationship to other members with all surfaces straight and in a true plane.

C. Reinforce members and joints with steel plates, bars, rods or angles for rigidity and strength.

D. Conceal all fastenings unless otherwise shown or specified.

E. Provide combination type hollow metal door frames to be used as both door buck and trim, formed to profiles.

F. Unless otherwise shown, fabricate all interior frames of 16 gauge steel primed steel. Exterior frames shall be 14 gauge galvanized and primed.

G. All corners shall be welded and ground smooth exhibiting a neat smooth flush finish.

1. Provide proper returns at all edges.

H. Doors and frames shall be mortised and reinforced for hardware in accordance with the Hardware Manufacturer's instructions and templates. Reinforcing shall be drilled and tapped to receive hinges, locks, strikes, and closers. Cover boxes shall be provided for hardware cutouts. The hinge reinforcements shall be 7-gauge. Angle floor clips have two holes each for 3/8" anchor.

I. Make provisions for installing rubber door mutes on interior door frames. Three (3) for single frames.

J. Provide internal reinforcement for surface mounted hardware in frames to match locations shown or specified for doors.

K. Furnish at least three (3) adjustable metal anchors in each jamb of shapes, sizes and spacing shown or required for anchorage into adjoining wall construction. Fabricate joint anchor of steel no lighter than gauge used for

the frame, unless otherwise shown.

L. Floor anchor clips for each jamb shall be not less than 14-gauge steel with two anchor holes and welded to frame. Terminate bottom of frames at the indicated finished concrete floor level.

M. Miter, fit, weld, and grind smooth corners of panel moldings for glass panels to form continuous frames around panels. Furnish removable moldings of minimum 18-gauge steel. Secure removable moldings with not less than No. 6 x 32 Phillips, oval-head countersunk machine screws at 12" o.c.

N. Safe Room Doors shall be as follows:

1. 1-3/4" thick.
2. 14-gauge face sheets.
3. 14-gauge edge channels.
4. 1/8" beveled lock side.
5. S.D.I. Type III extra heavy-duty seamless full flush.
6. Foam filled core on exterior doors – honeycomb interior doors
7. Cut out mortise and reinforce for hardware mounting.
8. 7-gauge drilled and tapped hardware.
9. 5/8” undercut all doors.

O. Frames shall be as follows: One (1) new metal frame.

1. Standard 5 ½” X 2” jambs, 2” or 4” head as appropriate.
2. Stops 5/8" deep X 1-15/16"
3. Loose stops for glazed frames shall be 1/2" thick X 1-1/4" wide - screw anchored to frames.
4. Safe Room Frames 14 gauge with 7 gauge reinforcements and 5 anchor points per jamb
5. Other frames 16 gauge 3 anchor points per jamb.

P. Top and bottom edges all safe doors shall be closed with a continuous recessed channel not less than 14-gauge, extending full width of door and spot welded to both faces. Both vertical edges of doors shall be leveled 1/8" in 2".

Q. Provide clearances for hollow metal doors of 3/32" at jambs and heads, 1/8" at meeting stiles for pairs of doors and 3/8" at bottom where no threshold is required. 3/8" to increase 1/4" where door swings over carpet. Where a threshold is shown, provide 1/8" in 2".

R. In addition to other requirements for hollow metal doors and frames specified herein, comply with the label requirements of the National Fire Protection Association and applicable local codes. Fabricate doors and frames in accordance with the requirements of the NFPA Standard No. 30 and UL Standard for Safety No. 60 for the class of door opening shown or scheduled.

S. Provide accessories for doors per the Drawings and per Section 08 7100.

2.4. SHOP PAINTING

A. Thoroughly clean all metal surfaces of loose scale, shavings, filings, dirt and other deleterious materials by using wire brushes or other effective means. Remove grease and oil by solvent cleaning.

B. Chemically treat all surfaces with phosphate compound to assure maximum paint adherence. Apply one coat of primer, baked on. Cover all surfaces without runs, smears or bare spots. THOROUGHLY PRIME JAMBS INSIDE AND OUTSIDE.

C. Prime coat inside surfaces of frames.
D. Prime coat inside surface of all removable stops, as well as the frame area covered by such stops.

3. EXECUTION

3.1. PREPARATION

A. Examine job site conditions to receive the work. Installation shall confirm acceptance of job site conditions and preparation.

B. Verify all dimensions of in place and subsequent construction.

3.2. INSTALLATION

A. All items shall be set in their correct locations as shown on details and shall be level, square, plumb and at the proper elevations and in alignment with other work.

B. All interior and exterior joints between glass, framing and mullion members shall be tightly sealed with elastomeric sealant in order to assure a vibration free and watertight installation.

C. All materials shall be screwed in place using backing, masonry plugs or anchor straps as applicable.

D. Where moldings are joined, they shall be accurately cut and fitted to result in a tightly closed joint.

E. After erection, protect exposed portions of framing from damage by grinding and polishing machines, plaster, lime, acid, cement or other harmful compounds.

F. All doors and frames to be primed and receive two (2) coats satin DTM latex paint. See Section 09 9000.

END 08 1113

1. GENERAL

1.1. WORK INCLUDED

A. General Contractor shall provide aluminum doors and frames as shown on the Drawings and specified herein.

B. Base Bid:

1. All hardware unless noted
2. All sidelights, transoms, glazing and insulated panels as detailed
3. All trim, filler and closure pieces to complete the work
4. All weather-stripping, seals, thresholds and cushion felts

    a. Completely weather tight installation, resistant to air infiltration and watertight where appropriate

5. ADA Compliance

    a. Hardware
    b. Operational Features

6. Demolition and disposal of existing as needed
7. Clean up and prep of surrounds to properly receive new door and frame assembly.

    a. Repair surrounds and touch up as needed following demolition work.

C. All exterior assemblies to comply with Illinois/International energy code, IEC.

1. Thermal break commercial assemblies as appropriate.

D. Weather tight

1. All framing and door systems are to be infiltration tight

    a. No water penetration to the interior
    b. No noticeable air penetration to the interior
    c. Flash and weep to direct all moisture outside.
    d. Provide all additional seals, door bottoms, drips and weather-strips needed to meet this requirement

1.2. RELATED WORK

A. Specified elsewhere

1. Division 0 and Division 1- Contract requirements

1.3. QUALITY ASSURANCE. Glazing in aluminum doors and frames shall be performed under this section of the work. Door and frame schedule shown on the Drawings.

A. Comply with all laws, ordinances, rules, regulations and orders of Federal and State authorities having jurisdiction over this work.

B. Exterior-to-Interior Doors, Frames, and Glazing: Anodic Finish ASTM-B-136, ASTM-B-137,

C. Reinforce the doors and frames to receive hardware components. In particular, reinforce the door and frame for closers and stops. Show reinforcing on the shop drawing per 01 3300 Submittal Procedures.

1.4. SUBMITTALS

A. Submit the following in accordance with Section 01 3300.

1. Manufacturer's Literature: Materials description and installation instructions for system used.
2. Shop Drawings: Complete layout of frame and door elevations, framing details, reinforcing peripheral conditions, and anchorage.
3. Complete description of hardware and parts list for future maintenance.
4. Samples: Pieces of metal with finish specified.

1.5. WARRANTY

A. Doors and framing – one (1) year labor and material

B. Insulated glazing – ten (10) year replacement for loss of seal, materials delivered to site.

C. Hardware

1. One (1) year installation
2. Five (5) years parts or manufacturing, or manufacturer’s advertised extended warranty.
3. Closers, five (5) year minimum or advertised warranty if longer.

2. PRODUCTS

2.1. MANUFACTURERS. Use all one Manufacturer, minimum primary wall thickness framing and door stiles and rails must be 0.125”. Glazing beads not less than 0.055”.
Listing here does NOT supersede this requirement.

A. Kawneer, PO Box 609, 751 International Dr., Franklin, Indiana 46131, phone 317/738-2600.

B. Special-Lite Inc., Decatur, Michigan 49045, phone 800/821-6531.

C. Or approved equal submitted not less than 7 days prior to bidding.

2.2. FINISH

A. Doors and frames – Dark Bronze anodized.

B. FRP Style with 6” x 24” insulated light–

1. Not less than 0.125” thick
2. Fade resistant, Dark Bronze
3. Impact 20 ft-lb/inch ASTM D256
4. Abrasion 0.03% ASTM D1242
5. Hardness 54 ASTM D2583, Barcol Meter
6. Flexural 25,000 psi ASTM D790
7. Weather ability 0.2% ASTM D570
8. Flame spread, exterior facer $\leq$ 200, interior facer $\leq$ 25, smoke developed $\leq$ 450, ASTM E84-79a
9. Chemical resistant to normal cleaning agents such as chlorine, sodium hypochlorite, acetic acid, hydrochloric acid in safe concentrations for cleaning.

C. Hardware to match door finish:

1. Closers, dark bronze painted or cover
2. Wall bumpers miscellaneous hardware, dark Bronze
3. Continuous hinge dark bronze

2.3. APPLICABLE DOOR TYPES

A. See Schedule and Drawings for types, glazing, FRP, size, vision lights, and specific information, etc.

1. Coordinate door, stile, framing and reinforcement with selected hardware.
2. Fully weather-stripped.
3. Insulated panels, 1", 1/8" FRP both sides, color to be selected.
4. Sidelights and/or transoms, insulated glazing or insulated FRP panels as noted.
5. IEC compliant (Energy Code)

B. Flush face FRP doors

1. 0.125" minimum FRP; flush face both sides, insulated core.
2. Kawneer Flush Line
3. Special-Lite SL-17 with 6” x 24 “ light
4. Or equal – subject to pre-bid approval.

C. Galzing
1. Dark Gray glass,
2. 1” insulated, argon filled
3. may be laminated/Laminated or Laminated tempered, one pane shall be laminated 0.001 PVB interliner.

D. Finish

1. Dark Bronze anodized aluminum
2. Dark Bronze FRP

2.4. FRAMING SYSTEMS

A. Accessory trim pieces: Provide necessary closure pieces on extruded aluminum to properly finish jambs and head.

B. Basic Framing Systems – nominal **6” X 2" X 1/8"** primary wall thickness.

1. Always inspect installation conditions. May request different profile if necessary to fit.
2. Closure and trim pieces to finish installation. Necessary clips, stops and framing components to complete the framing system.
3. Sealants and closure pieces.
4. At existing installations typically provide 1" X 1" X 1/8" extruded anodized aluminum trim angles and other 1/8" shapes as needed to finish installation.
5. Finish : Dark bronze anodized aluminum

C. Exterior assemblies shall be IEC compliant, thermal break systems, heavy commercial type.

2.5. SEALANT

A. Use long life rubberized sealant appropriate to surrounds:

1. Urethane types such as Sonnoborn NP-1
2. Silicone Types such as Dow 795, but select proper product for the specific condition encountered.

2.6. GLAZING

A. All glazing to comply with Safety Glazing requirements, Federal and State.

B. Exterior doors, laminated/tempered,

1. Nominal one inch (1”) insulated glazing, or manufacturer standard
2. Glazing to conform to IEC 2012.
3. Outer layer ¼” minimum dark gray, low ‘E’ inside surface, tempered.
4. Space argon filled
5. Inner glass layer clear ¼” minimum laminated .060 interlayer.
6. 10 warranty against failure of the seal allowing clouding or moisture in the air space.

2.7. FRP (Fiber reinforced panels)

A. FRP doors and insulated panels shall match color and texture.

1. Face sheet to be 1/8” nominal or heavier, resistant to fade and dulling.

2. Insulation to be approximately:

a. Panels ¾" minimum insulation (1"minimum overall panel) urethane foam, R-5/inch rating
b. Doors 1 ½" minimum insulation (1 ¾" over all door) less insulation in structural framing areas.

3. Color to be selected.

2.8. HARDWARE

A. ADA compliant hardware is intended.

B. Exit Devices rim lock at single doors or pairs with mullions, vertical rod bolts at pairs without removable mullion, rated at labeled doors, extra heavy duty, removable core or core cylinder to match keying system used by Owner, may reverse existing cores or replace matching keying.

1. Rim type exterior doors - surface with removable or fixed mullion.

a. See Schedule for selections.
b. Precision Apex 2300 wide style Series (district standard)

1) Stainless steel trim
2) Exterior sets, using Precision as the spec basis.

a) Trim No. 2000C - removable core, match building keying as directed
b) Blank, see drawings for blank exterior trim.
c) key dogging on all sets.

c. Strike, most appropriate heavy duty for application condition encountered.
d. Removable mullions, see drawings for fixed locations.

1) Precision, match to hardware, heavy-duty steel.
2) Key removal kit
3) Match framing color

e. Key operated dogging on interior side all push bars.

2. Electrically activated device, 24 volt, similar to above with control at the main office, key cylinder dogging

C. Keying

1. Verify existing cores and keyway, may reuse or supply new, match core keying, master key or sub master.

a. Match existing as directed by the Owner
b. Return old cores to Owner.

2. Cylinders to be removable core type

a. Keyed to Owner keying system, Schlage keyway 'F'
b. Always verify exact keyway on site before ordering.

A. Continuous geared hinges

1. Heavy duty, full mortise at new locations

1) Roton
2) Precision
3) Hagar
4) Pemko
5) Select
6) McKinney

D. Threshold - manufacturer recommended for application, ADA compliant, resistant to blowing rain.

E. Closer

1. Norton Unitrol Series 7700, LCN 4100 series or Dorma equivalent.
2. Thumb-turn selected hold-open where hold-open is specified
3. Cushion-stop holder bracket.

F. Threshold, manufacturer's standard or as needed to meet sill conditions.

G. Sill drip/sweep exterior openings only

1. National Guard Products 101V
2. Pemko 3452
3. Reece 353
4. Or equal.
5. Note, verify installation conditions and revise selection of a threshold for water control and ADA compliance

H. Doorstop wall, concealed fastener, dark bronze, select for anchorage condition.

1. Hiawatha: R1326 ½ BL
2. Ives: #401
3. Glynn Johnson #WB50
4. Rockwood 400/403

3. EXECUTION

3.1. INSTALLATION

A. Examine all surfaces to receive parts of the work specified herein. Verify all dimensions of in-place and subsequent construction. Installation of frames constitutes acceptance of the existing conditions. Prime coat and enamel all exterior steel lintels prior to aluminum frame installations.

B. All items shall be set as shown and shall be level, square, plumb, at proper elevations, and in alignment with other work.

C. All joints between glass framing and mullion members shall be tightly sealed with elastomeric sealant in order to secure a watertight job. All materials

shall be screwed in place using backing, masonry plugs or anchor straps as required.

1. Plastic anchors or drive pins in masonry shall not be used, use tapcons, or expansion type metallic base anchors..
2. Jambs and heads (for glazing frames or door frames) shall be anchored as follows:

    a. 1/4" diameter cap screws at maximum 1'-4" o.c.
    b. 5/16" diameter cap screws at maximum 2'-0" o.c.
    c. 3/8" diameter cap screws at maximum 2'-0" o.c.
    d. Minimum three (3) anchors per jamb segment.
    e. First and last segment anchors shall not exceed 8" spacing from the end.
    f. Anchor for 15 psf wind load, leeward/windward.

D. Where moldings are joined, they shall be accurately cut and fitted to result in a tightly closed watertight joint.

E. Doorsills and thresholds shall be set in a bed of exterior grade sealant, full length and full width, watertight. See 07 9200, sealants.

F. Frames anchored to masonry shall be spaced shimmed, anchored and finished.

1. Provide continuous Styrofoam rope backer. After backer insertion, depth of recess shall be equal to joint width.
2. Provide exterior silicone or urethane sealant in color to match frame materials. Strike sealant to a smooth uniform fillet.

    a. Straight neat cut to surrounds

G. Thresholds shall be anchored with stainless steel flat head threaded cap screws into metal expansion anchors, set into full bed of silicone or urethane sealant.

H. Finished installation to be weather/watertight and not allow penetration of water unto floors or through seals to the interior.

3.2. SCHEDULE OF OPENINGS - **BASE BID**

A-1 Exterior to south corridor

1. Two Rim Exit devices, Precision Apex series, RHR is 24 volt electronic actuated release, coordinate with the in building Johnson entrance controls.
2. Geared hinges
3. ADA Threshold
4. Door sweeps
5. Closers, thumb turn or hex key adjustable hold open, approximately 85 Degree.
6. Fully weather-strip perimeter and meeting stiles
7. Wall door bumpers for doors with wall condition.

END

1. GENERAL

1.1. WORK INCLUDED

A. The General Contractor shall provide and install flush wood doors designated on the Drawings.

a. Doors to be pre finished.

2. Single source sub supplier for doors, frames and hardware.

1.2. RELATED WORK

A. Specified elsewhere

1. 06 2000 - Finish Carpentry
2. 08 1113 - Hollow Metal Work
3. 08 7100 - Door Hardware

1.3. QUALITY CONTROL: Except as otherwise specified herein, wood doors shall conform with publications Architectural Woodwork Institute (AWI) current standard and Window and Door Manufacturer's Association (WDMA) I.S 1A.

1.4. SUBMITTALS

A. Submit the following in accordance with 01 3300.

1. Manufacturer's Literature: Materials description and installation instructions for products and Certificate of Compliance with WDMA 1A.
2. Shop Drawings: Show elevations, dimensions and construction details. Shop drawing shall be limited to door panel sizes determined on the site and verified by the Contractor prior to submittal of shop drawings.

1.5. PRODUCT DELIVERY, STORAGE AND HANDLING

A. Door panels shall be individually packaged in a manner to provide end protection by the Door Manufacturer and shall not be delivered to the site until the building is readied and thoroughly dry.

B. Doors shall be stored flat and spaced off floor and be properly supported.

C. Doors shall not be removed from cartons until all building finish coatings and other interior finishing work has been completed.

D. Damaged or otherwise unsuitable doors, when so ascertained, shall be promptly replaced.

E. Door dimensions shall be determined from on site dimensions where existing frames exist or are reused. Where new jambs are to be installed the listed door size shall prevail.

1.6. SPECIAL WARRANTY

A. The Contractor and Manufacturer shall warrant the wood doors to be free of faults and defects in accordance with the General Conditions, except that the warranty shall be for five (5) years.

B. Warp in excess of that permitted by NWMA Industry Standard, or any defect which shall affect the operation of the door, shall be considered a defect under the provisions of the warranty. Door Manufacturer shall be responsible for door installation inspection and shall notify the A/E and Contractor that doors have been hung in accordance with Manufacturer recommendations.

C. Warranty shall include finishing and hanging.

2. PRODUCTS

2.1. FABRICATIONS

A. Door Type: Flush, hardwood veneered Premium Grade, AWI Quality Standards.

1. Manufacturers:

   a. Allegion Wood doors
   b. VT Industries, Holstein IA
   c. Algoma Hardwood, Inc, Algoma WI
   d. Graham Wood door / Assa-Abloy
   e. Approved equals and meeting WDMA standards for commercial wood doors.

2. Minimum finished door thickness 1-3/4".
3. Cores:

   a. Fire rated Georgia Pacific, or equal, homogeneous gypsum type mineral board with minimum density of 26 lbs. per cubic foot containing no asbestos.
   b. All other locations, particle board core or equivalent.

4. Vertical edge stiles shall be minimum 1-3/8" deep of solid hardwood and adhered to door core.
5. Top and bottom rails shall be minimum 1-3/8", thick cut between stiles, same materials as stiles and adhered to the door core.
6. Construction shall provide 5 ply hot press waterproof glue assembly

   a. Premium oak or birch veneer, plain slice, book match, applied to HDF crossband
   b. Type 1 water proof glue
   c. Matching hardwood style edges
   d. Bevel edges
   a. ¾” under cut unless otherwise specified
   b. Laminated to the core and securely adhered thereto without deformation or unbounded areas.

2. Adhesives shall be fungus and moisture resistant.
3. Face veneer grain shall run vertical and minimum finished thickness (after factory sanding) of 1/50" with matching grain on each leaf face.
4. Stops to be accurately fit to door and glass thickness, coordinate, no rough sharp or splinter edges.

2. EXECUTION

2.1. INSTALLATION

A. Drawing Plan Sheets and door schedule sheet shall determine door and frame locations and hardware sets. See Section 08700 Hardware.

B. Coordinate door design style, type, location, frames and hardware.

END 08 1400

1. GENERAL

1.1. DESCRIPTION

A. Work Included:

A. Contractor shall provide mirrors, glass and interior glazing as shown on the Drawings and specified herein.
B. Glazing for aluminum windows included in the window specification
C. Glazing for the aluminum doors may be included in the aluminum door specification
D. Coordinate glazing as required, some glazed items are manufactured with glazing factory installed such as:

a. Aluminum window systems
b. Storm rated windows
c. Aluminum Door systems – verify in this application

1.2. RELATED WORK

A. Specified elsewhere

A. DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS
B. DIVISION 1 - GENERAL REQUIREMENTS
C. 07 9200 - Sealants & Caulks
D. 08 8000 – Safe Room windows
E. 08 1116 - Aluminum Doors & Frames
F. 08 7100 – hollow metal doors and frames

1.3. QUALITY ASSURANCE

A. Glass shall conform to Federal Specifications DD-G-451-C.

B. Unless otherwise shown, conform to details and procedures of the "Glazing Manual" (Flat Glass Marketing Association).

C. All glazing materials shall comply with State and Federal recommendations and the Illinois School Building Code.

A. School CODE requires some interior building glazing to be wire glass unless otherwise designated specifically.

D. Comply with glass manufacturer's recommendations for annealed, heat treated or tempered depending on exposure conditions, edge shading, sun, etc.

1.4. SUBMITTALS

A. Submit the following Manufacturer's Literature, including materials description and installation instructions for glazing inserts and glazing

sealants,

A. Glass technical information
B. Energy performance for exterior glazing

2. PRODUCTS

2.1. MATERIALS

A. Float Glass: "Clear Float" (PPG Industries), "Parallel-O-Float" (Libby-Owens-Ford Company), or "Starlux Float" (ASG Industries, Inc.) thickness as shown on the drawings; tempered or laminated in doors and adjacent lights.

A. Laminated glass throughout to have .090" PVB inter layer

a. 0.10" PVB interlayer at the safe room door lights.

B. Laminated glass to be used where allowed for improved interior security.

B. Tempered Glass: Comply with requirements of Consumer Products Safety Commission Regulation for Safety Glazing Materials 16 2FR 1201 Catalog I & II and GTA Specification G4-3-16. Minimum thickness shall be 3/16".

A. Use when noted

C. Fire Rated Glazing: none on this project

D. Mirrors

A. 1/4" laminated polished plate
B. Silver/Copper Federal Specification DD-M-411 Class E Grade 1.
C. Mirror frames to be stainless steel, welded corners, concealed fastening.

a. Bobrick B-165 Series
b. McKinney 160 Series
c. ASI
d. Or equal

D. At boys and girls bathrooms, two (2) each, four (4) total,18"x36"
E. At boys and girls bathrooms one (1) each, two (2) total, 20" x 60" mount on north wall as directed just above quarry tile base.
F. At Staff bathrooms, one (1) each, two (2) total 18 x 36.

E. Wire Glass: None intended on this project.

F. Glazing Compound – Not applicable to this project.

G. Glazing Tape - Polyisobutylene/butyl: "Tremco 440 Tape" (Tremco Manufacturing Company), "G-66" or "BB-50" (Pecora Chemical Corporation) or "Butyl Rubber Tape" (DAP, Inc.).

H. Setting Blocks: Neoprene Blocks, 70 to 90 Type A durometer hardness. Spacers: Neoprene blocks, 40 to 50 Type A durometer hardness, three inches (3") long, self-adhesive on one face only.

I. Laminated glass to meet ASTM C 1036-85 and ANSI 297.1-1984 and Consumer Product Safety Commission 16 CFR 1201, 1/4" minimum 0.090" interlayer.

A. Use throughout interior except where heavier is noted in safe room corridor doors
B. Classroom doors in sprinkler areas
C. Corridor side lights and borrowed lights in sprinklered area.
D. Obscure where noted on plans, Rest room doors etc.

J. Insulated glass: Where called for shall be assembled of the required or noted glazing materials and thicknesses, ten (10) year manufacturer's guarantee against loss of seal and/or clouding.

A. Solar Grey / Low ‘e’ / argon filled
B. Tempered outer pane ,
C. Laminated 0.060” interlayer, inner pane.
D. Always assume irregular shading pattern glazing due to seasonal sun incidence variation and possible future landscaping shadows.

K. Glazing stops: Coordinate with glazing thickness, stops shall fully cover to face of door. Sand, no splintering.

3. EXECUTION

3.1. PREPARATION

A. Examine all surfaces to receive the parts of the work specified herein. Verify all dimensions of in-place and subsequent construction. Application or installation of materials shall constitute acceptance of the related construction.

3.2. INSTALLATION

A. Employ only experienced glazers who have had previous experience with the materials and systems being applied. Use the tools and equipment recommended by the Glass Manufacturer.

B. Prime surfaces to receive glazing compounds in accordance with the Manufacturer's recommendations, using recommended primers.

C. Inspect each piece of glass immediately before installation. Do not install pieces with significant impact damage at edges, scratches, or abrasion of

faces, or any other evidence of damage.

D. Locate setting blocks at the quarter points of sill but no closer than 6" to corner of glass.

E. Provide spacers for all glass to separate glass from stops, except where continuous gaskets or tape are required.

F. Tool exposed surfaces of glazing materials to provide a slight wash away from the glass. Install exposed tapes and gaskets with a slight protrusion above stops in the final compressed condition.

3.3. CURING, PROTECTION & CLEANING

A. Cure sealants in accordance with the Manufacturer's instructions to attain maximum durability and adhesions to glass and framing as soon as possible.

B. Protect glass from breakage immediately upon installation. Use streamers or ribbons suitably attached to framing and held free of the glass. Warning markings shall not be applied directly to the glass.

C. Remove and replace glass which is broken, cracked, chipped or damaged in any way and from any source, including weather, vandalism and accidents during the construction period.

D. Maintain glass in a reasonably clean condition during construction so that it will not become stained and will not contribute to deterioration of glazing materials.

E. Wash and polish glass on both faces, not more than four days prior to date of substantial completion. Comply with instructions and recommendations of the Glass Manufacturer and Glazing Materials Manufacturer for cleaning in each case.

3.4. MIRROR SCHEDULE –

A. At boys and girls bathrooms, two (2) each, four (4) total,18”x36”

A. At boys and girls bathrooms one (1) each, two (2) total, 20” x 60” mount on north wall as directed just above quarry tile base.

B. At Staff bathrooms, one (1) each, two (2) total 18 x 36.

END 08 8000

1. GENERAL

1.1. DESCRIPTION

A. Work Included:

A. Contractor shall provide exterior storm rated window assemblies.

a. All exterior windows in the proposed addition
b. 4’ wide x 4’ high

1) Sill at 3’4” above finish floor.

1.2. RELATED WORK

A. Specified elsewhere

A. DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS
B. DIVISION 1 - GENERAL REQUIREMENTS
C. 07 9200 - Sealants & Caulks
D. 08 8000 –glazing
E. 08 1116 - Aluminum Doors & Frames
F. 08 7100 – hollow metal doors and frames

1.3. QUALITY ASSURANCE

A. Comply with FEMA for storm rated glazing system.

1.4. SUBMITTALS

A. Submit the following Manufacturer's Literature, including materials description and installation instructions for glazing inserts and glazing sealants,

2. PRODUCTS

2.1. MATERIALS

A. FEMA rated product design basis:

A. Insulgard security Products, Storm Defend, TTH600 tornado and hurricane storm shelter window system TOR GARD 30.

a. Insulgard security products
1) 800 624 6315,
1291 Rickett Rd
Brighton MI, 48116,
T 440 235 3437, F810 8440920,
gsageman@insulgard.co

b. Storm rated frame, 2 ½" x 6"
c. ICC500-14
d. Thermally broken framing system
e. Dark /bronze finish system
f. Factory assembled
g. Job specific anchorage instructions
h. Nominal 2" insulated glazing system, TorGard.
i. Low E
j. Light transmittance 55%
k. U-value 0.27
l. Solar gain 0.57
m. Shading coefficient 0.66

B. Or equal

B. Reinforcement anchorage system as recommended by the manufacturer

C. Trim closure pieces on the exterior to close the wall gap face berick to cmu

A. Fabricate from minimum o.o32" prefinished aluminum matching framing

a. Hem all exposed edges
b. Conceal mounting to the extent possible.

3. EXECUTION

3.1. PREPARATION

A. Examine all surfaces to receive the parts of the work specified herein. Verify all dimensions of in-place and subsequent construction. Application or installation of materials shall constitute acceptance of the related construction.

3.2. INSTALLATION

A. Strictly comply with the manufacturer's instruction for installation and anchorage

B. Provide any special reinforced anchorage reinforcement required.

C. Provide aluminum exterior sill to fit conditions and keep water out of the wall system

D. Provide perimeter trim closures for the window perimeter at the brick to cmu gap.

E. Complete installation weather and infiltration tight.

END 08 8800

1. GENERAL

1.1. WORK INCLUDES

A. Base Bid: Provide acoustical ceiling work as shown on the Drawings and specified herein.

1. Install new grid and 2 X 4 panels as shown on Plans.

a. 9’-0” intended height, Inspect in field with the A/E and adjustment +/- 2” may be considered.

B. Coordinate with the conditions

1. Note to installer, if main runner layout can be determined hangers could be installed prior to pouring of the concrete deck allowing screwing eye hooks into decking.

C. Alternates:

1. Alternate 1 add 4’
2. Alternate 2 add 8’

1.2. QUALITY ASSURANCE

A. All materials of any type, single source, (single run if possible).

B. All materials certified upon request by an independent NVLAP accredited laboratory.

1. Fire rated materials: Underwriters Laboratories, Inc. Design P-202 RC13-1 Hour except spring clips are not required.
2. Humidity resistance, mold resistance.
3. STC, SA and reflectance factors

1.3. SUBMITTALS

A. Required:

1. Manufacturer's Literature: Materials description and recommended installation and maintenance instructions.

1.4. DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the project site in Manufacturer's unopened containers clearly indicating Manufacturer's name, brand, type, style, size, color, texture and other identifying information.

B. Store materials in a dry location, off the ground and in a manner to prevent damage, deterioration, and intrusion of foreign matter. Replace materials, which have been damaged or are otherwise unsuitable promptly.

1.5. EXTRA MATERIALS

A. At conclusion of the work provide not less than:

1. 2’ X 4’ tile 3% of quantity used but not less than one unbroken carton.
2. For turn over to Owner, not for punch list or other contractor use.

2. PRODUCTS

2.1. MATERIALS

A. Acoustical Tile: Fissured surface, mineral fiber tile, fire code rated, 24" X 48" X 5/8", square edged, also meeting ASTM E-84 and ASTM E-119 of material certified to contain no asbestos.

1. USG
2. Conwed Corp.
3. Celotex Corp. – Fine Fissured
4. Armstrong
5. Product requirements

a. 5/8” or 3/4” mineral fiber
b. Humidity rated non-sag 100 deg. F, 90% R.H.
c. Anti-microbial
d. Fine fissured, match existing building for non-directional style.
e. Sound Absorption: ASTM CA23-66, NRC .50-.60.
f. Sound Attenuation: AIMA, Test I-II, 35-39 range.
g. Light Reflectance: ASTM C 523-68, .70-.74. (LR-1).
h. Flame Spread smoke developed: class A
i. R thermal value = 1.36
j. Formaldehyde, no detectable release.

B. Suspended Grillage

1. Hangers: Minimum 10-gauge, soft annealed, steel wire, galvanized. See paragraph.

a. #12 eyelet head screws into wood, light gauge steel or locations where tie wire cannot be wrapped.

2. Provide support at 60” maximum spacing along main runners, 48” preferred. Verify grid will support 6.3 PLF at L/360 deflection at 60”.

a. Provide necessary sub-framing where needed to achieve 48" support spacing under ducts, openings, etc.
b. Support grid or light fixture at all drop in fixtures per IBC requirements. Coordinate with Electrical contractor.

C. Snap Grid System

1. Main Runners: 15/16” wide X 3/4" high, minimum 0.020" thick steel sheet formed runner with vertical leg at top and tee shape at bottom.
2. Cross tees: 15/16” wide X 3/4" high, minimum 0.020" thick steel sheet formed runner with vertical leg at top and tee shape at bottom.
3. Clips: Steel wire clips to hold main runner to carrying channels.
4. White face finish

    a. Chicago Metallic
    b. Conwed
    c. Armstrong
    d. Celotex
    e. Or equal subject to approval

D. Metal Wall Moldings: Galvanized sheet steel, angles or channels, minimum 0.020" thick, match grid.

2.2. FORMED EDGE

A. Areas of the project will require formed white metal transitions.

1. Pre-finished white 26-guage galvanized sheet.
2. Hem edges.
3. Shape to condition.

3. EXECUTION

3.1. PREPARATION

A. Examine all surfaces and spaces to receive the work specified herein.

B. Verify all dimensions of in-place and subsequent construction. Application or; installation of materials constitutes acceptance of the supporting construction.

3.2. INSTALLATION OF SUSPENSION SYSTEMS

A. Install suspension system in accord with ASTM C636-76 and current AIMA recommended procedures.

1. Grid system shall be clipped or mechanically secured at intersections

    a. Loose fit grid not allowed.
    b. Method of securing shall avoid exposed fasteners such as screws or rivets up through grid, clip or tie together above ceiling.

B. Unless otherwise shown or recommended closer by the system's manufacturer, install hangers to construction above a maximum four feet (4') o.c. in rows four feet (4') apart.

1. All hangers shall hang in plumb position.

2. Supporting runners typically shall run perpendicular to the structural members.

C. Extend wire hangers downward.

1. At proper elevation wrap hangers around carrying channels and secure each hanger with at least three (3) turns.
2. Hanger wires shall be vertical. Wires installed at a diagonal to reach a structural member shall be balanced with diagonal ties in the opposite direction to brace the grid against side loading.

D. Coordinate spacing of hangers, carrying channels. runners and moldings with the location of electrical fixtures and other items occurring in or on the ceiling.

1. The ceiling lighting fixture locations shall determine the ceiling grid pattern, (see Drawings).
2. Provide hanger wires to structure for cross runners around light fixtures. Each fixture shall have a minimum of four (4) tie wires within sixteen inches (16") of each fixture corner.

3.3. INSTALLATION OF TILE

A. Installation of acoustical materials shall be done under temperature and relative humidity conditions that will exist when the building is occupied. Building shall be closed in and operating on permanent equipment such that temperature and humidity will be maintained at a constant and normal level.

B. Installation of grid must follow installation of ceiling closer panels (new pipe soffits) at new exterior wall.

C. The entire installation shall be free of damage of any sort at the completion of the Contract. All system sections deflecting in excess of 1/240th of the span or length shall be replaced.

D. At a time and following installation the building shall be kept at a constant temperature and DOOR TO EXTERIOR KEPT CLOSED, ventilating system functional, filters in place.

3.4. CLEANING AND PROTECTION

A. Upon completion of the work remove all unused materials, debris, containers and equipment from the project site. Clean and repair floors, walls and other surfaces that have been stained, marred or otherwise damaged by work under this section.

B. Protect acoustical ceilings during the construction period so that they will be without any indication or deterioration or damage at the time of acceptance by the Owner.

END 09 5123

1. GENERAL

1.1. WORK INCLUDED

A. Base Bid

1. Provide in accord with Room Finish Plans.
2. Provide coped and mitered rubber base at stair treads and risers as apron.
3. General surface preparation that follows carpet removal, scrape/remove old adhesives, fill and level minor defects and all cracks.

    a. Leveling skim coat and alkali barrier over full surface.
    b. Crack preparation as recommended by the skim coat and/or resilient flooring manufacturer.

1.2. RELATED WORK

A. Specified elsewhere

1. DIVISION 01 - PROCUREMENT REQUIREMENTS

1.3. QUALITY ASSURANCE

A. Materials shall be installed by persons experienced in the installation of this type of material. All work shall be first class. Tightly butt together materials without seepage through joints, without chips, cracks or blemishes of any type.

1. Install one (1) sample room for inspection prior to proceeding with the work. The inspection observations shall establish the minimum standard of workmanship for the job.
2. Tile and base joints shall be tight, no measurable/visible space between pieces and generally aligned within 1/64th" at tile intersections, edges and corners and splices.

B. All material installed in a single room shall be of the same manufacturing run to assure the color continuity.

C. Installation shall comply with manufacturer's recommendations.

D. Flooring Subcontractor to fully inspect surfaces for level, cleanliness, suitability of surface to receive VCT.

1. Skim coat all floors with self leveling floor preparation product.
2. Do not proceed unless surface is ready and properly prepared.
3. Do not tile over dust grit, raised paint spills or any other irregularities.

E. Contractor shall perform moisture vapor test on floors on grade prior to starting work, at least two (2) locations.

1.4. SUBMITTALS

A. Submit the following in accordance with 01 33 00.

1. Manufacturer's Literature: Material description and installation and maintenance instructions.
2. Samples: Full size tile through range of color.

1.5. COLOR SELECTIONS

A. Floor Tile: Up to two (2) colors shall be allowed in the Base Bid work.

1. One (1) color per room, no pattern or border work.

B. Resilient Base: Up to two (2) resilient base colors may be allowed in the Base Bid.

1. One (1) color per room, no pattern or border work

1.6. OWNER'S MAINTENANCE MATERIAL

A. Provide maintenance materials to the Owner.

1. Floor tile: Provide 2% of the floor area covered for each selection, but not less than twenty (20) full pieces.
2. Resilient base: Provide 2% of the lineal footage and pre-molded corners but not less than twenty (20) lineal feet and five (5) outside corners of each color.

2. PRODUCTS

2.1. MATERIALS

A. Vinyl composition (asbestos-free) Tile: 1/8" thick, 12" X 12' marbleized; Solid color and standard colors for multi colored accent colored patterned installation. Patterns may include border tile color, and random or field color patterns in all rooms over 150 sq ft, corridors and classroom entries.

1. Armstrong, Premium Excelon
2. Tarkett VCT II
3. Or equal subject to submittal prior to bidding

B. Adhesives: Adhesives shall be water and alkali resistant, complying with recommendations of resilient flooring manufacturer as applicable to substrate. Adhesive shall contain no asbestos.

1. Manufacturer’s recommended adhesive, not less than:

a. Rated to 8 lbs. moisture vapor and 11-pH.
b. Neutralize and/or seal floor as needed for the selected adhesive system such that combined installed result can accommodate 8 lbs. vapor.

c. Products such as Henry 420, 430, 622, or 640 High moisture adhesives appropriate to the installation conditions and approved by the flooring manufacturer for use with their product.

C. Skim coat: Rapid set, skim coat material as appropriate for conditions encountered.

1. Product Manufacturers

a. Ardex
b. Mapei
c. DryTek
d. Select product suitable to discovered conditions.

2. Quick set, fast dry, feather edge or up to 1/8” no shrink, latex or similar modified for adhesion.
3. Installation to be level and without trowel marks, delimitation or surface defect.
4. Material to provide good bonding surface and alkali protection for new adhesives.

D. Rubber Base: 1/8" gauge, coved, preformed corners, four inches (4") high unless otherwise shown; color shall be selected from the full range of available standard colors.

1. Afco
2. Johnsonite
3. Roppe
4. Or equal

E. Vinyl Edge/transition Strips: 1½ " wide for tile

1. Afco
2. Johnsonite
3. Roppe
4. Or equal

F. Carpet edge strips where carpet intersections occur.

1. Afco JV #212 or JV #213 as appropriate
2. Johnsonite EG-XX-G or EG-XX-H as appropriate
3. Roppe #156 or #160 as appropriate
4. Or equal

3. EXECUTION

3.1. PREPARATION

A. No resilient flooring shall be installed until the Installer has ascertained that the chemical cleaning treatment on substrates do not interfere with the successful application of the flooring materials. If additional prior cleaning is

deemed necessary, same shall be provided by this contractor before proceeding.

B. Before installing resilient flooring, fill all cracks and holes and level depressions and skim coat with cement base surface preparation system.

1. Check for flush fit at drain and cleanout rims, grind if necessary.

3.2. INSTALLATION

A. Install sample room for inspection prior to proceeding with the work.

B. Firmly adhere tile and resilient base to floor or walls and cabinet bases respectively.

1. Inspect surfaces prior to installation of floors and base. Do not apply to rough, dirty or unprepared surfaces.
2. Corners shall be preformed.
3. Cope inside base corners. Scribe bases accurately to abutting surfaces.
4. Apply adhesive uniformly on the back surface of the base with a notched trowel, single or double ribbon of adhesive not acceptable.
5. Miter fit to stair treads, risers, and cope to nosing.

C. Remove excessive adhesive in accord with the Flooring Manufacturer's instructions.

3.3. CLEANING & SEALING

A. Not less than four (4) days after flooring installation clean the resilient flooring and base.

1. Re-clean as needed prior to turn over to Owner.
2. Strip seal and wax will be by Owner at a later time.

END 09 6500

1. GENERAL

1.1. WORK INCLUDED

A. Base Bid

1. Provide walk off modular carpet tile in south entrance area in accord with Room Finish Plans.
2. General surface preparation that follows carpet removal, scrape/remove old adhesives, fill and level minor defects and all cracks.

1.2. QUALITY ASSURANCE

A. Materials shall be installed by persons experienced in the installation of this type of material. All work shall be first class. Tightly butt together materials without seepage through joints, without chips, cracks or blemishes of any type.

B. Installation shall comply with manufacturer's recommendations.

1.3. SUBMITTALS

A. Submit the following in accordance with 01 3300 Submittal Procedures.

1. Manufacturer's Literature: Material description and installation and maintenance instructions.
2. Samples: Full size tile through range of color.

B. Certify no ACM

1. In adhesives
2. In walk off carpets.

1.4. COLOR SELECTIONS: on color for project

1.5. OWNER'S MAINTENANCE MATERIAL

A. Provide maintenance materials to the Owner.

1. Floor tile: Provide 2% of the floor area covered for each selection, but not less than four (4) full pieces.

2. PRODUCTS

2.1. MATERIALS

A. Walk off modular carpet tiles.

1. Tarkett Tandus Abrasive Action 2

2. Mohawk Step Up II
3. Shaw Contract Steppin Out.

D. Adhesives:

1. Adhesives shall be water and alkali resistant, complying with recommendations of resilient flooring manufacturer as applicable to substrate. Adhesive shall contain no asbestos.
2. Manufacturer's recommended adhesive, not less than:

a. Rated to 8 lbs. moisture vapor and 11-pH.
b. Neutralize and/or seal floor as needed for the selected adhesive system such that combined installed result can accommodate 8 lbs. vapor.
c. Products such as Henry 420, 430, 622, or 640 High moisture adhesives appropriate to the installation conditions and approved by the flooring manufacturer for use with their product.

E. Rubber Base: See resilient flooring specification 09 6500

2. EXECUTION

3.1 PREPARATION

A. No resilient flooring shall be installed until the Installer has ascertained that the chemical cleaning treatment on substrates do not interfere with the successful application of the flooring materials. If additional prior cleaning is deemed necessary, same shall be provided by this contractor before proceeding.

B. Before installing resilient flooring, fill all cracks and holes and level depressions and skim coat with cement base surface preparation system.

1. Check for flush fit at drain and cleanout rims, grind if necessary.

1.2. INSTALLATION

A. Follow manufacturerer's recommendations for application.

END 09 6800

1. GENERAL

1.1. DESCRIPTION

A. Work Included: Contractor shall provide all painting, decorating and preservative coating work as set forth on the Drawings, in these Specifications and as necessary for the completion of any alternate(s) which may be introduced by Addendum and accepted. All new equipment and surfaces not receiving a specified finish shall be painted. See Drawings and drawing notes.

1. Include surface prep, prime and painting of ductwork, conduit and structure in areas with painted and exposed ceilings
2. Paint other piping as encountered.

B. Work Not Included: Copper, bronze, chromium plate nickel, stainless steel, lead and bright non-corroding metal surfaces shall not be painted unless specifically noted.

C. Color Selections:

1. New areas rooms walls anticipate base color and one accent wall color.
2. Accent colors will vary throughout the building

    a. Some accent colors require additional coats to cover
    b. Please review Section 3 below – Workmanship for clarification of a coat of paint and resulting appearance.

3. Door frames and metal work will be different color than wall work
4. Match existing surrounds except for new doors, frames and trim.
5. Limited areas, cafeteria include allowance for multi color on walls including straight line vertical or horizontal color cuts.

D. Flame Spread - All paint finishes shall meet the following flame spread requirements:

1. Class a (1) on non-combustible surfaces.
2. Shall not increase flame spread on other surfaces

E. Special painting: stripe two patterns of squares or circles as determined by the owner, approximately 36” diameter in a patterns of 4 wide x 3 high, painted on north or east and west walls of the gym to be determined by the owner.

1. One inch (1”) wide lines
2. Color to be selected
3. Height approximately 2’ above floor. To 11’ above the floor, final to be determined in conference with the owner.

F. Floor sealing, limited areas are sealed concrete floors. Specification and

products are listed in section 03 3000 Concrete.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. DIVISION 00 - Procurement Requirements
2. DIVISION 01 - Administrative Requirements
3. DIVISION 03 - Concrete
4. DIVISION 04 - Masonry
5. DIVISION 06 – Wood, Plastics & Composites
6. DIVISION 07 - Thermal & Moisture Protection
7. DIVISION 08 - Doors & Windows
8. DIVISION 09 - Finishes

1.3. QUALITY ASSURANCE

A. Supplier shall verify appropriateness of paint systems/surface preparation and modify as approved by Architect to properly achieve finished result.

B. Materials shall be as specified and shall be delivered to the job in unopened, labeled containers.

C. Applicators shall be skilled in the application system employed.

D. Application: No thinning of materials will be allowed, except as specifically recommended by the Paint Manufacturer's written data to facilitate application.

E. Special Requirements: The written instructions of the Paint Manufacturer shall be carefully adhered to for all surface preparation, priming, application techniques, environmental conditions and drying conditions.

F. The surface temperature shall be 50 degrees F. minimum, dry, free of dust, dirt or any bond-breaking substance prior to the paint application.

G. Protect all surrounding surfaces from paint and the painting operations. CLEAN UP ALL PAINT SPATTER OR OVERSPRAY.

H. Factory-primed surfaces shall be properly prepared to receive field coatings. Repair chips and nicks in factory primer before proceeding.

I. Provide all surface preparation, treatments, and all primers needed to comply with the Paint Manufacturer's recommendations. The Contractor shall seek the Paint Manufacturer recommendations and shall be responsible for compatibility of the specified coatings and receiving surface preparation.

J. Wherein these Specifications require successive coats of finishing materials, the A/E shall be notified of completion of each coating application prior to application of a successive coating. Failure to notify the Architect for on site observation of each coating prior to a successive coating application shall disallow acceptance

of the successive coating.

1.4. SUBMITTALS

A. Submittals only required on paint / systems employed on this project, see 3. EXECUTION, for this project.

2. PRODUCTS AND SYSTEMS

2.1. DESCRIPTION

A. It is the intent to use each Manufacturer's premium grade commercial finishes. Adjust selections accordingly. VOC compliance required.

B. Ferrous metals

1. Sherwin Williams base specification B66-600 series

a. One (1) coat Pro-Cryl Industrial primer, or DTM acrylic Primer
b. Two (2) coats DTM High Performance 100% acrylic.
c. Verify exterior rated system for exterior or wet location application conditions.

2. Acceptable equivalent commercial paint subject to A/E concurrence that system is of similar chemical make-up and performance by:

a. PPG
b. Benjamin Moore
c. Valspar
d. Subsidiaries of the above manufacturers with commercial product line.

C. Galvanized or Aluminum when specified to be painted.

1. Clean surface as specified by the manufacturer.
2. Select appropriate zinc chromate or zinc dust primer
3. Finish as above for ferrous metals
4. Underside of roof decks and structural systems may be dry fog system, and may be in any selected color including flat back or charcoal color.

D. CMU / Concrete Block Filler:

1. Sherwin Williams base specification B66-600 series

a. One (1) coat Loxon filler - Primer
b. Two (2) coats DTM High Performance 100% acrylic, satin sheen.
c. Verify additional coats as may be need for uniform coverage and sheen on the substrate and base material

2. Acceptable equivalent commercial paint subject to A/E concurrence that

system is of similar chemical make-up and performance by:

a. PPG
b. Benjamin Moore
c. Valspar
d. Subsidiaries of the above manufacturers with commercial product line.

E. Natural finished wood surfaces

1. Sanding Sealer for natural finishes - use Manufacturer's recommended sanding sealer or thin urethane varnish as appropriate.
2. Oil Stains for natural finishes
3. Varnish - Polyurethane satin or "hand rubbed" finish.

a. Sherwin Williams
b. PPG
c. Valspar
d. Benjamin Moore
e. Minwax

F. Wall striping as noted in the General section of these specifications

1. Final layout to be determined.

3. EXECUTION

3.1. SURFACE CONDITIONS

A. Inspect all surfaces for defects prior to starting finishing operations and notify the appropriate persons to make suitable repair and corrections. Be responsible for all rework of finish systems made necessary by application to improperly prepared surfaces.

B. As painting operations proceed, inspect for chips, abrasions, pitch strikes, sap, knots, cracks and hot spots. All defects that are evident shall be repaired and repainted.

C. Touch up marred or worn factory primers before painting. Wash down metal with mineral spirits or approved cleaner to assure bond.

D. PROVIDE PRIMERS IN ALL LOCATIONS APPROPRIATE FOR MATERIAL BASE AND MATERIAL EXPOSURE.

E. Protect all surrounding work from damage.

F. Sand surfaces that are not smooth prior to applying succeeding coats.

G. Primer paint applied on ferrous materials, specified in Section 05500, shall be in accordance with list above but superseded by the manufacturer’s

recommendation for surface preparation for finish coatings.

H. Exterior gypsum shall be primed and two (2) coats 2.1.D.

3.2. WORKMANSHIP

A. Quality workmanship is required. Only skilled mechanics shall be employed to ensure the very best workmanship. Materials to be applied by craftsmen shall be applied only by those familiar with the specific products involved.

B. Each coat called for shall be applied to achieve 100% coverage of the surface and materials shall be applied as recommended by the Paint Manufacturer.

C. One coat shall be considered to completely cover the material being finished such that the surface, including all voids and indentations such as in wood or concrete block, no longer retains the color of the surface material but only that of the finish applied. The cover achieved will be subject to the approval of the Architect/Engineer in all cases.

D. For finishes similar in color to the material or for finishes with little or no pigments, such as varnish, the coats shall be of adequate thickness to meet the approved requirements assuming that the surface and finish were of complementary colors. The cover achieved will be subject to the approval of the Architect/Engineer in all cases.

E. In the process of painting surfaces, caution shall be used to avoid discontinuity in the finish surface texture or appearance such as at lap joints, corners, etc.

F. All materials shall be applied under 100 F.C. illumination. Materials shall be uniformly spread without runs or sags.

G. All coating called for shall be applied in back of all fixtures, cabinets and tackboards before said items are secure in place.

3.3. STORAGE

A. Flammable materials shall not be stored inside of the building, except single one-quart cans of each paint color may be kept in an approved location for touch up work at the end of the job.

B. Flammable materials storage should be kept to a minimum of currently-in-use materials only. Overnight storage shall not be allowed in the building.

3.4. APPLICATION

A. Application rates that are specified in these Specifications shall be considered as minimum rates but shall not supersede the coverage requirements specified herein or the recommendations of the Paint Manufacturer.

B. It is the intent that all finish coating systems specified (excluding primer only)

present a finished uniform appearance, free of lap marks, color variation, sheen variation and irregularities. Provide additional coats as needed to accomplish this finish intent.

C. Application shall be per the following schedule except that, in no case, shall materials be applied over a base preparation not in accordance with the Paint Manufacturer's specifications. See Drawing Notes and Room Finish Schedule for finishing directions.

D. See section 2 above of these specifications for products and applications Interior and Exterior Steel and Metal Work

E. Interior Natural Wood Work and Custom Furnishings, Cabinetry and Millwork.

1. Sand smooth and ease edges.
2. Sanding sealer.
3. Apply stain.
4. Steel wool and dust surfaces.
5. Apply one (1) coat satin urethane varnish.
6. Steel wool land dust.
7. Apply second coat satin urethane varnish.
8. Lightly steel wool with 5/0.
9. Check for runs and apply third coat if needed for uniform sheen and coverage and steel wool.

F. Additional finish systems shall be as described on the Drawings or elsewhere in the specifications.

G. In general, all applications and product selections are to be consistent with good quality long life commercial finishing standards.

END 09 9000

1. GENERAL

1.1. DESCRIPTION

A. Surfaced metal chalkboards, marker boards, tackboards, tackstrips and accessories. Always verify final mounting heights and locations.

1. work room

   a. 6’ x 4’ tack Board - head height at 6’-8”
   b. 6’x 4’ Marker Board - head height at 6’-8”
   c. 12’ Tack strip above tack board and marker Board

2. Library

   a. 6’ x 4’ tack Board - head height at 6’-8”
   b. 6’x 4’ Marker Board - head height at 6’-8”
   c. 12’ Tack strip above tack board and marker Board

3. Corridor

   a. 6’ x 4’ Tack Board – Head height at 5’-4” Verify with local building administrator.

1.2. SUBMITTALS

A. Submit under provisions of Section 01 3300:

1. Shop Drawings: Indicate wall elevations, dimensions, joint locations and anchorage details. Field verify all conditions.
2. Product Data: Provide data on chalkboards, tackboards, tackboard surface covering, and trim and accessories.
3. Samples: Submit samples 4" X 4" in size illustrating materials and finish, color and texture of chalkboard and trim, tackboard and tackboard surfacing.
4. Maintenance Data: Include data on regular cleaning and stain removal.

1.3. REGULATORY REQUIREMENTS

A. Conform to flame/smoke rating of 25/25 maximum for vinyl fabric covered tackboards in accord with ASTM E84.

1.4. QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five (5) years' experience.

1.5. FIELD MEASUREMENT

A. Verify field measurements.

1.6. WARRANTY

A. Provide five (5) year manufacturer warranty on chalk and marker boards under provisions of Section 01 7800.

B. Warranty: Includes chalkboard and surface from fading or discoloration not attributed to abuse, crazing, cracking, staining, or delamination.

2. PRODUCTS

2.1. VISUAL DISPLAY. All chalk, marker and tackboards will be selected from Manufacturer's full range of available colors. All tackboards will be one (1) color, all chalkboards will be one (1) color and all marker boards will be one (1) color throughout the work.

A. Marker Boards (MB)

1. Porcelain enamel on 24-gauge steel on not less than 3/8" particle board core with foil backing.
2. Trim to be extruded aluminum.

a. Chalk/Marker tray, triangular shape with snap-in ends.
b. Sides approximately one-inch (1") reveal.
c. Head rail one-inch (1") map rail with cork.

3. Manufacturers

a. Claridge Vitracite/LCS (Series 1)
b. Greensteel (AL Series
c. Lemco (Type 5)
d. Newline

B. Tackboards (TB)

1. Vinyl on 1/8" cork on minimum 3/8" fiberboard.

a. Include structural backer such as press board or thicker fiber board as need for larger boards.

2. Aluminum perimeter Trim to match chalk/markerboards less map rail end tray.

a. In some locations edge wrapped is specified in lieu of aluminum trimmed.

3. Manufacturers

a. Claridge #1380

b. Greensteel Type 7
c. Lemco #3358
d. Newline

C. Tackstrips (TS)

1. To be 2" style with end caps.
2. Manufacturers

a. Claridge #74 Deluxe
b. Greensteel Series 2000
c. Lemco - Verify availability
d. Newline

D. Accessories

1. Flag holder - one (1) required per room. (2) this project.

3. EXECUTION

3.1. EXAMINATION

A. Verify site conditions, verify clearances and access and provide all boards in maximum length sections. Where split sections occur, they shall be of equal length for any specified run.

3.2. INSTALLATION

A. Install chalkboards/marker boards and tackstrips in accordance with manufacturer's instructions, concealed fasteners.

B. Secure units level and plumb.

C. Carefully cut holes in chalkboards/marker boards and tackboards for thermostats, wall switches, and outlets, as occur.

D. Ease all trim sharp edges and corners.

1. Chalk trays shall have end caps with rounded corners.
2. All edges of frames and trays shall be eased.

E. Edge wrapped tack boards may be mounted with neatly positioned drive pins and adhesive.

3.3. CLEANING

A. Clean chalkboard/marker board surfaces in accordance with manufacturer's instructions.

B. Ease all trim sharp edges and corners.

1. Chalk/Marker board trays shall have 45 degree end cuts with

resulting corners eased *(or radius curved ends)*

3.4. INSTALLATION

A. Securely mount following manufacturer recommendation, concealed clips ad screws.

END 10 1100

1. GENERAL

1.1. WORK INCLUDED

A. General signage, see Schedule, this Section.

1.1. SUBMITTALS

A. Shop Drawings: Show letter style and stroke for typical numbers and names in full size. Furnish a complete listing of all signs.

B. Samples: Typical number and name screened on acrylic plastic in colors selected.

1.2. DELIVERY, STORAGE AND HANDLING

A. Deliver, handle and store material at the job site as directed. Packaged material shall be in original containers with seals unbroken and labels intact until time of use. All damaged or otherwise unsuitable materials when so ascertained shall be immediately removed for the job site.

2. PRODUCTS

2.1. PLASTIC SIGNS

1. Standard would be Kroy Signature ADA tactile, raised letter or engraved letter, with raised braille. Kroy Sign Systems, 7575 E. Redfield Rd., Ste. 113, Scottsdale, AZ 85260, Midwest Regional Sales, 480-619-6080, beyer@kroysignsystems.com
2. Similar products are typically available at local sign shops, brand is not critical.

B. Plastic

1. 1/8" minimum thickness.
2. Multi color laminated
3. Colors to be selected.
4 Comply with ADA regulations for sign requirements.

A. Letter style to be Helvetica Medium, engraved to expose core color, one inch (1") high stroke.

1. Larger letters where noted.
2. Optional letters may be raised in contrasting color.

B. Type of Panels

1. Mount with double faced tape or adhesive as recommended by the manufacturer; message panels proportional size to message.

2. Install with double face adhesive strips **and** screws or small drive

pins at masonry walls.

C. Braille - Comply with ADA, all signs

2.1. SIGN SCHEDULE

A. Rest Room signage, coordinate locations with A/E, approximately 8” x 8”

1. Two (2) GIRLS with international silhouette symbol plus accessible (wheelchair) symbol NO LETTERING.

a. One to mount at 24” to bottom edge
b. One to mount at 50 to bottom edge
c. Locations to be determined on site.

2. Two (2) BOYS with international silhouette symbol plus accessible (wheelchair) symbol, NO LETTERING.

a. One to mount at 24” to bottom edge
b. One to mount at 50 to bottom edge
c. Locations to be determined on site.

3. Two (2) “RESTROOM” with both men and women silhouette symbols and wheelchair symbol.
4. Staff Restrooms, mount to wall on lock side of door at 48” to bottom..
5. One (1) “STAFF WORKROOM” Mount at 48” to Bottom
6. One (1) “LIBRARY” Mount at 48” to bottom.

2.1. APPLICATION

A. Examine all surfaces to receive the signs. Application or installation of signs constitutes acceptance of the existing conditions.

B. Position each sign in its designated location.

1. On wall adjacent to door latch jamb, top at 5'-0". Place immediately under side lights where they occur.
2. Verify prior to mounting, some may need to be located at hinge jamb.
3. Complete all finishes prior to mounting the signs.

C. Prepare surfaces and apply signs in accord with the manufacturer's recommendations.

1. Set with level.

END 10 1423

1. GENERAL

1.1. WORK INCLUDED

A. General Contractor shall provide HDPE solid plastic toilet compartments, shower compartments and urinal screens floor mounted and head rail braced as shown on the Drawings and specified herein.
   1. Girls Rest Room
      a. 2 stall, (one is ADA for children)
   2. Boys Rest Room
      a. 1 stall (ADA for Children)
      b. One side partial length se plan
      c. 1 urinal screen
         1) Custom length 6” from floor and 6’ 4” tall
         2) Continuous extruded bracket length.
         3) Provide a top brace to wall urinal side.at top

1.2. RELATED WORK

A. Specified elsewhere:

1. Division 0 - Procurement Requirements
2. Division 4 – 04 2000 Unit Masonry
3. Division 9 – Finishes
4. Division 22 - Plumbing

1.3. REFERENCES

A. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

B. ASTM A167 - Stainless and Heat Resisting Chromium-Nickel Steel Plate, Sheet and Strip.

1.4. SUBMITTALS

A. Submit shop drawings and product data under provisions of 01 3300.

B. Indicate on shop drawings, partition plan and elevation views, dimensions, details of floor supports, and door swings. See Plan Drawings and Elevation Drawings, as applicable.

C. Provide product data on panel construction, hardware, and accessories.

D. Submit samples under provisions of Section 01 3300.

E. Submit two (2) samples 6" x 6" in size illustrating panel finish, color, and sheen.

1. Select from full range of colors and textures, including speckled.
2. Multiple colors may be selected for the work

F. Submit manufacturer's installation instructions per 01 3300.

1.5. MAINTENANCE MANUAL

A. Submit information for insertion into the building maintenance manual showing all adjustments, parts and color descriptions and where replacement parts can be ordered, and complete care and cleaning instructions.

1.6. WARRANTY

A. Provide extended manufacturer's warranty.

1. One (1) year Labor & Materials
2. Fifteen (15) years, HDPE material against corrosion, delamination
3. Five (5) year extended hardware material against corrosion and failure.

2. PRODUCTS

2.1. APPROVED MANUFACTURERS

A. General Partitions, Erie, PA (814) 833-1154

B. Santana Solid Plastic Products, PO Box 2021, Scranton, PA 18501, (800) 368-5002 or (717) 343-7921

C. Comtec Industries, 801 Corey St., Moosic PA 18507 (800) 445-5148 or (717) 348-0997, Fax (800) 551-6993

D. AMPCO Products, Sanger, TX (940) 958-7401

E. Or approved equal.

2.2. MATERIALS

A. Partitions: Heavy-duty solid core HDPE partition system with associated heavy duty hardware and brackets as noted below. Color to be selected by Owner.

B.

1. Partitions standard height pilasters and 55” doors
2. ADA stalls 60” clear inside
3. Urinal screen provide One at outside edge

C. Head Rails:

1. Standard extruded aluminum overhead rail.

a. At open ends return HDPE head rail to wall and secure.

D. Screws, and Bolts Stainless Steel. Plastic/nylon wedge anchors are not acceptable.

E. Hardware: Chrome plated nonferrous cast pivot hinges, gravity type, adjustable to door close positioning; nylon bearings, easy to operate lever slide door latch, door strike and keeper with rubber bumper, cast alloy chrome plated coat hooks and bumpers.

1. Top, bottom and center pivot (3) each door.
2. Or continuous geared hinge – concealed spring.

F. Mounting and intersecting brackets, (component to component and component to walls),

1. full length.
2. single-piece heavy duty extruded aluminum.

G. Mounting height of lock mechanism, 34”
H. Mounting height of hook coordinate on site with owner.

2.3. FABRICATION

A. Doors, Urinal and Side Panels: 1" thick x 55" high door & stalls, ADA accessible use where indicated on plans.

1. Typical stall doors 2'-2"" wide, in-swing.
2. Accessible stall doors 3'-0" wide, out-swing where detailed.
3. Always consult plans.
4. Stall dimensions may be custom, see plans.

B. Pilasters: Of sizes required to suit cubicle width and spacing.

1. 1” thickness.

C. Pilaster Shoes: Formed ASTM A167 Type 304 stainless steel with No. 4 finish or HDPE solid plastic.

1. Anchor to pilaster on backsides with minimum two (2) stainless steel screws multiple screws on wide pilasters.

D. Latch/lock hardware to be ADA style with convenient lever handle, all stalls .

1. 34”mounting height

2.4. ACCESSORIES

A. Double roll heavy duty toilet paper holders.

B. Coat hook / bumper, height to be determined 0n site.

C. HDPE shelf 1” X 10” X 16” mounted at 48” on rear wall, or as indicated on plans, use wall bracket to anchor. Locate in corner and back screw through adjacent partition.

1. Adjacent partition condition shelves may be mounted 1” different height to facilitate partition thru screw.

D. ADA grab rails

1. Stainless steel, 42” on side, 36” across rear per ADA and Illinois Accessibility code. ADA stall only. Mounting height suitable for children.

E. Lock hardware, heavy-duty, lever / operating ADA compliant or slide.

1. Rubber bumper on strike stop

3. EXECUTION

3.1. EXAMINATION

A. Verify that site conditions are ready to receive work and that opening dimensions are as indicated on shop drawings and in compliance with instructions by the manufacturer.

B. Verify correct spacing of plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing, where required.

D. Beginning of installation means acceptance of existing substrate.

3.2. INSTALLATION

A. Install partitions, secure, plumb, level, and in accordance with manufacturers' instructions.

B. Wall receivers to be continuous as noted before and anchored rigidly to walls or intersecting panels.

C. Attach panel and short shelf brackets securely to walls using mechanical anchor devices.

1. Panel connection at wall and pilasters shall be done with continuous bracket/angles securely anchored to walls using stainless steel devices.

D. Attach panels and pilasters to bracket with through sleeve stainless steel

tamperproof bolts and nuts.

E. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

1. Conceal floor fastenings with pilaster shoes.
2. Anchor pilaster shoes to pilaster with stainless steel screws on backside of pilaster.

F. Support pilasters from built-in framing using minimum of two adjustable studs to provide leveling.

G. Pilaster Standard height

H. Install door strike and keeper with rubber door bumper on each pilaster in alignment with door latch.

I. Adjust hinges to locate doors in partial opening position when unlatched. Return out-swing doors to closed position.

3.3. ADJUSTING. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16".

3.4. SOAP DRIP TRAYS

A. Coordinate with fixtures and Owner for locations and mounting heights.

3.5. CLEANING

A. Remove protective masking and all labels. Clean surfaces.

B. Field touch-up of scratches or damaged finish will be permitted only with prior approval of Owner.

1. Replace damaged or scratched materials with new materials.

C. Provide cleaning instructions and instructions for removing graffiti and scratches.

END 10 2113

1. GENERAL

1.1. DESCRIPTION

A. Provide all fire extinguishers and cabinets as scheduled and shown on the Drawings.

1.2. QUALITY CONTROL

A. All extinguishers shall be UL rated and installed at proper height according to NFPA.

2. PRODUCTS

2.1. CABINETS

A. Cabinets where called for shall be brushed natural anodized aluminum, acrylic full glazed door, glazing clips all four (4) sides with appropriately sized square edge return trim as needed.

1. Recessed or semi recessed as appropriate to conditions.
2. Nominal inside dimension 24" high X 9.5” wide X 6” deep

    a. Flush trim (1/2” nominal) at 8” masonry walls
    b. 1”nominal trim depth at 6” stud walls.

3. "Academy" by J.L. Industries, 4450 W. 78th Circle, Bloomington, MN 55435 (612) 835-6850 FAX (612) 835-2218.
4. "Architectural Series" by Larsens Manufacturing Co., 7421 Commerce Lane N.E., Minneapolis, MN 55432 (612) 571-1181 FAX (612) 571-6900.
5. "100 Series" by Modern Metal Products, County Rd. 45 North, PO Box 247, Owatonna, MN 55060-0247 (507) 451-7114 FAX (507) 451-0882.
6. “1700 Series” by Potter-Roemer, 1119 Morris Ave., PO Box 745, Union, NJ 07083-3305 (201) 964-5775 FAX (201) 964-9056.
7. Larsen Gemini series.
8. Or approved equal.

2.2. BRACKETS

A. Provide manufacturer's standard wall brackets for all wall hung extinguishers.

2.3. EXTINGUISHER

A. All extinguishers shall be UL rated, 4A/10BC UL rated, 10-lb. dry chemical except where noted otherwise.

B. All extinguishers shall bear an in service or inspection date within one (1) month of substantial completion.

3. EXECUTION

3.1. INSTALLATION

A. Install all extinguishers according to NFPA height recommendations which are top of extinguisher below 5' for 40 lbs. or less total weight extinguishers, for over 40 lbs., not more than 4' off floor.

1. Generally, cabinets to be installed with top at 56",
2. Bracket mounted extinguishers, install bracket at 50" with metal expansion anchors, no nylon or plastic. .

B. Cabinets shall be neatly installed and anchored. Cabinets showing poor fit to wall shall be adjusted as directed by the Architect.

3.2. SCHEDULE See drawings, Floor Plan

1. Corridor - One (1) with cabinets

END 10 4400

1. GENERAL

1.1. WORK INCLUDES

A. Provide window shades at all windows

a. Three locations

2. Commercial style

1.2. RELATED WORK

A. Specified elsewhere:

1. 04 2000 - Unit Masonry
2. 08 5113– Aluminum windows

B. Coordinate with opening conditions.

C. Field coordinate to opening provided.

1.3. QUALITY ASSURANCE

A. Materials shall be installed by persons experienced in installation of this type material.

1. Installation shall comply with manufacturer's recommendations, binding, warped, crooked or oil canning not acceptable.

1.4. SUBMITTALS

A. Submit the following:

1. Shop Drawings or Manufacturer's Literature to fully describe installation, details, assembly.
2. Operation and Maintenance materials.
3. Certification of storm rated construction.

2. PRODUCTS

2.1. MATERIALS

1.1. SHADES

A. See the window schedule for openings receiving shades, and the applicable Alternate in which the shades would be included.

B. Shades shall be commercial type.

1. Hunter Douglas, phone 800-727-8953

2. Or equal
3. Hunter Douglas description:

    a. Manual roller shade chain drive
    b. Beaded chain operation and geared pulley
    c. Dark bronze valance and hardware.
    d. Size, match window.
    e. Clutch and bracket as recommended by Manufacturer.
    f. Bracket as recommended by Manufacturer.
    g. Fabric 5% open, color to be selected, sheer weave 2100.

4. Other commercial manufacturers such as Levelor will be considered with appropriate submittals to demonstrate equal product.

3. EXECUTION

3.1. INSTALLATION

A. Installation shall follow instruction of manufacturer.

1. Installed material to operate in smooth manner with locks, springs, etc. properly adjusted.
2. Manual operation to be smooth

3.2. CLEANING

A. All material to be left in clean condition. smooth operating, and adjusted.

END 12 2400

1. GENERAL

1.1. DESCRIPTION

A. Provide all labor and materials for all excavation, grading, fill and backfill work of every kind needed to complete the general construction work in accordance with the Contract Documents.

B. General Contractor shall locate and stake out building, establish building lines and levels, and provide permanent benchmarks for lines and levels for the use of all Contractors. He will be held responsible for the correctness of these lines and levels.

C. Each Contractor shall contact J.U.L.I.E. (1-800-892-0123) and verify with non-member utilities all underground services, shall mark same and maintain marking during construction.

1. Mark information on Contract Record Drawings.

1.2. QUALITY CONTROL

A. Contractor shall include in his contract testing by an independent testing agency all granular backfill work.

1. Testing agency shall certify compaction is satisfactory for proposed construction purposes.
2. Send reports and certification of compaction directly to the Architect and Owner.

B. Owner may schedule additional independent testing at his option.

2. PRODUCTS

2.1. MATERIALS

A. Earth fill or backfill

1. Earth fill or backfill shall be natural earth, native to the general area of construction, free of debris, large rocks, unnatural materials of any type, and any other material which may impair long term stability or performance of the earth.

B. Top soil

1. Topsoil shall be natural earth, native to the general area of construction, which is suitable to support vegetation without excessive use of fertilizers or other soil treatment.
2. This material shall be clean friable earth, free of sand, gravel, clay, debris or any materials that might impair the workability of the soil and/or its ability to sustain vegetation.

C. Gravel and granular fill

1. Gravel fill and backfill may be pit run or crushed pit run gravel in compliance with Grade CA 4 through CA 11, Class C or D or equal, ten percent (10%) clay maximum.

   a. No aggregate larger than two inches (2") will be accepted.

2. Sand shall be natural bank sand in compliance with FA 1 through FA 7 or CA 16 through CA 19, Class C or equal, ten percent (10%) clay maximum.
3. Crushed limestone shall be grade CA 8 through CA 11, Class A with Class A, B or C allowed for fill.
4. Pea gravel shall be washed and graded natural gravel 3/8" to 1/2" in size.
5. Special granular fill requirements exceeding the above requirements may be noted on the Drawings or under a particular Specification Section. Such special fills shall take precedence.

3. EXECUTION

3.1. SITE PREPARATION

A. Remove all the surface debris, trees, bushes, not labeled to be saved, stumps, and any other conditions necessary to complete the work.

B. Remove abandoned sidewalks, drives, and any construction encountered in the work not intended to be saved or in the way of work intended.

C. Establish working grades and lay out building and site requirements such that earth stockpiles will not interfere with construction processes or proper site drainage.

D. Strip the vegetation and eight inches (8") to twelve inches (12") of topsoil from all areas subject to final grade changes. This earth shall be stockpiled for use as topsoil in the final grading operations.

E. Complete base grading necessary in the work, stacking clay separately from the topsoil. Fill and compacted fill work necessary to achieve base grading may be completed at an time during the construction work coordinate with all trades to allow timely and efficient progress.

3.2. EXCAVATION

A. All excavations for footings shall be straight and level (unless shown otherwise) with straight, clean-cut sides, approximately square bottoms, and shall measure to the dimensions called for on the Drawings.

B. If earth or conditions of doubtful or unexpected character are encountered, the observing Architect shall be notified and foundation work shall not proceed until his direction has been received.

C. Trenches carried deeper than required by Plans, shall be filled with concrete by this Contractor without additional charge. In no case shall filling under foundations or footings be done with earth or backfill aggregate.

D. Earth from excavations is to be piled so as not to interfere with trenching for drainage, gas service, water service, etc.

E. The Contractor shall connect up all field drainage tile encountered in excavations as directed by the Architect. All abandoned sewer, water and gas lines encountered shall be connected or removed as directed by Architect.

F. Keep all excavations free of standing water.

3.3. FILL AND BACKFILL

A. Fill under and within five feet (5') of paving, sidewalks, curbs, concrete slabs, drives, streets, etc., shall be gravel compacted to at least ninety-five percent (95%) of Standard Proctor maximum dry density with a maximum permissible variation of moisture from the optimum moisture content of two percent (2%).

B. No frozen materials or organic material may be used for backfill.

C. Earth fill may be employed in lawn and yard areas.

D. Earth fill shall be suitably compacted to prevent future settlement.

3.4. SURPLUS EARTH AND SITE DEBRIS

A. Surplus earth from excavation and site preparation shall be:

1. Clean earth, use for grading, stockpile remainder.
2. Earth with rubble or construction debris - remove from site.
3. Separate topsoil and clay or fill earth.

B. All site debris, trees, bushes, and unnatural materials encountered shall be removed from the site and disposed of at the Contractor's expense.

3.5. FINAL GRADING

A. The Contractor shall execute the finish grade, the top six inches (6") of which shall consist of topsoil. The Contractor shall grade to uniform level and slope away from building for drainage.

B. All grading shall be as indicated on the Drawings. Existing drainage patterns to adjacent property shall be maintained. No areas shall pond or retain water unless specifically identified on the Drawings.

C. Repair all areas that settle and erode within the first year of Owner occupancy.

3.6. SEED - BY CONTRACTOR

A. Fine grade and seed all areas disturbed by construction.

1. Apply standard lawn seed BY HYDRO SEEDING- blue grass 30%/red fescue 50%/annual rye 20% maximum.
2. Apply lawn fertilizer 12/12/12 or better.
3. Sloped areas that will not hold Hydro seeding shall be seeded with an IDOT approved seeding mesh with straw bales to control erosion.

3.7. WARRANTY

A. During the one (1) year warranty period, re-grade any areas subject to settlement or erosion and reseed or sod as appropriate. Reseed or sod any areas of lawn which do not survive the first growing season excluding the following:

1. Areas subject to excessive traffic.

END 31 2300

1. GENERAL

1.1. WORK INCLUDED

The General Contractor shall provide a chain link fence including all accessory and hardware items necessary to complete the fencing assembly. The system shall be a nominal four foot (4') six-foot (6') fence as noted, 4' for playground, 6' for football field side.

1. All components to be galvanized or aluminized
2. 4' verify, fence along west
3. 5' fence along football field
4. 4' verify, fence along east side and tie into existing
5. West side to drive location about 20' north of the south wall provide a pair of 5' gates, 10' total width.
6. Call JULIE., there is fiber optic cable on this site.

B. Alternate 4, add fencing on the north side of the existing building to enclose the north play area.
   1. This fence to be 6' High.

C. The fence shall be installed in phases to coordinate with various phases of the work.
   1. Demo on south end and west side is initial phase
   2. If alternate 4 is taken this work is intended to be initial early phase
   3. Replacing the west fence is at conclusion of the project.
   4. Coordinate with other trades to accommodate progress conditions

1.2. SUBMITTALS

A. Provide Shop Drawings accurately describing the fencing components and layout.

1.3. QUALITY ASSURANCE

A. All products shall comply with the standards set forth by the Chain Link Manufacturer's Institute.

2. PRODUCTS

2.1. MATERIALS

A. Fabric: The fabric will be 9 gauge aluminized or galvanized steel woven fabric, two inch (2") mesh with knuckle selvedges X 7'-0" high.

B. Line Posts: Line posts shall be hot dip galvanized posts, 2" minimum outside diameter, Schedule 40.

C. Corner posts 2.625" minimum,

D. gate posts 3" minimum..

E. Terminal Posts: Terminal and gatepost shall be galvanized, black pvc/polymer coated 4" outside diameter, Schedule 40.

F. Rails and Braces: The rails and braces shall be Type I, 1.66", galvanized pipe, Provide top rail all around. Brace at corner posts, gates, and 100' intervals.

G. Post Tops: Posts shall be capped, black pvc coated.

H. Tension Wire: Tension wire shall be twisted and aluminized or galvanized, black pvc coated, steel, 7 gauge wire continuous along the bottom.

I. Tees, Clips and Accessories: Tees, clips and accessories shall be as needed for the assembly, galvanized or aluminized as is standard with the Manufacturer's system. Secure fabric at top and bottom at intervals not exceeding 15" along all posts, rails and tension wires.

J. Barbed Wire: none.

K. Gates: detailed, design and brace for normal commercial duty, black pvc/polymer coated components schedule 40 pipe.

L. Gate components, gate latch and lock for pad lock, manufacturer's standard for heavy duty daily use, smooth manual operation.

3. EXECUTION

3.1. WORKMANSHIP

A. Work shall be good commercial quality. The fabric shall be tightly stretched and secured. Posts shall be vertical in alignment, properly spaced, and all components rigidly assembled. Gate shall operate smoothly without binding or sagging. Any of the work deemed not acceptable by the Architect/Engineer shall be replaced.

1. Hold fabric 1½" to 3" above grade to allow mowing and trimming.

B. Posts shall be set with concrete holes as detailed with a minimum depth of forty-two inches (42"). Hole sides shall be uniform. Form and pour with smooth sides. DO NOT LET TOP OF CONCRETE BULGE OUT TO FORM A FROST LEDGE.

1. Hold below finish paving surfaces for Bituminous
2. Core or PVC sleeve paving.

C. The line posts shall be at 10'-0" on center maximum. Provide an additional brace rail and tie at each corner and gate.

D. Where slabs or mechanical equipment pads occur, the posts shall be set into the concrete such that concrete extends out past fence line three inches (3").

END 32 3013

1. GENERAL

1.1 DESCRIPTION

A. Complete all new and adjusted storm drainage work shown on the Drawings.

1. See Site Plan for locations and elevation:

a. New storm piping for roof drainage
e. New IDOT type A inlets where required.
f. Rim and grate can be medium/light duty H-20 loading not required, flat grate, such as Neenah R-2510 or R-2525 with smaller grate openings that pre-school feet will not get stuck in.

B. All work to be coordinated with existing conditions, paving and to meet grades and provide drainage.

1. This is a French drain design with excess water relief on surface.
2. In lieu of perforated 10", a 4" perforated can be laid below/beside the 10" and draining out of the inlet basins

C. Complete all site sanitary sewer work as shown on the site plan.

1. see plumbing plan and site plan for Sanitary sewer
2. 4" schedule 40 PVC extended east to existing sanitary sewer.
3. Inverts noted are estimated, always verify at connection point before extending out from the building to assure we have 1/8" minimum slope but not more than ¼"
   a. Sleeve the sanitary at least 10' beyond the geothermal well field boundary.
   b. Sleeve pipe material to be watertight, may be Schedule 40 PVC, Schedule 20 PVC or SDR 35.

1.2 QUALITY ASSURANCE

A. All work shall be completed by crews experienced in this type layout and application with proper equipment.

1.3 TESTING

A. All work to meet IDOT installation and performance standards:

B. All Sanitary work to also meet Illinois Plumbing Code requirements.

1. Piping and connections shall test to 10' head pressure.
2. Exception, perforated tile used in French drain portion of storm drainage.

2. PRODUCTS

2.1 MATERIALS

A. Typically IDOT standards or similar adequate for the service condition encountered.

B. Piping under interior of building and to 5’ out Schedule 40 PVC, see plumbing plans.

C. Exterior piping may be RCP, Schedule 40 PVC, SDR 21 PVC or corrugated/smooth interior wall HDPE.

D. Sub grade drainage to be perforated HDPE.

E. Run outs to downspouts, single wall, not perforated, corrugated HDPE with rectangular receiver boot for downspout, verify sizes and locations.

1. Or schedule 40 PVC, SDR 21 SDR 35.

F. Sanitary to be schedule 40 PVC, or SDR 35 if allowed by local code.

3. EXECUTION

3.1 INSTALLATION

A. Install true to grade, it is intended that piping be placed:

1. With 1% slope to drain
2. Generally compliant with IDOT performance standards.
3. Bed pipe accurately on undisturbed soil or sand fill to grade.
4. All joints and connections watertight.

B. Fill and backfill:

1. Under paved areas or slabs, compacted granular fill
2. In lawn areas earth fill leveled and redressed after settling.

C. Accurately layout and complete the task in a timely manner.

1. Sizing shown on plans or not less than:

a. 4” run out to downspout boot sloped at 2%
b. 6” run out to downspouts two or three downspouts
c. 8” 4 or more downspouts.

D. Provide appropriate erosion control to prevent storm system from being compromised by silt and debris.

E. Clean outs, provide 12” x 12” concrete surrounds flush with grade.

END 33 4400