

GENERAL SPECIFICATIONS

of material and labor required in the construction and completion of a one story addition and interior renovation entitled:

DPS Storage Building Additions
for:
The City of Brighton
Brighton, Michigan

in accordance with the
accompanying drawings and
specifications prepared by:

LINDHOUT ASSOCIATES, architects a.i.a., p.c.
10465 citation drive, brighton, michigan 48116

Comm. No. 21063
810-227-5668

June 14, 2022

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**INVITATION TO BID
DPS STORAGE ADDITIONS**

**The City of Brighton
200 North First Street
Brighton, MI 48116**

The City of Brighton will receive sealed proposals until **3:00 P.M., E.D.T. on July 19, 2022** for: Building additions to the DPS storage building.

Proposals shall include all trades under one general contract.

The City of Brighton will receive sealed proposals at City Hall, 200 North First Street, Brighton, Michigan 48116, Monday through Friday, 8:00 a.m. to 4:00 p.m. Proposals will be accepted until 3:00 p.m., July 19, 2022, at which time they will be publicly opened and read aloud.

Bid Documents may be obtained, with prior notice, at the offices of the Architects after **2:00 P.M., E.D.T. on June 22, 2022**. Only digital files of the documents will be distributed.

Lindhout Associates, Architects AIA PC
10465 Citation Drive, Brighton, MI 810-227-5668.
jlh@lindhout.com

Each proposal must be submitted on forms furnished in the bid documents and must be completed in full. Each proposal shall be sealed in an opaque envelope and marked with the name of the building project and the name of the bidder.

A bid bond executed by an approved security company or certified check in the amount of at least 5% of the sum of the proposal shall be submitted with each proposal for any bid over \$50,000.00.

The successful bidder will be required to furnish one hundred percent (100%) Performance, Labor and Material Bonds for any bid over \$50,000.00.

Any final addendums will be available at the office of the architect by **3:00 P.M., E.D.T., on July 15, 2022**.

All proposals submitted shall remain firm for a period of 60 days after the official opening of bids.

Tara Brown, City Clerk

The City of Brighton reserves the right to reject any and all proposals, to award separate parts of the services required, to negotiate the terms and conditions of all and/or any part of the proposals, to waive irregularities and/or formalities, and, in general, to make the award in the manner as determined to be in the City's best interest and sole discretion.

To comply with the Americans with Disabilities Act (ADA): Any citizen requesting accommodation to attend this meeting/function, and obtain this notice in alternate formats, please contact the ADA coordinator, (810) 225-8001, at least five business days prior to the meeting/function.

INSTRUCTIONS TO BIDDERS

Proposal, to be entitled to consideration, must be made in accordance with the following instructions:

- 01 Proposals shall be made on the forms provided therefore; all blanks in the forms shall be fully filled; numbers shall be stated both in writing and in figures; the signature shall be in long hand; the completed form shall be without interlineations, alteration or erasure. Duplicate copies of proposal forms will be furnished and bidders shall retain one copy.
- 02 Proposals shall not contain any recapitulation of the work to be done. No oral, telegraphic, or telephonic proposals or modifications will be considered.
- 03 Proposals shall be received by the City of Brighton, 200 North First Street, Brighton Michigan 48116. Proposals shall be enclosed in an opaque sealed envelope and filed not later than **3:00 P.M., E.D.T., July 19, 2022**
- 04 Should a bidder find discrepancies in, or omissions from the drawings or documents, or should he be in doubt as to their meaning, he should at once notify the Architect who will send a written instruction to all bidders. Neither the Architect nor the Owner will be responsible for any oral instructions.
- 05 Before submitting a proposal, bidders should carefully examine the drawings and specifications, visit the site of the work, fully inform themselves as to all existing conditions and limitations under which they shall work and shall include in the proposal a sum to cover the cost of all items included in the contract.
- 06 The competency and responsibility of bidders and of their proposed subcontractors will be considered in making the award. The Owner does not obligate himself to the lowest of any other bidder and reserves the right to reject any or all proposals, in whole or in part, and to waive any informalities therein.
- 09 Any addenda issued during the time of bidding are to be covered in the proposal and in closing a contract they will become a part thereof. No addenda will be issued less than three (3) days prior to the due date of proposals.
- 10 Each proposal must list in the allotted space any proposed substitutions for required base proposal material.
- 11 The terms used within the documents, "Owner", & "City" all refer to the same entity, the City of Brighton.

CONTRACTS

- 01 It is intended that the work as shown on the accompanying drawings and described in the specifications shall be done under one general contractor for all trades.
- 02 Proposals will be received for:

- a. PROPOSAL "A: - ALL TRADES - Specification Divisions 1 thru 16
Architects Comm. No. 21063

CONTRACT DOCUMENTS

- 01 The instruments upon which proposals and contract for the work to based are:
 - a. General conditions of the Contract, Standard Form as issued by the American Institute of Architects, Articles 1 through 14, together with additions and modifications as stated in Division 1 of the Specifications and specifically stricken in copy of General Conditions included herein.
 - b. Specifications for Work Divisions 1 through 16, except as specifically deleted.

- c. Architectural Drawings covering the work.
- d. Addenda as may be issued in the course of bidding.
- e. The form of Agreement which the successful Bidder will be required to execute is AIA Document A101.

DEPOSITS

- 01 The drawings and specifications are the property of the Architect and must be returned to him complete and in good condition. A deposit of \$50.00 will be required for each set of drawings and specifications taken from the Architects office. The amount of the deposit will be refunded to each bidder who thus obtains them, providing they are returned in good condition within ten days after closing date of bids.

BASE BID SPECIFICATION

- 01 Whenever the specifications call for one specific product, material application, etc. the Contractor or sub-contractor shall bid solely on that which is named. All Base Bids shall then be consistent in such a manner as to permit the best possible evaluation of all proposals.
- a. The Owner and architect in no way wish to overlook any possible alternate material that may be satisfactory as a direct substitute. At the contractors option a list of proposed alternates of materials, products, methods, etc., may be attached to his proposal form stating the proposed substitute and the cost savings, if any, of the substitution. The Base Bid, however, shall be based on all items as specified.
 - b. Should any real and definite hardship result in the foregoing "Base Bid" the Contractor shall communicate the facts to the Architect, and if warranted, and addendum will be issued to all bidders rectifying the condition.

BID BOND

- 01 Every person, firm or corporation submitting a proposal shall be required to furnish with such bid, a certified check or bid bond which shall be forfeited to the City of Brighton in case of failure of the bidder to sign a contract within fifteen days after the award of contract to him. The certified check or bond shall be in the amount of 5% of the bid amount.

SURETY BONDS

- 01 Accepted bidders will be required to furnish two surety bonds, each made out in the form consistent with that supplied by the AIA, document A311, as follows:
- a. A payment bond for the full amount of the contract running to the people of the State of Michigan Guaranteeing the payment of all subcontractors and all indebtedness incurred for labor, materials, or any cause whatsoever on account of this contractor in accordance with the laws of the State of Michigan relating to such bonds.
 - b. A material and labor bond for the full amount of the contract running to the City of Brighton, to guarantee and insure the completion of the work according to the contract.

PROPOSAL-ALL TRADES

TO: City of Brighton
200 N. First Street
Brighton, MI 48116

PROJECT: D.P.S. Building Additions
420 S. 3rd Street
Brighton, MI 48116

ARCHITECT: Lindhout Associates architects aia pc
10465 Citation Drive
Brighton, MI 48116

PROPOSALS

The Undersigned _____proposes to furnish all of the material, labor, necessary tools, expendable equipment and all utility and transportation services necessary to complete in a workmanlike manner the General Contract for All Trades in accordance with the Contract Documents for:

D.P.S STORAGE BUILDING ADDITION – BASE PROPOSAL Architects Comm. No. 21063 for the sum of:

_____ Dollars (\$_____)

as BASE PROPOSAL, which includes a contingency fund as described in Article 21, Section 01B, Special Conditions. Applicable Sales and Use Taxes are included.

FEES FOR ADDITIONAL WORK

- 01 For additional work performed by sub-contractors upon instruction by the Owner, the charges will be the actual cost of the sub-contract work plus a fee of _____percent, which fee includes all of the charges of the undersigned for overhead and profit.
- 02 For additional work performed by undersigned own forces, upon instructions of the Owner, the charges will be the actual cost of all labor and materials plus a fee of _____percent, which fee includes all of the charges for overhead and profit, to which will be added the actual cost of the insurance and applicable taxes.

BASE BID SUBSTITUTIONS

The Undersigned proposes the following list of materials, products or methods as direct substitutions for the Base Bid items. See "Base Bid Specification", Page IB-2 (Contractor may attach additional sheets if necessary). It being understood that items listed herein will not be considered in determining low bidders.

PRODUCT	MANUFACTURER	COST DIFFERENTIAL

COMPLETION TIME

The Undersigned agrees to complete the D.P.S projects in ____ consecutive calendar days maximum.

SUBCONTRACTORS

It is agreed by the Undersigned that all other Subcontractors names used in this Proposal, together with a Schedule of Values, will be forwarded to the architect 24 hours upon notice.

BID GUARANTY

Accompanying this proposal is a certified check, or bid bond, payable to the City of Brighton, which sum, it is agreed, shall be forfeited as liquidated damages to the City of Brighton, if the undersigned fails to execute the Contract for the above stated work after due notification of the award of Contract to the undersigned.

ACCEPTANCE

In submitting this proposal, it is understood that the right is reserved by City of Brighton to reject any and all bids. It is agreed that bid may not be withdrawn for a period of 60 days after opening thereof.

DATE:

FIRM NAME:

BY:

TITLE:

ADDRESS:

DIVISION 01A**GENERAL REQUIREMENTS****SECTION 01A****SUPPLEMENTARY GENERAL CONDITIONS**

01 The General Conditions of the Contract for the Construction of Buildings Standard Form of the American Institute of Architects, latest Edition: Article 1 through 14 inclusive are hereby, except as the same way be inconsistent with, made a part of this specification.

- a. Where any article of the "A.I.A. General Conditions" is herein supplemented, the A.I.A. provisions shall remain in effect. All the supplemental provisions shall be considered as added thereto. Where any such article is amended, voided or superseded, the provisions of such article not so specifically amended, voided or superseded, shall remain in effect.

02 **ARTICLE 15** **DRAWINGS AND SPECIFICATIONS**

- a. The drawings and specifications are complementary, and what is called for by one is binding as if called for by the other.

03 **ARTICLE 16** **INSURANCE**

This article shall void Article II of the General Conditions as cited in Paragraph A under the heading of this Division.

16.1 **CONTRACTORS LIABILITY INSURANCE**

16.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, such insurance as will protect the contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts and of them may be liable:

- .1 claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;
- .5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of any motor vehicle; and
- .7 claims involving contractual liability insurance applicable to the Contractors obligations, under Paragraph 3.18.

16.1.2 The insurance required by Subparagraph 16.1.1 shall be written for not less than the limits of liability specified in the Contract Documents, or required by law, whichever coverage is greater. Coverage, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment. Notwithstanding the above, the insurance required by paragraph 16.1 shall be on an occurrence basis.

16.1.2.1 Such insurance shall be written to include the following coverage and for not less than the following minimum limits or greater if required by law;

.1 Worker's Compensation, Occupational Disease and Employer's Liability Insurance:

- A. State of Michigan - Statutory Limits
- B. Applicable Federal (if any) - Statutory limits.
- C. Employer's Liability -
 - Bodily Injury by Accident - \$1,000,000 each accident
 - Bodily Injury by Disease - \$1,000,000 each employee
 - Bodily Injury by Disease - \$1,000,000 each policy limit

.2 Commercial General Liability Insurance including as minimum coverage:

- Premises - Operations Liability
- Independent Contractor's Protective Liability
- Broad Form Property Damage Endorsement
- Blank Contractual
- Personal Injury, with Employment Exclusion deleted
- A. Special Requirements:
 - 1. Property Damage Liability Insurance will provide "X, C, and U" (Explosion, collapse and underground hazard) coverage as applicable.
 - 2. Products and Completed Operation to be maintained for (1) year after final payment.
 - 3. The City of Brighton and their employees, Lindhout Associates Architects and their consultants (T.T.M.P.S. & Hastings) and their employees, shall be named as additional insured's on the commercial general liability policy of the general contractor an/or subcontractor of any tier.
- B. Limits of Liability:
 - \$1,000,000 Each Occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.
 - \$1,000,000 General Aggregate
 - \$1,000,000 Products/Completed Operations Aggregate
 - \$1,000,000 Personal and Advertising Injury

.3 Automobile Liability Insurance":

- A. Special Requirements:
1. All owned, hired, and non-owned vehicles including the loading or unloading thereof.
 2. The owner, architect, their consultants, agents and employees, shall be name as "additional insured's" on the commercial automobile liability policy of the general contractor and/or subcontractor of any tier.

B. Limits of Liability

\$1,000,000 Each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

.4 Owner's and Architect's Protective Liability Incurrence:

The Contractor will furnish and maintain during the entire period of construction an Owner's Protective Liability Policy written in the name of the owner, architect, and architect's consultants, with the following limits of liability:

Limits of Liability:

\$1,000,000 Each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

\$1,000,000 General Aggregate

.5 Umbrella/Excess Liability Insurance:

Limits of Liability

\$1,000,000 Each occurrence

\$1,000,000 Aggregate

16.1.3 Certificates of Insurance for the above coverage and the Owner's Protective Policy shall be submitted to the Architect for transmittal to the Owner for his approval prior to the start of construction. The Contractor shall certify to the Owner that he has obtained or will obtain similar certificates of insurance from each of his Subcontractors before their work commences. Each Subcontractor must be covered by insurance of the same character and in the same amounts as the Contractor unless the Contractor and the Owner agree that a reduced coverage is adequate. Each subcontractor's insurance shall cover the Owner, Architect, their agents and employees. The Contractor shall submit a statement with each monthly affidavit stating that he has obtained certificates of insurance, or other satisfactory evidence, that all required insurance is in force for each of the Subcontractors listed on his affidavit. If the "additional insured" have other insurance which is applicable to the loss, it shall be on an excess or contingent basis. The amount of the company's liability under this policy shall not be reduced by the existence of such other insurance Contractor certificates shall be in duplicate on standard Acord forms.

16.1.3.1 Certificate of insurance shall contain a statement therein or a rider attached thereto incorporating the indemnity clause stated in Paragraph 3.18 (Indemnification) and Subparagraphs 3.18.1, 3.18.1.1, 3.18.2 and 3.18.3 of the General Conditions, and including the changes and addition made in those subparagraphs within these Supplemental General Conditions.

- 16.1.3.2 These Certificates and the insurance policies required by this Paragraph 16.1 shall contain a provision that coverage afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the Owner and Architect. If any of the foregoing insurance coverage is required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Subparagraph 9.10.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.
- 16.1.3.3 The obligations of the Contractor under the provisions of this article shall not extend to the liability of the Architect, his agents or employees arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, his agents or employees to the extent that such giving or failure to give is the cause of the injury or damage.

16.2 **OWNER'S LIABILITY INSURANCE**

- 16.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance. Optionally, the Owner may purchase and maintain other insurance for self-protection against claims, which may arise from operations under the Contract. The Contractor shall not be responsible for purchasing and maintaining this optional Owner's liability insurance unless specifically required by the Contract Documents.

16.3 **PROPERTY INSURANCE**

- 16.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made and provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 16.3 to be covered, whichever is earlier. This insurance shall include interests of the Owner, Architect, the Contractor, Subcontractors and the Sub-subcontractors in the Work.

Property Insurance provided by Owners shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring and other similar items commonly referred to as construction equipment, which may be on the site and the capital value of which is not included in the Work. The Contractor shall make his own arrangements for any insurance he may require on such construction equipment.

- 16.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverage in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then affect insurance, which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order, the cost thereof shall be charged to the Owner. If the contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor then the Owner shall bear all reasonable cost properly attributable thereto.

- 16.3.1.3 If the property insurance required minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles. If deductibles are not identified to the Contract Documents, the Owner shall pay costs not covered because of deductibles. The property insurance for the Work requires a minimum deductible of: \$5,000 per claim.
- 16.3.2 **Boiler and Machinery Insurance.** The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insured's.
- 16.3.3 **Loss of Use Insurance.** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives the rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.
- 16.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the contractor by appropriate Change order.
- 16.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Subparagraph 16.3.7 for damages caused by fire or other perils covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.
- 16.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverage required by the Paragraph 16.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 days prior written notice has been given to the Contractor.
- 16.3.7 **Waivers of Subrogation.** If permitted by the Owner's and Contractor's insurance companies, without penalties, the Owner and Contractor waive all rights against (1) each other and any of their Subcontractors, Sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their Subcontractors, Sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this Paragraph 16.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the Subcontractors, Sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise did not pay the insurance premium

directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

- 16.3.8 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insured, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Subparagraph 16.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriated agreements, written where legally required for validity, shall require Subcontractors in similar manner.
- 16.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds he received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach or in accordance with an arbitration award in which case the procedure shall be as provided in Paragraph 4.5. If after such loss no other special agreement is made, replacement of damaged property shall be covered by appropriate Change Order.
- 16.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection be made, arbitrators shall be chosen as provided in Paragraph 4.5. The Owner as fiduciary shall, in that case, make settlement with insurers in accordance with directions of such arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.
- 16.3.11 Partial occupancy or use in accordance with Paragraph 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

16.4 **PERFORMANCE BOND AND PAYMENT BOND**

- 16.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising there under as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.
- 16.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds, covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.
- 16.4.3 The Contractor, before commencing the Work, shall furnish a Performance Bond and a Labor and Material Payment Bond. The Performance Bond shall be in an amount equal to one hundred percent (100%) of the full amount of the Contract Sum as security for the faithful performance of the obligations of the Contract Documents, and the Labor and Material Payment Bond shall be in an amount to equal to one hundred percent (100%) percent of the full amount of the Contract Sum as Security for the payment of all persons performing labor and furnishing materials in connection with the Contract Documents. Such bond shall be on A.I.A. Document A-311, insured by the American Institute of Architects, shall be issued by a surety satisfactory to the Owner and shall name the Owner as primary co-obligee.

16.5 MISCELLANEOUS REQUIREMENTS

- 16.5.1 All insurance coverage shall be provided by insurance companies having policy holder ratings no lower than "A" and financial ratings not lower than "XII" in the Best's Insurance Guide, latest edition in effect as of the date of the Contract.
- 16.5.2 The Contractor is responsible for determining that Subcontractors are adequately insured against claims arising out of relating to the work. The premium cost and charges for such insurance, shall be paid by each Subcontractor.

SECTION 01B**SPECIAL CONDITIONS****ARTICLE 1S****TIME OF COMPLETION**

- 01 The contract involves the construction of additions to D.P.S. Buildings and requires completion for occupancy in the least time consistent with good construction practices.

ARTICLE 2S**EXAMINATION OF SITE**

- 01 The General Contractor and those sub-contractors specifically involved shall be held to have examined the site and have informed themselves of the conditions under which they must work. They shall make due allowance for the conditions that are reasonably apparent in their proposal.

ARTICLE 3S**LAYING OUT WORK**

- 01 Each Sub-Contractor shall lay out the work, establish all levels and heights and provide the assistance of a competent surveyor for the work required by the sub-contractor.
- 02 The General Contractor shall establish a permanent benchmark where directed to which all measurements and levels shall be referred during the progress of the work.

ARTICLE 4S**TEMPORARY FIELD OFFICE**

- 01 The General Contractor shall establish a field office on site in location as directed by the Architect. Sub-contractors may at their option establish field offices if coordinated with the General Contractor.
- 02 The contractor's trailers, material storage, etc., shall be located so as to not interfere with Owner's use of existing building and parking areas on site. See civil drawings for locations, and contractor vehicle parking.

ARTICLE 5S**TEMPORARY UTILITIES**

- 01 Water: The General Contractor shall arrange for all water used during construction. Water shall be available through Owners existing buildings on site. Mechanical Contractor shall furnish and maintain all temporary connections.
- 02 Electrical: The Electrical Contractor shall furnish all temporary power and lighting service, as detailed under Division 16, throughout the construction period. Sub-contractors requiring special service beyond that outlined in Division 16, shall reimburse the electrical contractor for service connections needed. Owner shall bear cost of metered power.
- 03 Telephone: The General Contractor shall maintain a working Telephone instrument in the field office.

ARTICLE 6S**TEMPORARY TOILETS**

- 01 The General Contractor shall provide temporary toilet facilities in an inconspicuous location on the site to satisfy City and County Health Officials.

ARTICLE 7S**COLD WEATHER PROTECTION**

- 01 All heating required by Contractors during construction prior to temporary operation of the permanent heating system shall be classified as "Cold Weather Protection". Such heat shall be furnished by each contractor requiring same. Heating units must be of approved types, and equipment and surroundings shall be kept in a clean and safe condition.
- 02 The building shall be considered as enclosed when, in the opinion of the Architect, the exterior walls are completely erected, roof deck is complete and watertight and building has such protection at doorways, windows and other openings as will provide a reasonable heat retention.

- 03 After the building is enclosed, and prior to operation of the permanent heating system, the General Construction Contractor shall provide portable space heaters sufficient to maintain the temperature inside the building between 50°F and 65°F at all other times. The General Construction Contractor shall provide all fuel. All direct fired space heaters shall be vented directly to the outside.

ARTICLE 8S**TEMPORARY HEAT**

- 01 All heating requiring temporary use of the permanent heating system shall be classified as "Temporary Heat".
- 02 The Heating Contractor shall have the permanent heating system ready to furnish temporary heat within 30 days after the building is enclosed. This shall include the setting of new boilers, unit ventilators and heating units with all necessary ductwork and piping to the boilers. Temporary heating units may be used where it is impossible to set permanent heating units.
- 03 The General Construction Contractor shall pay for all fuel for the operation of the system from the time that the system is first turned on until the Owner accepts the building. This shall include the cost of fuel; cleaning of boilers, ventilating units, filters, etc.; draining, cleaning and re-filling of system.
- 04 If the permanent heating system is used, the Heating Contractor shall be responsible for the system and its maintenance until acceptance by the Owner. A minimum temperature of 60°F and a maximum temperature of 70°F shall be maintained during working hours and not less than 55°F at all other times.

ARTICLE 9S**SHOP DRAWINGS**

- 01 All shop drawings shall be examined by the General Contractor for coordination with other trades and general conformity to contract documents before submission to the Architect for the Architects review and shall bear the signature of the party so doing. In general, six (6) copies, or 1 sepia and 2 prints, should be furnished.
- 02 Corrections or comments made on the shop drawings during their review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of the general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for:
- Confirming and correlating all quantities and dimensions.
 - Selecting fabrication processes and techniques of construction.
 - Coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.
- 03 Architects review of Shop Drawings shall not be construed to relieve supplier of any obligations set forth in the original contract documents. Specific reference shall be made on the Shop Drawings of any contradictions of the original documents and specific acceptance of that contradiction must be made on the drawings by the Architect.
- 04 The preceding conditions are in addition to those covered under Article 3.12 of the General Conditions of the Contract.

ARTICLE 10S**CLOSE OUT AND GUARNATEES**

- 01 At the completion of the Contract and prior to final payment:
- a. The General Contractor and sub-contractors shall give to the Owner a written guarantee that they will make good at their own expense any defects in material or workmanship, not due to ordinary wear or improper use, which may develop within one (1) year from the date of acceptance of the work unless otherwise stated in the specifications.

- b. The Owner shall be furnished with the following as it may apply to the project and as called for in the specifications:
1. Owner's manuals for operation and maintenance of equipment furnished under the Architectural trades.
 2. Owner's manuals for operation and maintenance for equipment furnished under the Mechanical contract; test reports of system balancing..
 3. Owner's manuals for operation and maintenance for equipment furnished under the Electrical contract; a complete brochure of lighting fixtures and lamps furnished; an as-built drawing of the electrical installation as described in the specifications.
 4. Any manufacturer certification and warranty for single ply roofing required beyond the normal two-year roofing guarantee.
 5. List of sub-contractors employed on the project, including addresses, hone and fax numbers.
 6. As built drawing of irrigation system.
 7. Final Certificate of Occupancy.

ARTICLE 11S**PROGRESS SCHEDULES**

- 01 At the time of signing of the contract, the General Contractor, in co-operation with his sub-contractors, shall furnish a separate schedule for the Police Addition & D.P.S. additions, giving the time of starting and finishing of each trade involved.
- 02 The Schedule shall be maintained throughout the job to give an up-to-date statement of progress and completion time.
- 03 Satisfactory rate of progress and completion on time shall be essential conditions of the contract.

ARTICLE 12S**JOB SIGN**

- 01 A 4' x 8' plywood sign mounted on 4" x 4" wood posts shall be furnished and installed by the General Contractor for the project.
- 02 Sign shall be painted and bear the names of the project, Owner, Architect and Contractor. Architect will furnish layout sketch of the sign.
- 03 The General Contractor shall remove the sign at the completion of the project.

ARTICLE 13S**TEMPORARY PROTECTION**

- 01 The General Contractor shall assume responsibility for the building, site and immediately adjacent areas, providing protection to meet the governing laws.
- 02 He shall provide suitable temporary walks, fences, enclosures, to maintain unobstructed areas for pedestrians, vehicles, fire protection equipment, etc., including temporary exit enclosures.
- 03 See civil drawings for location of construction fence adjacent to the Police Building Addition.
- 03 The General Contractor is referred to Article 10 of the General Conditions - Protection of Persons and Property.

ARTICLE 14S**ACCESS TO SITE**

- 01 Contractors shall consult with Architect on maintaining access route to the site for construction vehicles. All damage to existing walks, drives and landscaped areas traversed by construction vehicles shall be made good by the General Contractor.

ARTICLE 15S**OWNER'S USE OF SITE**

- 01 The Owner will maintain normal operations in the facilities and on the site during the construction period. The various contractors shall take all possible precautions to minimize interference with the operations. Specific considerations shall be as follows.
- a. Access to existing building shall be maintained at all times.
 - b. Maintain uninterrupted, protected egress from all required exit doors of the building to the satisfaction of the Local Fire Marshal or Building Authority.
 - c. On site storage of materials shall be arranged in such a manner to not interfere with the normal use of the parking areas. See civil drawing for locations, and contractor vehicle parking.
 - d. All construction traffic shall be directed off of 3rd street.

ARTICLE 16S**CONSTRUCTION SEQUENCE**

- 01 Is the responsibility of the general contractor.

ARTICLE 17S**OTHER CONTRACTORS**

- 01 The contractor or contractors for this work shall at all times allow the Owner and any other contractors and their employees to be in the building or about the premises undisturbed as may be required in the execution of other portions of the building work, and installation of equipment, etc. Each contractor shall so arrange his work that it will interfere as little as possible with that of other trades or contracts; and in the event of disputes of such nature, the Architect's ruling in the matter shall be final and binding on all parties.

ARTICLE 18S**AWARD OF SUBCONTRACTS**

- 01 The award of subcontracts shall be subject to the right of rejection by the Owner and the Architect of any individual sub-contractor. All contracts made by the General Contractor with sub-contractors shall be covered by the terms and conditions of the prime contract.

ARTICLE 19S**OCCUPATION OF BUILDING**

- 01 The Owner reserves the right to negotiate with the contractor to occupy the building, or any portion thereof, before the building has been finally completed and accepted. It being mutually understood and agreed that such occupancy does not relieve the contractors from completing their respective work or obligations within the time specified.
- 02 Considerations relative to insurance coverage during partial occupancy shall be as outlined in Article 16.3.11 of the Supplemental General Conditions, Section 1A of the specifications.

ARTICLE 20S**PERMITS**

- 01 The General Contractor shall apply and pay, where necessary, for all required building and land use permits; all required plan review fees; in addition to any other required permits. All building permit and plan review fees through the City of Brighton will be waived.
- 02 The mechanical and electrical contractors shall apply and pay for their respective permits and any required plan review fees. They shall call for all inspections and comply with all requirements.

- 03 If an inspection fee is charged due to the failure of sub-contractor to meet code or make his work accessible for the inspection, he is responsible for the re-inspection the fee if any will not be waived.
- 04 The General Contractor, sub-contractors and their suppliers shall comply with Michigan Building Code Section 1704 Special Inspections, as it may be applied to the project by the local Building Authority for inspections and certifications.
- 05 See Article 29S for connection charges.

ARTICLE 21S**OWNER'S CONTINGENCY FUND**

- 01 The General Contractor shall include in his proposal a sum of Twenty Five Thousand Dollars (\$25,000.00.) for the D.P.S. Project Contingency Fund.
- 02 The Contingency Fund shall be charged for unexpected field conditions and items of errors and omissions in the drawings and specifications.
- 03 The General Contractor shall be responsible for his own contingency allowance for default of, and errors of, sub trades as necessary to complete the intended scope of the work.
- 04 Overhead and profit on this sum shall be considered included in Base Proposal.
- 05 Unused portion of the Owner's Contingency Fund will be credited to Owner on Final Payment.
- 06 Significant changes in the work required by the Owner will be covered by Change Orders.

ARTICLE 22S**NON DISCRIMINATION IN
EMPLOYMENT**

- 01 In connection with performance of work under this contract, the contractor agrees as follows:
- a. The contractor will not discriminate against any employee or applicant for employment because of sex, race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment of other forms of compensation, and selection for training, including apprenticeship.
 - b. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor state that all applicants will receive consideration for employment without regard to sex, race, creed, color or national origin.
 - c. The contractor will take such action with respect to any sub-contractor purchase order as the contracting agency may direct as means of enforcing such provisions, including sanctions for non-compliance.

ARTICLE 23S**LOCAL BONDING REQUIREMENTS**

- 01 Access to site as indicated on site plan will be on roads under the Jurisdiction of Livingston County and the State of Michigan.
- 02 The General Contractor shall post a cash bond, if required, with the State, City and/or County in the amount determined by the Department of Public Works. Bond shall be against any damage done on streets, curbs, sidewalks, etc., in right-of-way.
- 03 Contractors shall abide by all restrictions on class of roads traveled.
- 04 The General contractor shall post all required bonds required for Site Improvements.

ARTICLE 24S**TRADE AGREEMENTS**

01 The drawings and specifications make no attempt to define jurisdictional boundaries of the various trade unions. Systems and materials are specified under headings most suited to the project and construction locale from the Architect's and Owners viewpoint.

ARTICLE 26S**SOIL EROSION PERMIT**

01 General Contractor shall apply and pay for required soil erosion permit as called for by local regulatory agency.

ARTICLE 27S**CONSTRUCTION FENCE**

01 The General Contractor shall fence in the construction area adjacent to the Police Building, see civil drawings for location and details.

ARTICLE 28S**SAFETY RULES**

01 All contractors and their employees shall comply with applicable requirements of "General Safety Rules and Regulations for the Construction Industry", as promulgated by the Construction Safety Commission of the State of Michigan including all amendments.

02 General Contractor and all sub-contractors shall become familiar with and comply with the "Safety and Health Regulation for Construction" as promulgated by the Occupational Safety and Health Administrator of the U.S. Department of Labor.

ARTICLE 29S**CONNECTION CHARGES**

01 All charges for water and sewer connections are the responsibility of the City.

DIVISION 02**SITWORK**

- 01 All work under this heading shall meet requirements of Division 1 and instructions and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Site clearing, topsoil stripping, sub-soil preparation, back-filling, exterior rough and finish grading.
 - b. Utility Excavating and Backfilling
 - e. Foundation Excavation and Backfilling
 - f. Base Preparation for interior and Exterior Concrete Flatwork
 - g. Paving
 - j. De-watering
 - k. Right-of-Way Restoration
 - o. Removal and Demolition
- 05 Work by Others:
- a. By Division 03 - General Concrete Work
 - b. By Division 03 - Sand fill for slabs on grade
- 06 Work N.I.C. shown for clarity reasons:
- a. Lindbom Area Drainage & Constructed Wetland. This work includes the relocation of the existing dual 12" Sanitary Force Main & encasement of the existing sanitary sewer north of the existing Police Department Building.

SECTION 02A**SITE DEVELOPMENT****ORDINANCES, PERMITS, AND INSPECTIONS**

- 01 The Contractor shall observe all ordinances, rules, and regulations of municipal, county, state and federal departments and agencies. He shall obtain and pay for all permits, bonds, and licenses necessary for the execution of this contract.
- 02 The Contractor shall make arrangements for such inspection that the City of Brighton, the Livingston County Drain commission or other agencies may require. The cost of such inspection will be borne by the Contractor. **City permit and review fees will be waived.**
- 03 The Contractor shall notify the Architect and the various responsible agencies seventy-two hours prior to the beginning of any of the work.

REPORT OF ERROR AND DISCREPANCIES

- 01 If in the course of his work, the Contractor finds discrepancies between the plans, grade stakes, and physical conditions encountered in the work, he shall immediately inform the Architect, verbally and in writing, and to suspend work in such area until authorized by the Architect to proceed.

DE-WATERING

- 01 The General Contractor shall be responsible for de-watering. This contractor is referred to Section 02F for log of soil borings as they may affect his work. Detail report is on file in the Architect's office. Soil borings indicate ground water is generally present on the site at levels affecting construction.
- 02 The de-watering methods employed shall prevent water and subsurface or groundwater from flowing into excavations, and flooding the project and surrounding area.
- 03 Do not allow water to accumulate in excavations. Remove water from excavations to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of sub grades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other de-watering system components necessary to convey the water away from the construction areas.
- 04 Convey water removed from excavations and rainwater to collecting or run-off areas. Do not use trench excavations for site utilities as temporary drainage ditches.

USE OF EXPLOSIVES

- 01 The use of explosives is not permitted.

EROSION AND SEDIMENTATION CONTROLS

- 01 The Contractor shall comply with the Livingston County Drain Commission requirements for soil erosion and sedimentation control. The cost of such erosion measures shall be incidental to the cost of construction work and shall be included in the prices bid. See Civil Drawings for methods of control.
- 02 The period of time that erodible earth material is exposed shall be kept to a minimum by prompt completion of the various construction stages, followed by final surfacing. Care shall be exercised to prevent sediments from entering the drainage system.
- 03 Permit fee shall be paid by the General Contractor.

DISPOSAL OF EXCAVATED MATERIALS

- 01 The Contractor shall be required to legally dispose of all excess excavated materials, trash, debris and waste materials at his own expense.
- 02 Excavated clay, rubble, brush, organic matter, etc., shall be removed from site by this contractor at his expense.

FINAL CLEANUP AND ACCEPTANCE OF THE WORK

- 01 Following the completion of the work, the Contractor shall clean the entire area of any debris and/or excess or misplaced material due to his operation and obtain Architect's approval of the finished work.
- 02 Sleeves shall be 4" in diameter Schedule 30 PVC pipe.

- 03 Sleeves shall be laid approximately 12" below finished paving and extend through concrete curbs where occurring at landscaped islands and walls. Cap ends and leave identifying mark on curbs or pavement to locate for future use. Keep sleeves free of all debris.

SECTION 02B**SITE CLEARING AND STRIPPING**

GENERAL

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 02 Work of this Section consists of Site Clearing and Stripping.

SITE CLEARING

- 01 General site clearing will be required in the areas of the building, all walks and paved areas and all areas involved in construction as indicated by the Contract Limits shown on Civil Drawings and the General Contractors Site Control Plan.
- 02 Give sufficient notice to all governmental authorities and utilities as job progress may affect overhead wires, underground piping and similar items on the property and in the adjacent public right-of-way.

STRIPPING

- 03 All topsoil stripped from construction area shall be removed from the site, haul in new top soil required for final grading.
- 04 Excavated sand, if kept clean of deleterious matter, may be used for fill under floor slabs, walks, paving, etc. if satisfactory test reports are obtained.
- 05 Trees, brush, limbs, roots and other debris resulting from the stripping operations shall be removed from the site and disposed of in an approved method off site.

PROTECTION

- 01 All vegetation, shrubs or trees remaining on site after stripping shall be protected from damage due to construction activity.

BURNING

- 01 Open burning is not permitted in Livingston County.

SECTION 02C**BUILDING – EXCAVATING & BACK-FILLING****GENERAL**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 02 Work of this Section consists of Excavating and Backfill.

EXCAVATING

- 01 Excavate to levels indicated on the drawings for footings, foundation walls.
- 02 The bottom of all excavations shall be reasonably clear of loose or surplus material and must be approved by the Architect prior to pouring of concrete.
- 03 Should proper soil bearing not be found at the levels indicated on drawings, the Architect shall be notified at once. Any additional excavation below the stated elevations will be classed as an extra only when authorized by the Architect.
- 04 Should excavations be carried below the required depths by error of the Contractor, he shall, at his own expense, backfill areas with concrete to proper elevations.
- 05 Store excavated sand used for backfill along trench so not to overload embankment. Excavated clay, silt or other deleterious material shall be removed from site.
- 06 Provide all necessary shoring, boxes, bracing, sheeting, etc. to protect sides of embankments until backfill has been placed.
- 07 Take all necessary precautions to protect employees, other persons and property all times. Provide and maintain barriers as will effectively prevent accidents due to the construction activity.

GRADING

- 01 This contractor shall do all rough and finish grading as indicated on Civil Drawings and in all areas disturbed by construction activity. Finished surfaces shall conform to established grades with a vertical tolerance of 2 inches. Surfaces shall be graded smooth with no pockets or perceptible reverse slopes. Take particular care at building line to cover damp-proofing course and maintain clearance at weep holes in exterior masonry walls.
- 02 Use clean excavated earth for rough grading and take to finish grades established by suitable stakes and lines set by the surveyor. Provide a minimum of 4" screened top soil from off site source. Provide owner with certification. Make due allowance for settlement at building lines.
- 03 Rake final grade clear of all debris, stone, etc., and leave ready for sodding or seeding by landscape Contractor.

FILLING AND BACKFILLING

- 01 Exterior: Excavated material will be permitted for Backfilling at exterior of foundation walls where walks and paving do not occur if it is kept free of construction debris, roots, etc. Fill shall be placed in 6 inch lifts and compacted to provide minimum settlement. Do all filling necessary to bring existing grades up to indicated grades.

- 02 Interior: Fill material for filling operation below concrete floor slabs and footing shall be excavated sand to extent material is available and meets requirements stated for additional material. Additional material shall be sand meeting MDOT specification for Grade 2 porous fill containing less than 5% of particles passing a No. 200 screen. Fill shall be placed in 9" lifts uniformly throughout the fill areas.
- 0-3 Seasonal limits: No fill material shall be placed, spread or compacted while it is frozen or thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain, filling operations shall not be resumed until the moisture content and density of the previously placed fill are as specified.

COMPACTION

- 01 Each layer of fill shall be mechanically compacted to meet or exceed the following requirements.
- a. Existing Soils & Fill, within building including footings and slabs shall be compacted to 95% of the maximum bulk density as determined by the A.A.S.H.O. test designation T-180 (modified proctor test).
 - b. Fill, beyond building shall be compacted to 90% of the maximum bulk density as determined by the above test.
- 02 Compaction Tests: The General Contractor shall obtain the services of a testing laboratory, approved by the Architect, for determining the satisfactory soil density of the compacted sand fill where placed in depths exceeding 18"; and at bottom of foundation excavations to confirm stated loading requirements for soil bearing capacity. Inspection and compaction reports shall be submitted to the Architect prior to any subsequent work. Tests not meeting the density requirements shall be repeated at the Contractor's expense.
- a. One test shall be taken at every 500 square feet of fill area in building per lift of fill depth.
 - b. Tests at bottom of excavations shall be taken in sufficient quantity to verify capacities as required under "Foundation Notes", Sheets A1D, A1S, S1P.
- 03 Maintain as closely as possible the optimum moisture content of the fill material during the compaction process.

FILL RESTORATION

- 01 When excavating work has been completed in filled areas, the Contractor shall restore any fill material about the interior and exterior of the building to quality and degree of compaction as called for under this section of the Specifications.

RESTORATION

- 01 All disturbed areas in the Third Street ROW, private drive, and on adjoining property shall be restored in the following manner:
- a. Spread topsoil (4" min.) over properly placed back fill and rake smooth.
- Hydroseed disturbed areas as specified under Landscaping.

SECTION 02F**SOILS REPORTS & BORINGS**

- 01 A log of Soil borings taken on the property is included in this Section.
- 02 These borings are furnished for information purposes only. The Contractor should note the dates that the borings were made.
- 03 The Contractor shall satisfy himself of the conditions under which he is to work and be responsible for accepting those conditions insofar as reasonable pre-construction investigation can determine.

SECTION 02L**REMOVAL AND DEMOLITION****GENERAL**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 02 The extent of this contract shall include removal and demolition of existing building and/or site components as detailed on the drawings and specified herein.
- 03 This Contractor shall obtain and pay for all required permits covering his work. **City permit fees will be waived.**
- 04 Mechanical and Electrical demolition & relocation by Mechanical and Electrical trades.
- 05 Tree transplanting by landscaping contractor.

INSPECTIONS

- 01 Contractor and Owners representatives shall meet prior to beginning of work to inspect the site and establish limits of the work.

EXISTING SERVICES

- 01 Protect and maintain all conduit, sewers, pipes and wires on the site as designated.

TEMPORARY PROTECTION

- 01 Provide, erect and maintain all necessary fences, planking, bracing, shoring, sheath piling, warning signs to protect the existing site and all persons using same or public sidewalks adjacent to the site.
- 02 Remove all protections when work is completed and hazardous conditions are no longer present.
- 03 Provide temporary weather protection and building security of existing space during the removal of existing enclosures and coordinate with other trades the timing of the removal and their ability to continue temporary protection.

REMOVAL AND DEMOLITION

- 01 Perform all removal and demolition work as outlined on the drawings.
- 04 D.P.S. Storage Building Addition work Included: See Drawing A1S
- a A list of work includes the following, but is not all inclusive:
1. Concrete slabs, curbs
 2. Existing Landscaping
 3. Asphalt Paving at Pole Barn see civil drawings for extent of work.

WORKMANSHIP

- 01 All work shall be executed in an orderly and careful manner, with due consideration for adjacent property holders.
- 02 Driveways and parking areas shall be kept clear and swept daily.

03 Rubbish and debris shall be removed promptly and not allowed to accumulate.

04 Sprinkle rubbish and debris with water as required to control dust.

PROHIBITED ACTIVITIES

01 Creation of "Attractive Nuisances".

02 Storing, unprotected or overnight, of hazardous or dangerous materials.

03 Burning of any nature.

04 Burying of rubble on site.

DIVISION 03**CONCRETE**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- b. Rodent wall; post footings
 - c. Setting of posts.
 - d. Slabs on grade, reinforcing mesh.
 - f. Sand bed at slabs on grade.
- 05 Items furnished by other divisions for installation by this Division:
- a. By Division 05 - Anchor Bolts, and Leveling Plates for Column and/or Beam & Joist Bearing Plate.
 - b. By Division 05 - Steel Pipe Bumpers, Channel Cap at yard bins.
- 06 Work by Others:
- a. By Division 02- Preparation of sub-grade to receive slabs on grade.

SECTION 03A**CONCRETE****GENERAL**

- 01 All concrete work shall be detailed and constructed in accordance with the latest specifications of the American Concrete Institute and Concrete Reinforcing Steel Institute and all materials shall conform to current standard specifications of the ASTM as may apply to the work and respective materials.

MATERIALS

- 01 Cement: Shall be Portland Cement (ASTM C-150 Type 1) of American Manufacturer.
- 02 Aggregate: All aggregate shall conform to ASTM C-33 Specifications for Concrete Aggregate. Maximum aggregate size shall not exceed 3/4 of clear space between reinforcing bars or 1/5 minimum thickness of formed slabs.
- 03 Combined Aggregate: Shall be of such composition as to permit between 30% and 50% to pass through a No. 4 sieve.
- 04 Water: Shall be suitable for drinking purposes.
- 05 Reinforcing Steel: Shall be ASTM A-615 specifications for deformed billet steel for concrete reinforcement (Fy=60,000 psi).
- 06 Reinforcing Mesh: Shall be ASTM A-185 specification for wire mesh having a rigid connection of intersecting wires. Gage of wires and spacing is shown on drawings.
- 07 Concrete: Limits for proportions of concrete made with average materials are indicated in the following table. Trial mixtures shall establish exact proportions for all materials to be used within the limits of the table.

CLASS OF CONCRETE	MINIMUM 28 DAY STRENGTH (PSI)	MAX. W/C RATIO LBS. HOH/LB. CEMENT	NOM. AGGR. SIZE	MINIMUM CEMENT CONTENT PER CUBIC YARDS* WEIGHT		SLUMP	AIR CONT. %
STRUCTURAL CLASS 5	4500	0.49	3/4" 1 -1/2"	Determined by trial mix		4"	2 1
STRUCTURAL CLASS 4	4500	0.54	3/4" 1 -1/2"	6-1/4 5-3/4	588 541	4"	2 1
STANDARD EXPOSED CONCRETE	4500	0.49	3/4" 1-1/2"	6-1/2 5-3/4	611 541	3" 4"	6-1/2 5-1/2
STANDARD FLOOR CONCRETE**	4000	0.58	3/4" 1-1/2"	6 5-1/2	564 517	3"	3-1/2 4-1/4
STANDARD FOUNDATION CONCRETE	3500	0.66	3/4" 1-1/2"	5-1/2 5-1/4	517 494	3"	2 1
STANDARD CONCRETE TOPPING	3500	0.66	3/8" pea gravel	6	564	4"	1 2

* Cement content may be reduced by 1/2 bag per cu. yd. for unreinforced mass concrete.

** Omit air entraining agent in hardened slabs.

Additional design mixes by the supplier that meet the above performance requirements are permitted pending proper documentation and submission for Architect's approval prior to bid due date.

- 08 Admixtures: For air entraining and water-reducing shall be as manufactured by W.R. Grace Co. or Master Builders, and employed in strict accordance with the manufacturers recommendations (ASTM C260 & ASTM C494, Type A). Air content in air entrained concrete delivered shall be +/- 1-1/2 percent. Non-corrosive, non-chloride accelerator shall be "Accelguard" by The Euclid Chemical Co. (ASTM C494, Type C or E). No admixtures containing chloride ions are permitted. No fly ash permitted.
- 09 Concrete Engineered Reinforcing Fibers: Shall be 100% virgin polypropylene, collated, fibrillated fibers from Fibermesh Co. Chattanooga, TN 37416. Fibermesh fibers shall be used in all concrete where indicated under "Material Location" in the specifications. The fibers shall be used in strict compliance with the manufacturer's recommendations as to type and amount. The fiber manufacturer or approved distributor shall provide the services of a qualified employee for a pre-job meeting and initial job start up. Only fibrillated fibers designed and manufactured specifically for use in concrete from 100% virgin poly propylene and so certified by the manufacturer shall be acceptable.
- a. Accepted Alternate Manufacture: Axim Concrete Technologies "Fibrasol".
- 09 Expansion Joint Material: Carey Elastite or equivalent conforming to ASTM D-1752 for interior work and ASTM D1751 for exterior work, with tear-away strip.
- 10 Curing Compound: ChemRex "Masterkure N-Seal VOC" or Sonneborn "Kure-N-Seal, Euclid Chemical "Diamond Clear VOX" or Dayton Superior "Safe Cure & Seal" (J-18).

- 11 Non-Shrink Grout: ChemRex "Masterflow 928" or "Sonogrout" 10K, grout.
- 12 Perimeter Insulation: Shall be Dow "Scorboard" or U.S.I. "FoamulaR", 2" x 24".
- 13 Vapor Barrier: .004 polyethylene film.

MATERIAL LOCATIONS

03 D.P.S. Storage Building Addition:

- .1 Reinforcing Steel: Rodent wall
- .2 Reinforcing Mesh: Slabs
- .3 Concrete Engineered Reinforcing Fibers: Not Used
- .4 Expansion Joint Material: At all slabs abutting concrete.
- .5 Curing Compound: Floor Slab.
- .6 Standard Exposed Concrete: Not Used.
- .7 Standard Floor Concrete: Slabs on grade.
- .8 Standard Foundation Concrete: Post Hole footings & rat wall.
- .9 Non-Shrink Grout: Not Used.
- .10 Perimeter Insulation: Not Used.
- .11 Vapor Barrier: Not Used.

FORM WORK

- 01 Form work shall follow ACI-347 "Recommended Practice for Concrete Form Work." Forms shall be constructed of wood planking or plywood (use plywood where concrete is exposed above grade,) or be of a re-usable metal type. Chamfer all external corners of exposed work.
- 02 All forms shall be mortar tight, rigid, strong and so constructed to prevent distortion during the placing of concrete. Due allowances shall be made for impact. Forms shall be built to given dimensions and maintained until concrete is of sufficient strength for removal. Concrete members shall have obtained sufficient strength to sustain dead and live loads without damage before removing any form work.
- 04 Provide necessary metal accessories to hold forms in correct alignment. Accessories shall be so constructed as to permit removal to a depth of at least 1 inch from the surface of the concrete. Tie rods shall be held in place by devices attached to walls. Use cone type, not wire ties or pipe.

REINFORCING STEEL AND MESH

- 01 Provide shop drawings for all reinforcing steel.
- 02 On site storage of reinforcing steel shall provide isolation from the ground and protection from the weather.
- 03 All reinforcement bar and mesh shall be free of paint, dirt, oil and excessive rust.
- 04 Place reinforcement as shown on the Drawings in a secure manner to prohibit displacing during the pouring of concrete. Bars shall be securely wired together at their intersections.
- 05 Mesh reinforcement shall be carefully and frequently hooked during the placement of floor slabs on grade to assure its placement at a distance approximately 1-1/2" from the top of the slab.
- 06 Provide OSHA approved caps for all exposed ends of reinforcing steel extending beyond completed pours and awaiting future embedment.
- 07 Where optional trenched concrete foundation walls are used (See FOUNDATION WALLS), set bottom steel on concrete bricks to maintain 3" clearance from earth. Top steel shall be placed into concrete at completion of trench pour while concrete is still of proper consistency to receive the bars and maintain them in proper position.

CONCRETE

- 01 Concrete shall be transit-mixed from a plant approved by the Architect, and shall conform to ASTM Designation C-94.
- 02 The transit-mix plant shall have in operation satisfactory measuring devices to assure accurate and uniform proportions of the materials as specified. Verification of this information shall accompany each individual delivery to the job site. Information shall include material quantities of the mix: moisture contents; admixes, (if any); size of the load and time of day and date when truck was loaded.
- 03 Mixing trucks shall be of an approved design to provide separate container for holding water. Mixing water shall be added **ONLY** at the proper time required to provide necessary consistency and not to exceed maximum slump as specified.

DEPOSITING CONCRETE

- 01 No concrete shall be placed without prior notice to Architect.
- 02 All formwork shall be cleaned, wetted down or oiled (in freezing weather) before depositing concrete. When placing concrete on grade, fill shall be smooth and firmly tamped to proper elevations. See Division 02 for compaction requirements.
- 03 Concrete shall be conveyed from mixer to the place of deposit in buggies, carts or conveyers as soon as possible after mixing. Do not use troughs. Handling of concrete shall be done in such a manner as to prevent free fall of more than three (3) feet. Always place concrete into face of previously placed material. When placing into deep forms, discharge concrete through hose or hopper directly to the level of the material being placed so as to prevent free fall.
- 04 All pours shall be continuous, keeping concrete plastic until final levels are attained. Take all necessary precautions to prevent voids and surface defects. Tamp or vibrate as conditions warrant. Penetrate previously placed layers at regular intervals when vibrating. Consult with Architect on location of all construction joints required.

SETTING ANCHOR BOLTS

- 01 Anchor bolts shall be set according to approved Steel Contractor erection drawings. Anchor bolts shall be accurately located and leveled employing services of a qualified surveyor.

FOUNDATION WALLS

- 01 Provide strip footings or grade beams of indicated sizes at all foundation walls as shown. Maintain at least 3" clear from ground with reinforcing steel. Tie reinforcing steel to dowels where called for at concrete piers.
- 02 Foundation walls shall be concrete masonry units under Division 04.
- 03 At Contractors option, soil conditions permitting, trenched concrete foundations walls may be used except at elevator pit walls. Trenches shall be full depth of indicated block walls and strip footings.

CONCRETE COLUMN PADS

- 01 Provide column pads as scheduled on Drawing Sh. S1P.
- 02 Provide reinforcing mats as scheduled, maintaining at least 3" clear from ground at reinforcing steel.
- 03 Provide dowels and ties for concrete piers as scheduled.

GROUTING BASE PLATES

- 01 Leveling plates at column bearings shall be grouted with non-shrink grout. Grout shall be used in strict accordance with manufacturers instructions to provide full, uniform bearing of surface for plates.

FLOOR SLABS ON GRADE

- 01 This contractor shall provide 4" sand bed (U.O.N.) on sub-grade prepared by Division 02 for all slabs on grade. All work shall be performed in accordance with Section 02C.
- 02 Generally concrete floors on grade shall be 4" thick (U.O.N.) Maintain full slab thickness above all conduit and piping.
- 03 Expansion joint shall occur at perimeter of slabs and at isolated columns where occurring and shall consist of 1/2" thick expansion joint material, full depth of slab.
- 04 Surfaces shall be troweled smooth and level, free from waves. Allowable tolerance in surface shall be 1/8" in 10'-0". Provide broom finish and scoring as shown at entrance slab and walks.
- 05 Maintain established elevations and grades throughout the pour.
- 06 Apply curing compound within 18 hours of finishing slabs. Compound shall be uniformly applied

in accord with manufacturers specifications. **Do not** apply to areas receiving epoxy coating or hardner.

- 07 Apply hardener in accord with manufacturers specification to all slabs scheduled to receive hardener.
- 08 Consult with Architect for location of construction joints separating pours.
- 09 Provide and install perimeter insulation where indicated on the drawings. Insulation shall be installed vertically or horizontally as detailed. Maintain position of insulation throughout placing of concrete to insure complete insulation barrier for perimeter of building.
- 10 Note areas requiring dropped slab to receive separate floor finishes.
- 11 Provide recesses for floor closers when scheduled under Division 08.

SUPPORTED FLOOR SLABS

- 01 Omitted.

CONCRETE PIERS

- 01 Provide formed concrete piers at all column bases as scheduled on Sh. A1D. of the drawings. Reinforcing shall be as scheduled.
- 02 Maintain minimum 1-1/2" clearance from exposed sides of formed concrete.

CONCRETE CURBS

- 01 Provide and install concrete curbs as detailed on civil drawings. Curb section shall be laid to accurate line and elevations as required.
- 02 Provide reinforcing as detailed.
- 03 Provide expansion joints at all tangent points; points of contact with fixed objects, and at intervals not to exceed 15 feet elsewhere.
- 04 Curbs shall receive wood float finish and maintain required lines with variations not to exceed 1/8" in 10 feet.

CONCRETE ENTRANCE SLABS

- 01 Provide slabs to all entry locations. Slabs shall be placed on 1" thick rigid insulation to prevent frost heave.

CONCRETE TOPPING

- 01 Omitted.

CONCRETE WALKS

- 01 Provide and install exterior walks as shown on Civil drawings.
- 02 Walks shall be placed on compacted sand fill. Provide expansion joints at building walls and around brick piers and at 30 foot intervals in sidewalk runs. Score walks as indicated. Provide broom finish to all walks.

- 03 Where indicated, warp walks and curbs to provide ADA and IBC barrier free access.

CONCRETE PAVING

- 01 Provide concrete paving at wash down area as shown on the Civil Drawings
- 02 Concrete thickness shall as shown.
- 03 Provide reinforcing steel as shown.
- 04 Place expansion joints as shown.
- 05 All slabs shall drain completely as shown. Any section of slab holding water shall be removed and replaced. Wash down area slabs shall drain to oil separator drain.

CONCRETE TESTING

- 01 General Contractor shall arrange and pay for an approved independent testing laboratory to make test cylinders of all poured-in-place concrete. Test cylinders and laboratory tests shall be made in accord with ACI Standards and ASTM Specifications. Provide a minimum of one test (consisting of three cylinders per each test) for each 50 cubic yards placed, but not less than one test per day. One cylinder shall be broken at 7 days; tow at 28 days. Cylinders shall be properly cured by the laboratory making the tests.

CURING AND WEATHER PROTECTION

- 01 Protect concrete at all times, keeping surfaces damp for at least seven days in warm weather, and keep covered as long as required in freezing weather. Temperature of concrete when deposited shall be between 70 and 100 degrees and shall be maintained at not less than 50 degrees for at least 72 hours or until concrete has thoroughly hardened. The method of maintaining the proper temperature during hardening shall be subject to prior approval. Obtain Architects approval of any admixtures employed to facilitate cold and hot weather concreting.

POINTING AND CLEANING

- 01 Where walls, slab edges and concrete other than specified to be etched is exposed to view, fill all holes, smooth all irregularities and point smooth with mortar. Concrete shall be steel brushed clean and left in smooth even color.

DIVISION 05**METALS: STRUCTURAL & MISC**

- 01 All work under this heading shall meet requirements of Division I and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Metal Siding, fascia & soffit
- 05 Work furnished to other Divisions for Installation:
- a. To Division 03 - Anchor bolts, leveling plates, angle frame for O.H. door sills.
 - b. To Division 03 – Hairpin reinforcement in concrete slab.
 - c. To Division 04 - Loose lintels, joist & beam bearing plates.
- 06 Work by Others:
- a. By Division 03 - Grouting for column base plates.
 - c. By Section 07H – Metal Fascia & Soffit

SECTION 05A**STRUCTURAL STEEL****GENERAL**

- 01 All steel shall be detailed, fabricated and erected in accordance with the latest specifications for the Design, Fabrication and Erection of Structural Steel for Buildings, and the Code of Standard Practice as adopted by the American Institute of Steel Construction, Inc., for bolted and arc-welded construction.

MATERIALS

- 01 ASTM Designations and strengths for structural steel work shall be as follows:

Items	ASTM Designation	Min. Yield Strength f_y
Structural steel shapes, except angles, bars and plates	A-992 Grade 50 or A-572 Grade 50	50ksi 50ksi
Angles, bars and plates	A36	36ksi
Angles, bars and plates, noted 50ksi on drawings	A-572 Grade 50	50ksi
Steel pipe	A-501 or A-53 Grade B type E or S	36ksi 35ksi
Square and rectangular tubing HSS	A-500 Grade B	46ksi

MEASUREMENTS

- 01 This Contractor shall visit the site and shall verify and obtain all measurements from work previously constructed, which may affect the dimensions of units included under this heading. Report discrepancies to the Architect.

FABRICATION

- 01 Straightening: Material shall be straightened or flattened only to the extent that it will not injure the materials. Sharp kinks or bends shall not be permitted.
- 02 Holes: Shall be punched or drilled, remove burrs. Diameter of holes shall be 1/16" greater than bolt size. All holes shall match, drifting to enlarge unfair holes not permitted.
- 03 Assembling: Pin or bolt to hold members tightly together while making connections to assure best possible fit.
- 04 Welded Connections: Shall be by Electric Arc Method in accordance with latest code of fusion welding of structural steel by the American Welding Society. Connections shall be standard unless otherwise noted or required.
- 05 Bolted Connections: Shall be as per ASTM A-325.
- 06 Welded Connections: Shall conform to the E-70 series of specification for mild steel arch welding electrodes ASTM A233, latest edition. Welding shall be done by certified welders and conform to American Welding Society requirements, latest edition.
- 07 Holes, Cutting, etc: Where indicated on the drawings, provide holes for the installation of materials by other trades. Provide Nelson studs where thru bolting of beams is impractical.
- 08 Shop Painting: Provide one coat of shop paint on all exposed structural members. Painting shall be in accordance with AISC Specifications, latest edition. Paint shall be Grey rust inhibiting primer as manufactured by DeGraco, Rustoleum or Tnemec. See paragraph 05 below for touch-up requirements.

ERECTION

- 01 Bracing: Provide temporary bracing to take care of all loads to which the structure may be subjected, including erection equipment and operation of same. Bracing shall remain in place until all component parts of the structure are installed and as long as required for safety. Remove no bracing without approval of Architect.
- 02 Alignment: Assemble frame as a unit, plumb, align and level all members before making final connections.
- 03 Connections: Field connections shall be electric arc welded as per AWS Code or high strength bolts (ASTM A-325).
- 04 Drifting: Light drifting shall be permitted for slightly unmatched holes. No unfair holes (1/2 diameter or more off center of another hole) permitted.
- 05 Paint Touch-up: Touch-up all blemishes in shop coat of paint due to weathering and erection conditions.

SHOP DRAWINGS

- 01 This contractor shall make complete shop drawings for the work. He shall follow standard detailing practice as to methods and submit drawings for the Architect's review.

02 Shop Drawings must be reviewed before fabrication of steel.

SECTION 05E**METAL SIDING****GENERAL**

- 01 This section shall provide all materials and labor, services and equipment necessary and incidental to the completion of the installation of metal siding and soffits.
- 03 D.P.S. Storage Building Addition work includes:
- a. Siding, Metal Fascia, Metal Soffit.
- 04 Work furnished to others for installation: None
- 05 Work by Others:
- a. By Section 05F - P.E.M.B. Metal Siding & Soffit

MATERIALS

- 01 Metal Siding: Uninsulated metal wall panels shall be as manufactured by McElroy Metal Roofing & Wall Panels. **Max-Rib Ultra** Vertical Siding System, panels shall be 24 gauge galvanized steel, 36" wide x 3/4" depth with rib space at 9" o.c. Color: Standard color as selected by Architect.
- 02 Fastenings: Shall be furnished by manufacturer for adequate securing of panels and compatibility with all metals joined.
- 03 Metal Soffit: Alcoa .016" gauge 12" ventilated V-Groove Panel with F-438 J Channel trim. Color to match siding
- 03 Sheet Metal: Shall be .032" baked enamel on aluminum. Color to match siding.

MATERIAL LOCATIONS

- 01 D.P.S. Storage Building Addition:**
- .1 Metal Siding, Fascia, Soffit: Pole Barn exterior.

INSTALLATION

- 01 Examine supporting members to receive panels and report any defects to General Contractor for correction prior to commencing installation of panels.
- 02 Install metal siding panels vertically with self-tapping or power actuated fasteners at each advancing rib. Panels shall be plumb and true and without intermediate horizontal joints.
- 03 Install metal soffit with J channels according to manufacturers instructions.
- 04 At completion of panel erection touch-up any scratches or blemishes in panels with touch-up paint to match panels.

SUBMITTALS

- 01 Provide Shop Drawings of panels and all proposed accessory pieces for Architects review.

GUARANTEE

- 01 This Contractor shall provide a written guarantee covering defects in workmanship and materials under this contract for a period of one (1) year from date of acceptance of the work.

DIVISION 06**CARPENTRY**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Scaffolding, framing, furring, connectors, etc.
 - b. Trussed Wood Rafters
 - c. Roof Sheathing
- 05 Work furnished by other Divisions and installed by this Division:
- a. By Section 08A-Finish Hardware
 - b. By Section 08B-Metal Doors and Frames
- 06 Work furnished by other Divisions:
- a. By Division 04-Anchor bolts for wood blocking.
 - c. By Division 05H – Rough Bucks & Blocking
 - d. By Division 05E – Metal Siding, Fascia, Soffit at pole barn.

SECTION 06A**GENERAL CARPENTRY WORK****GENERAL**

- 01 This Section includes all work necessary and incidental to the rough carpenter work and shall be executed in a manner consistent with the best practices of the trade.

MATERIALS

- 01 Lumber:
Framing lumber shall be Douglas Fir – Larch, Douglas Fir – South, Hem-Fir or Spruce-Pine-Fir meeting the scheduled requirements as described in Western Lumber Grading Rules:

Lumber Schedule:

Use	Bending Stress F _b	Horizontal Shear F _v	Compression F _c	Modulus of Elasticity
Joists, Headers, Lintels	1000psi	150psi	405psi	1,400,000 ^{#3}
Studs	675psi	150psi	405psi	1,100,000 ^{#3}
Structural Decking Single Member	1400psi		405psi	1,300,000 ^{#3}
Structural Decking Repetitive	1600psi		405psi	1,300,000 ^{#3}

Member				
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Structural Wood Decking shall be tongue and groove (double tongue on 3 & 4" deck), vee joint, Southern Pine is an accepted species for wood decking. Maximum moisture content shall be 15%. Decking shall be furnished with stain/sealer matching laminated finish

03 03 Appearance Grade Lumber:

Use	Grade	Equivalent Idaho White Pine	Moisture Content	WWPA Grading Rules Section No.
Exposed Fascia Wood Trim	B & BTR SELECT	SUPREME	12% Avg.	10.11
Clad Fascia or Trim	2 COMMON	STERLING	12% Avg.	30.12
Wood Siding and/or Soffit - CEDAR	CLEAR HEART SELECT KNOTTY		12% Avg.	20.11 30.12

- a. Surface texture for all appearance grade lumber shall be smooth (rough sawn). Provide grade stamping on back or ends of lumber.
- b. Wood siding profile shall be "Vee" Joint, Tongue & Groove, 3/4" thick, width as shown on drawings (maximum 6"). Furnish lengths as necessary to minimize joints.
- c. For clad members furnish material suitable for maintaining straight, accurate lines to receive cladding. Finger jointed material accepted.
- d. All wood siding shall be acclimated to the surrounding air at the site prior to application. Acclimating procedures shall be in accordance with the WWPA recommendations.

02 Wood Grounds: Utility grade White Pine or Fir.

03 Preservative Treated Material: Shall be pressure impregnated in accordance with National Institute of Standards and Technology (NIST):

- 1. PS 1, U.S. Product Standard for Construction and Industrial Plywood.
- 2. PS 20, American Softwood Lumber Standard.

and American Wood Preservers Association Standards American Wood-Preservers' Association (AWPA):

- 1. Standard C1, All Timber Products – Preservative Treatment by Pressure Process.
- 2. Standard C9, Plywood

All material shall bear an American Wood Preservers Bureau Quality Control Mark. Lumber shall be kiln dried to 19% or less for lumber, 18% or less plywood, after treatment. Material shall meet retention requirements for above ground and for ground contact as employed.

Preservative: Copper azole in accordance with AWPA Standard P5.

04 Fire Retardant Material: Shall meet one of the following tests:

- a. ASTM E-84 b. UL723 c. NFPA 255
and bear the FRTW label on individual members. Reduction in design values for fire retardant material shall meet National Design Specification for Wood Construction minimum adjustments.
- 05 Wall Sheathing: Shall be APA Rated Sheathing, Exterior Exposure 1, C-D plywood of thickness as noted on drawings.
- 05 Non-combustible Wall Sheathing: ½" Dens-Glass Gold as manufactured by Georgia Pacific. Gypsum Sheathing manufactured in accordance with ASTM C1155 with glass mats on both sides and long edges, water resistant treated core. Note: This material contains filament fiberglass – utilize gloves, eye protection and respirator. Follow manufacturers written instructions
- 06 Roof Sheathing: Shall be APA Rated Sheathing, Exterior Exposure 1, 5/8" thick, C-D plywood.
- 08 Plywood: For interior work-Group 1, Interior Type, A-D Grade where back is not viewed: A-B where exposed. Thicknesses as detailed on Drawings. For exterior work - Group 2, Exterior Type, B-B Grade.
- 09 Wood Trussed Rafters: Shall be as manufactured by Michigan Timber and Truss Company, Century Truss Company or Hart Truss & Engineering in accordance with National Design Specification for Wood Construction, AFPA, and National Design Standard for Metal Plate Connected Wood Truss Construction, ANSI/TPI 1-1995 and the Michigan and International Building Codes. Trusses shall be designed for indicated loading. Provide shop drawings for Architect's review prior to fabrication and for local building authority if required.
- 10 Adhesive: Construction adhesive meeting ASTM C557.
- 11 Soffit Vents: Shall be Air Vent Inc. 201/301 .019" aluminum embossed to thickness of .024"
- 12 Sill Sealer: Shall be continuous fiberglass roll, 1/2" thick, width to suit wall condition.
- 13 Infiltration Barrier: Shall be high density polyethylene fiber "breathing" type barrier, Tyvek Housewrap, or Barricade Building Wrap, meeting IBC requirements.
- 14 Metal Accessories: Shall be Simpson Strong-Tie Co., Inc. Accessory finish shall be Simpson ZMAX (G185), Post Hot-Dip Galvanized (HDG) or SST300 Stainless Steel. Stainless steel only is required when type of preservative of members being connected is unknown.

MATERIAL LOCATION

03 D.P.S. Storage Building Addition:

- .1 Framing Lumber: Walls
- .2 Wall Sheathing: Not Used.
- .3 Roof Sheathing: Sloped roof.
- .4 Pressure Treated Lumber: Wherever framing material, blocking, etc. comes in contact with concrete or masonry and where exposed to weather.
- .5 Adhesive: Where required for rigidity of framing or backing.

- .6 Wood Trusses: Sloped Roof.
- .7 Rough Hardware: Wood Connections.

SHOP DRAWINGS

- 01 This Contractor shall furnish shop drawings of all laminated timbers, trusses and engineered joists for Architect review.
- 02 Drawings shall include sizing of all members, stress diagrams and all connectors. Provide erection drawings with instructions on erection procedures, bridging and temporary bracing.
- 03 Where required by local code provide copies of shop drawings to building authority.

TEMPORARY CLOSURES

- 01 This Contractor shall provide weather tight enclosures where necessary over exterior and interior openings.
- 02 Provide temporary doors as required for access to building. Provide locks as necessary for building security.

PROTECTION OF WORK

- 01 This Contractor shall provide such coverings as required to protect wood work from damage of any nature.
- 02 This Contractor shall cover all cut stone work subject to damage.

ROUGH CARPENTRY AND FRAMING

- 01 Provide and install wood stud framing for exterior and interior walls where shown. Studs shall generally be at 16" on center with continuous sill plate and double top plate. Provide cripples and lintels at openings as required. Provide fire stopping where required.
- 02 Provide grounds of required thickness and cross blocking between [metal] studs to receive millwork, toilet room accessories, coat racks and work of other trades.
- 03 Install hollow metal door frames furnished by Division 8 where occurring in steel stud walls and partitions and masonry openings. Frames shall be set accurately and rigidly secured per frame manufacturers directions.
- 04 Place all trussed rafters in accordance with the drawings and approved shop drawings. Note manufacturers installation requirements. Installation shall be in accordance with Handling, Installing and Bracing Wood Trusses, HIB-91, TPI. Provide erection bracing in addition to bridging as required to keep rafters straight and plumb and assure adequate lateral support for the individual rafters and the entire system until the sheathing material has been applied. Provide bridging in accordance with manufacturers standards.
- 05 Sheathing shall be applied with long dimension across joists or studs with alternate sheets staggered. Nail at 6" o.c. along panel edges and 12' o.c. at intermediate supports with 6d common nails. Maintain recommended spacing between sheets with plastic separators.

- 06 Provide 2 x framing at fascia, overhangs, racks, gables.
- 07 Provide Simpson metal accessories for framing members where shown and required to accommodate conditions.
- 08 Set all laminated beam members and lay all wood decking. Follow suppliers recommended practices for securing beams and deck. Touch up all blemishes due to transportation and erection with manufacturers matching stain.
- 09 Provide and install continuous soffit vents in overhangs.
- 10 Install draft stopping and fire blocking where indicated on Roof Framing Plan and wall sections to meet building code requirements. Draft stopping may be either 1/2" gypsum board or 3/8" C-D plywood. Fire blocking in walls and overhangs shall be two thicknesses of nominal 1 inch lumber with broken lap joints, one thickness 23/32" C-D plywood or 1/2" gypsum sheathing with joints backed by 23/32" C-D plywood, or of nominal 2-inch lumber installed with tight joints.
- 11 Install infiltration barrier over exterior wall sheathing throughout prior to installation of windows. Use maximum available material width and install in accordance with manufacturers instructions. Overlap adjacent rolls a minimum of 8". Tape barrier to foundation wall and seal all lap joints with 3M sheathing tape.

ROUGH HARDWARE

- 01 Provide and set all anchors, ties, bolts, nails, etc., required to properly carry out the Carpenter work. Anchors built into masonry walls will be provided and installed by Division 4.
- 02 All connectors, bolts, washers, nuts, screws, nails for pressure treated material shall be hot dipped galvanized or stainless steel to prevent excessive corrosion.

GUARANTEE

- 01 This Contractor shall guarantee that all work executed under this contract shall be free from defect in materials and workmanship for a one (1) year period after date of acceptance.

DIVISION 07**MOISTURE PROTECTION****GENERAL**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Composition shingles and sheet metal work.
 - b. Sealant.
 - c. Gutters & Roof Conductors.
- 05 Work by Others:
- a. By Division 04-Dampproofing.
 - b. By Division 06 – Wood Blocking at Roof Perimeter
 - c. By Division 05 – P.E.M.B. Roofing & Insulation
 - d. By Section 05E – Fascia, Soffit at pole barn.

SECTION 07A**ROOFING AND SHEET METAL WORK**

- 01 All roofing work shall conform to the latest specifications and recommendations of the manufacturer of the materials employed in the work for the structural conditions indicated on the drawings. Sheet metal work shall generally follow the recommended practices of the SMACNA Architectural Manual. All work shall be installed by skilled mechanics of the trade and executed in a manner consistent with the best practices of the trade.

MATERIALS

- 01 Composition Shingles Type "A": Shall be Owens: ASTM D 3161 Self-Sealing; UL Wind Resistance, and UL Class A Fire Resistance; High Tear Resistance ASTM D3462; Class A Fiber Glass Composition. 25 year limited warranty against manufacturing defects, 5 year Sure Start protection labor and material guarantee. Submit samples to architect to confirm they match existing.
- Color "B" – Burnt Sienna (Verify in field to ensure match with existing. All selections to be verified w/ Owner and Architect)
- 02 Ice and Water Shield: Shall be WR Grace & Company "Ice & Water Shield" or CertainTeed "WinterGuard" Waterproofing Shingle Underlayment.
- 03 Sheet Metal: Shall be .032" baked enamel on aluminum. Color as selected by Architect.
- 04 Shingle Underlayment: 15# asphalt impregnated roofing felts.
- 05 Fastenings: Nails, screws, etc., shall be best grade to meet compatibility requirements of material being secured.
- 06 Elastic Cement: Federal Spec. SS-C153.
- 07 Roof Ridge Vents: Shall be OR-4 OmniRidge as manufactured by Lomanco (800-643-5596).
- 08 Roof Vents: Shall be 770-D Roof Louvre as manufactured by Lomanco (800-643-5596).

MATERIAL LOCATIONS

03 D.P.S. Storage Building Addition:

Shingles – Color “B”: At pitched roofs throughout.

Ice and Water Shield: At all eaves

Underlayment: At shingle roofing throughout.

Gutter & Roof Conductors: See roof plan & Exterior elevations.

INSPECTION

- 01 The roofing contractor shall inspect all surfaces which are to receive his materials and report any discrepancies to the Architect before commencing work. Proceeding with installation of insulation or roofing materials shall indicate acceptance of surfaces by this Contractor.

INSTALLATION01 Composition Shingles:

- a. After installation of metal edgings (drip edge) and ice and water shield, provide single Underlayment for roof slopes of 4 in12 and more and double coverage Underlayment for roof slopes less than 4 in 12.
- b. Provide double thickness starting course.
- c. Install shingles in strict accordance with manufacturers specifications and instructions, utilizing as a maximum 5" exposure and 2" head lap and a minimum of 4 nails per shingle or equivalent staples. Roofing shall be applied by roofer approved by manufacturer.
- d. Integrate shingle installation with flashing conditions specified under FLASHINGS,
- g. Install ridge vents at ridges & roof vents where shown.

02 Flashings:

- a. Hip and ridge flashing shall match shingles, triple start, double lap. Provide edge flashings as detailed at perimeter of roof throughout. Valley flashings shall be "closed valley" type. Where new roof meets existing building roof provide interweaving of existing and new shingles.

03 Ice and Water Shield:

- a. Ice and water shield shall be installed in accordance with manufacturers specifications. Temperature shall be above 40°F for installation. Plywood sheathing shall be primed with manufacturers recommended sealer. Width of installation shall carry membrane to a point 24 inches into the heated area of building.

04 Gutters and Roof Conductors:

- a. Provide SMACNA Figure "A", Plate 18 K Style gutter, roof conductor profile with Plate 35 Figure "A" hanger design.
- b. Provide flexible plastic boot at connection to underground storm line.

WORKMANSHIP CERTIFICATION

- 01 The roofing contractor shall submit written certification, in approved form, that all materials and workmanship in connection with the roofing system have been installed in complete conformance

with the drawings and specifications, and with the manufacturers specifications and requirements for the particular type of roof called for. This certification must also contain a statement by the manufacturer that the materials furnished by him are without defect.

GUARANTEE

- 01 This Contractor shall provide a written guarantee covering defects in material and workmanship under this contract for a period of two (2) years after acceptance of work.

SECTION 07B

SEALANT WORK

GENERAL

- 01 This Section shall provide all materials and labor, services and equipment necessary and incidental to the completion of the installation of sealant material.
- 02 Work by Others:
 - a. By Section 08D-Sealant at Store Front Work.

MATERIALS

- 01 Sealant: Shall be One-part, non-sag, acrylic latex compound for interior work; Epoxidized Polyurethane Terpolymer for exterior work; self-leveling epoxidized urethane for control and expansion joints in sidewalks and pavements, Tremco, Sonneborn, Polymeric Systems or Dow Corning Sealants. Color as selected by Architect.
- 02 Back Up Material: AET. Inc. HBR Backer Rod. Williams Products, Inc. Backer Rod or Expand-O-Foam Cord.
- 03 Standards: ASTM C962 - Use of Elastomeric Joint Sealants. ASTM D 1752-Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

MATERIAL LOCATIONS

03 D.P.S. Storage Building Addition:

- .1 At hollow metal door frames-interior and exterior, both sides.
- .2 At control joints-exterior; interior where exposed to view.
- .3 Elsewhere as required for weather tight construction.

- 02 Back Up Materials: Shall be used to control depth of sealant per schedule herein. Use Foam-Cord where joints vary in width.

SUBMITTALS

- 01 Submit color samples of sealants to be used, together with sealant bond breaker, if applicable, and joint backing. Samples shall be accompanied by Manufacturers Literature and Certification.

DELIVERY, STORAGE, AND HANDLING

- 01 Deliver materials in manufacturer's original, unopened containers.
- 02 Store between 40 and 90 degrees F.

DEPTH OF SEALANT SCHEDULE

- 01 Schedule:

SEALANTS		Joint Width Condition			
		Min. 1/4"	1/4" to 1/2"	1/2" to 1"	1" to 2"
Dept	Concrete, Masonry & Stone	1/4"	Same as Width	One-Half Width	Max. 1/2"

	Metal, Glass and Non-Porous Materials	1/4"	1/4"	One-Half Width	Max. 1/2"
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- 02 Install joint backing to control joint depth as indicated and to prevent 3-sided bond.

PROJECT CONDITIONS

- 01 Do not apply clear water repellent sealers, waterproofing compounds, or other architectural coatings to surfaces to which sealers will be applied without first verifying compatibility.
- 02 Verify that dimensions are correct and substrate is in proper condition for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

INSTALLATION

- 01 General: Install sealants in accordance with manufacturer's printed instructions and the requirements of ASTM C 962.
- 02 All surfaces receiving sealant material shall be clean and dry before sealing. See above schedule for allowable depths of sealant related to width of joint.
- 03 Installation of all work shall be when air temperature is above 40 degrees F and below 80 degrees F, unless manufacturer submits written instructions for use of his material beyond this range.
- 04 Mask adjacent finished surfaces and adjacent porous surfaces that would be damaged by primer, sealant, or cleaning agents.
- 05 Prime each joint with primer as recommended by sealant manufacturer for material employed. No bond should occur between backer rods and sealant.
- 06 The sealing compound shall be forced in the opening with a caulking gun having a nozzle not less than 3/8" in diameter so as to fill the opening completely, making a neat, smooth bead. Sealant work shall be done in a neat, professional manner without sags, overlaps or uneven distribution. Clean any overruns from adjacent materials.

DIVISION 08**HARDWARE, DOORS, WINDOWS, AND GLASS**

- 01 All work under this heading shall meet requirements of Division 1 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Finish Hardware.
 - b. Metal Doors and Frames.
 - c. Sectional Doors

SECTION 08A**FINISH HARDWARE****GENERAL**

- 01 This Finish Hardware Supplier shall furnish all finish hardware required in connection with the work except that which is specifically called for under the other Divisions of the Specifications.
- 02 Work by Others:
- a. By Section 06B-Hardware for all millwork items.
 - b. By Section 08D-Hardware for store front items, except KP series lockset.
- 03 Work Furnished to Others for Installation:
- a. To Section 06B- All Finish Hardware except for store front material
 - b. To Section 08D- KP series lockset for all store front entry.

PACKING AND DELIVERY

- 01 All hardware shall be securely packed. Each package shall be clearly identified with an item number and the corresponding set number used in the Door Schedule, Sh. No. A3P, A2D, A1S of the Drawings.
- 02 The Finish Hardware Supplier shall deliver all hardware to the job site and obtain a receipt from the Carpenter Contractor for all items delivered in each shipment. He shall inform the Carpenter Contractor that all discrepancies between the hardware delivered and the list accompanying same shall be reported immediately and that the Carpenter Contractor shall be responsible for all missing items not reported.

REQUIREMENTS OF REGULATORY AGENCIES

- 01 All hardware furnished in connection with Doors bearing underwriters labels or where necessary to meet special requirements shall be strictly in accordance with conditions established by governing authority and subject to the approval of that authority.
- 02 All hardware shall comply with the accessibility guidelines of the Americans with Disabilities Act of 1990, effective January 26, 1992, State of Michigan Barrier-Free Code, Current Edition, IBC, NFPA 101, NFPA 80 and UBE Code - all Current Editions.

INSTALLATION

- 01 Locate hardware pieces from finish floor to center line of item per door and frame manufacturers' standard location.

KEYING

- 01 All cylinders shall be master keyed to the Owner's requirements. A meeting shall be arranged with the Owner to establish a keying system prior to ordering of any locks or cylinders.

- 02 Furnish two (2) change keys per cylinder.

MATERIALS

- 01 Scheduled Manufacturers: The following manufacturers will be used to establish type, grade quality and design and are the basis of the Hardware Sets.

- a. Hinges-Hager
- b. Locks and Cylinders: **Police** – Sargent **DPS** – Schlage
- c. Door Closers - Norton
- d. Push & Pulls, etc.- Rockwood
- e. Weatherstripping, Sound Seals, Thresholds, Sweeps-National Guard
- f. Holders, Wall and Floor Stops, Lock protectors - Glynn-Johnson
- g. Exit Devices-Monarch
- h. Pivots - Hager
- i. Electromagnetic Holders - Norton
- j. Bi-fold and Sliding Door Hardware – Lawrence
- k. Floor Closers – Rixon
- l. Surface Mounted Automatic Door Operator – K.M.
- m. Automatic Door Operator Switches – Sedco
- n. Flush Bolts – Any Member of BHMA

- 02 Acceptable Alternate Manufacturers: In addition to the manufacturers named under Materials, the following and only the following may be used providing their products are of equal type, grade, quality, design and material:

- a. Hinges-Boomer, Lawrence, Stanley or McKinney
- b. Locks & Cylinders - **None**.
- c. Closers - LCN Smoothee or Sargent 350 Series.
- d. Wall and Floor Stops, Push and Pulls, etc. – Rockwood, Baldwin
- e. Weather Stripping, Sound Seals, Thresholds, Sweeps-Reese, Pemko or Hager Accent
- f. Holders - Rixon or ABH
- g. Exit Devices – Sargent, Von Duprin and Yale
- h. Pivots - Rixon, Dor-o-matic or Glynn Johnson
- i. Floor Closer – Hager
- j. Surface Mounted Automatic Door Operator – Besam, LCN, Door-o-matic
- k. Automatic Door Operator Switches – Besam

MATERIALS

- 01 The materials listed hereunder are the basis of the Hardware Sets. Furnish per description unless otherwise note.

- 02 Hinges: Furnish size 4 1/2" X 4 1/2", class BB1279 at doors with closers, BB1191 at exterior openings, and class 1279 at all others unless specified otherwise.

DPS Building Additions Locksets:

- a. Provide cylindrical locksets or latchsets for exterior and interior schedule doors
 - 1. Cylindrical Locksets: Schalge D-Series. Certified ANSI Series 4000, Grade 1.
 - 04 DPS Building Addition Lockset Trim:
 - a. Lever: RHODES.
 - 05 Push and Pull Hardware:
 - b. Exterior Doors:
 - 1. Push/Pull Rockwood 15847-3/4
 - 2. Mounting: T1001/T1004 or 5
 - 06 Closers: Norton
 - a. Surface: 7500 & 7700 Series, UNI where scheduled.
 - b. Concealed: 7900 Series.
 - b. Concealed: 4900 Series.
 - 07 Kick Plates:
 - a. Rockwood, 18 gauge, 10" high x door width less 1 1/2" at single doors and less 1" at pairs.
 - 08 Overhead Holders and Stops:
 - a. Glynn-Johnson: GJ 80 Series, Exterior; 450 Series, Interior.
 - 09 Wall and Floor Stops: Wall Stops = 60W; Floor Stops = FB 17
 - 10 Exit Devices: Monarch 17-R Series (F-17-R at rated openings), Trim: L-Control Dane.
 - 11 Weatherstripping: National Guard 5050.
 - 12 Sweeps: National Guard C627DkB.
 - 13 Flush Bolts: Manual or automatic type by any member of BHMA whose product is UL listed. Include dust proof strikes with flat rectangular mounting plates.
 - 14 Armor Plates: 48" x 0.050" x door width less 3".
 - 15 Continuous Hinges: Roton 780-112HD, Stanley 500 Series or Markar FM 2000 Series.
 - 16 Thresholds: Model 325 – 1/2" high x 5" wide at ceramic tile; Model 425 - 1/2" high x 5" wide at all other locations.
 - 17 Pivots: Hagar 495, 496 and 497.
 - 21 Lock Protector: Glynn Johnson LP10 13 ga. Stainless Steel (US32D).
 - 22 Dead Bolt: Corbin Russwin DL 2013
- FASTENERS**
- 01 Furnish fasteners of the proper type, size, quantity and finish as follows:
 - a. Machine screws and expansion shields for concrete or masonry.
 - b. Wall grip inserts for hollow wall construction.

- c. Wood or machine screws for closers.

FINISHES

01 Finishes shall be as follows:

- a. Hinges-US26D Satin Chrome (BHMA 626).
- b. Locksets, Latchsets, etc. - US26D Satin Chrome (BHMA 626).
- c. Kick Plates, Push, Pulls, Exit Devices - US32D Satin Stainless Steel (BHMA 630).
- d. Closer - Matching Spray Painted Enamel (Interior), Color anodized aluminum (exterior).
- e. Pivots - US32D Satin Stainless Steel (BHMA 630).

INSTALLATION AND LOCATIONS

- 01 Install hardware according to manufacturers printed instructions and to template dimensions. Refer to Cylinders and Keying regarding replacement of construction cores with final cores.
- 02 Furnish hardware made to template. Supply required templates and hardware locations to the door and frame manufacturers.
- 03 Dimensions are from finish floor to center line of items.
- 04 Include these locations in the Hardware Schedule

CATEGORY	DIMENSION
Hinges	Door Manufacturers Standard
Flush Bolt Levers	72" and 12"
Knobs	Door Manufacturers Standard
Levers	Door Manufacturers Standard
Push-Pull Units	42" C/L Pull portion
Pulls	44" C/L
Push Plates	45" C/L

QUANTITIES

- 01 Furnish one hinge for each 30 inches of door height or fraction thereof.
- 02 Furnish hinges, continuous hinges, exit devices, push and pull hardware, closers, overhead stops, kick plates, armor plates, door edgings, bumpers, stops, bottom seals, weatherstripping, and thresholds for both leaves of pairs unless specified otherwise.

FINAL ADJUSTMENT

- 01 Provide the services of a representative to inspect material furnished and its installation and adjustment, to make final hardware adjustment, and to instruct the Owner's personnel in adjustment, care and maintenance of the hardware.

HARDWARE SETS**DPS Storage Building Addition**

HARDWARE SET NUMBER 16		
Door Numbers	Required Components	Remarks
B1	Hinges	-
	Lockset	-
	WeatherStripping	-
	Threshold	-

SECTION 08B**METAL DOORS AND FRAMES****GENERAL**

- 01 The work of this section includes all labor, material, equipment and service required to furnish hollow metal work for the project.
- 02 Material Furnished to Other Trades for Installation:
- a. To Division 06-Frames in stud walls and block partitions.
- 03 Work by Others:
- a. By Section 08C - door glazing.

CODES AND STANDARDS

- 01 Hollow metal doors and frames shall comply with the ANSI/SDI-100-91 Grade 11-Heavy Duty, Model 2- core materials of polyurethane or polystyrene. All labeled doors and frames shall meet the requirements of the Underwriter Laboratories. Nomenclature and fabrication standards shall meet the established standards of the American National Standards Institute as they may apply to the work.

MANUFACTURERS

- 01 All steel doors, frames or partitions as scheduled on Door Schedule and specified herein use identifications as established by Curries - Division of Essex Industries. Alternate accepted Manufacturers meeting stated requirements herein: Amweld, Mesker, Ceco, Steelcraft and Kewanee.

DOOR FRAMES

- 01 Frames shall be 16 gauge, galvanized at all exterior openings. Frames shall be formed with integral stops and rebates. Provide 4" head frames where detailed. Angle spreaders to be welded to the bottom of jambs to assure safe shipment and perfect alignment in field setting. All frames shall have mitered corners, welded and ground smooth and re-prime painted.
- 02 Frames shall be fabricated to suit wall widths as scheduled and to set on finished floor slab. Angle spreaders shall be removed after completion of adjoining walls.
- 03 A minimum of three anchors shall be provided for each jamb (four for openings over 7'6"). Anchors are to suit the wall conditions. Floor anchor clips shall be welded to each jamb and provided with holes for securing to floor.
- 04 Frames shall be accurately mortised for strike plates and hinges per hardware supplier's templates. Adequate reinforcements shall be provided with steel plates welded to the frame and precisely drilled and tapped to accommodate template hardware. Hinge reinforcement shall be 3/16" plate, minimum. Tape hinge reinforcements to prevent clogging of the tapped holes from mortar. Adequate reinforcements shall be provided for door checks, brackets and other surface applied hardware installed in field.

STICK COMPONENTS

- 01 Where pre-engineered frame components are called for on the drawings they shall match the gauge and profile of adjacent door frames.
- 02 Provide frames for sidelights, partial sidelights, transoms and interior vision windows where shown on drawings.
- 03 Provide open sections, closed sections, base sections, cased open sections, filler sections and corner posts as required to accommodate the indicated design details.

HOLLOW METAL DOORS

- 01 Doors shall be flush type 707N Series, seamless, constructed of 16 gauge cold rolled steel for exterior doors; 18 gauge for interior doors, core materials of polyurethane or polystyrene. Top and bottom of door shall be reinforced horizontally by steel channels full width, spot welded to each face at least 3" o.c. Joints at edges of door shall be continuously welded. Doors to be sound and fire insulated with UL approved material. Door tops to be closed. **All exterior doors shall be galvanized.**
- 02 Hollow metal doors are to be accurately mortised for locks and hinges per hardware manufacturers templates. Adequate reinforcements shall be provided with steel plates welded to the interior reinforcing channels, and drilled and tapped. Reinforcements shall be provided for door closers and other surface hardware to be field mounted.

ACCESSORY ITEMS

- 01 Provide metal drip cap on all exterior door frames without overhead protection.
- 02 Provide three rubber bumpers inserted in face of each stop.
- 03 Provide top caps on all exterior doors.
- 04 Provide astragal on active leaf of all exterior and fire rated pairs of doors.

HARDWARE

- 01 All door hardware shall be furnished by Section 08A -Finish Hardware and installed by Division 06. See Door and Hardware Schedules.
- 02 All doors and frames shall be fabricated to accommodate hardware as scheduled.

UNDERWRITERS LABELS

- 01 As scheduled in Door Schedule provide Underwriters Label on door and frame. Construction shall meet all requirements of UL.

GLASS AND LOUVER OPENINGS

- 01 Provide manufacturers standard glass stops where glazed openings are indicated. Provide UL approved metal glazing stops for fire rated doors with glass lights.
- 02 Provide manufacturers standard inverted "V" blade louvers where scheduled.

PAINTING

01 All doors, frames and partitions shall be thoroughly cleaned of grease, oil and other impurities, filled flush as to completely conceal all seams and welds and given two coats of baked -on rust resisting primer.

02 Field Painting is by Division 09.

SHOP DRAWINGS

01 This contractor shall submit shop drawings for Architect's review, drawings shall include all pertinent material such as material gauges, sizes, swing, hardware list, etc.

SECTION 08F**SECTIONAL DOORS****GENERAL**

- 01 The work under this heading shall provide all materials, labor, services, equipment necessary for and incidental to the installation and furnishing of the sectional doors.
- 02 Work by Others:
- a. By Section 05F - Steel channel frames.
 - b. By Division 16 - Electrical connection.

MATERIALS

- 01 Sectional Doors: Shall be Overhead Door Corporation, sectional steel insulated, model 422, ribbed exterior surface. Provide steel back-up reinforcements at all hardware connections, rubber joint seals, vinyl top cap and rubber bottom bulb seal. 50K cycle springs. R value of 11.69.
- Color selection by Architect.
- Acceptable alternate manufacturer: Crawford, Raynor, Clopay.
- 02 Tracks: Shall be 3" hot dipped galvanized finish with weather seal. Vertical track sections to be continuous angle mounted and fully adjustable for sealing door to jamb. Track shall be standard lift type at all doors.
- 03 Hardware: All hinges and brackets shall be made from galvanized steel. Track rollers shall be hardened steel ball bearing. Provide interior locks on both sides of door. Install handle on inside of door for manual operation.
- 04 Counter balance: Shall be heavy duty, oil tempered wire torsion springs on continuous ball bearing cross header steel shaft. Cables shall be aircraft type, galvanized, with minimum safety factor of 7 to 1.
- 05 Weatherstripping: Provide flexible U-type vinyl seal at door bottom and perimeter seal for head and jambs. Saver Seal Jamb Weatherstripping.
- 06 Sensing Edge: Provide Electric Sensing Edge for all doors with electric operators.
- 07 Glazing: Where indicated on Door Types of Door Schedule provide insulated thermal acrylic window lights.
- 08 Operator: Provide electric operators and all necessary components. Overhead Door Corp. Model JST-1/2 HP, side mounted, with interior three button control.
- b. Provide 2 radio controls for per each new operator at D.P.S. pole barn addition.

LOCATIONS

03 D.P.S. Storage Building Addition:

.1 Storage building. 3 total.

INSTALLATION

- 01 Strictly comply with manufacturers installation instructions and recommendations. Coordinate installation with adjacent work to insure proper clearances and allow for maintenance.
- 02 Instruct Owner's personnel in proper operating procedures and maintenance schedule.

ADJUSTING AND CLEANING

- 01 Test sectional doors for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- 02 Touch-up damaged coatings and finishes and repair minor damage. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer of material or product being cleaned.

GUARANTEE

- 01 This contractor shall guarantee that all work executed under this heading will be sound and free from defects in materials and workmanship for a period of one (1) year from date of final acceptance.

DIVISION 09**FINISHES**

- 01 All work under this heading shall meet requirements of Division I and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.
- 04 D.P.S. Storage Building Addition work included, but not limited to:
- a. Painting
- 05 Work By Others:
- a. By Section 05H – Light Gauge Metal Framing

SECTION 09A**PAINTING AND DECORATING****GENERAL**

- 01 This section includes everything necessary and incidental to the painting and decorating work. All exterior surfaces and interior surfaces in finished areas requiring painting and finishing, for protection or appearance, shall be furnished by this Section.
- 02 The following work is pre-finished or to be finished under other sections of the Specifications:
- a. Acoustic tile; laminated plastic millwork, wood door veneers.
- b. Mechanical equipment including baseboard radiation covers, cabinet heaters.
- 03 The following work is to remain unfinished:
- a. Non-ferrous metals, including aluminum store front material and sash, roofing and siding sheet metal work.

MATERIALS

- 01 Paints, varnishes, enamels, primers, stains, etc., specified herein shall be first line quality of each manufacturer. No substitution from this approved list shall be permitted without the written approval of the Architect.
- a. Primers, fillers, paints and enamels: Glidden, Benjamin Moore, Pratt & Lambert, O'Leary.
- b. Interior Stains and Varnish: Pratt and Lambert, Glidden, Benjamin Moore, O'Leary.
- c. Epoxy Paint: Glidden "Glid-Tile Epoxide", Pittsburgh "Pitt-Glaze" or Benjamin Moore Epoxy.
- d. Block Coating: Sonneborn "Hydrocide Super Color Coat" or Tnemec - "Tneme-Crete".
- e. Block Sealer: Chemprobe " Phylon 1422", Hydroplex 109 or Professional Water Sealant.

PAINTING & FINISHING LOCATIONS**03 D.P.S. Storage Building Addition:**

- .1 Exterior Painting: Hollow Metal Door & Frame; Exposed Steel Pipe Bollards & Angle; Equipment Outcroppings.

COLORS AND SAMPLES

- 01 All colors shall be as selected by the Architect.
- 02 This Contractor shall submit complete selection of colors of paint manufacturer proposed. Samples shall be of ample size to enable accurate evaluation of final appearance.
- 03 Finished work shall match approved samples in all cases.

INSTALLATION

- 01 No painting shall be done on damp surfaces; and the areas in which this Contractor is to work shall be broom clean, before work is started.
- 02 Application of first coat of paint or other material by this Contractor indicates his acceptance of the surface as proper to receive his work.
- 03 This Contractor shall provide drop clothes and coverings as necessary to protect the work he does and the work of all the other trades at all times. He shall make good any damage done to other work in the execution of his contract. Spray painting will not be permitted unless every precaution is taken to protect all adjacent unpainted surfaces from over-spray. Mask all adjacent surfaces where necessary to adequately protect other work.
- 04 Remove all electric plates, surface hardware, etc., before painting. Loosen canopies of fixtures in contact with painted surfaces. Replace after completion of work. Mask all switches and receptacles.
- 05 All materials shall be applied by skilled mechanics. Work shall be neat and true in every respect, without runs or sags. All stained work shall be properly cleaned and sanded smooth before commencing finish work. Putty up all nail holes and other depressions of a minor nature. Putty shall match wood where natural finishes occur. Fill all minor cracks and finish smooth before painting. Runs and sags appearing in finish work shall be sanded smooth and entire surface refinished.
- 06 Where existing work is scheduled to be refinished do all necessary preparation work, sand surfaces, and make all effort to provide completed finish to match new work as far as practicable.
- 07 A coat of paint or varnish shall be defined as a minimum of 2 mils, dry thickness.
- 08 Each coat of paint shall be allowed a minimum of 12 hours drying time before being re-coated.
- 09 Method of application of paint shall be as scheduled.
- 10 Provide and install Vinyl Fabric in accordance with the following:
 - a. Application of the materials shall indicate this Contractor's acceptance of the surface to receive his work.
 - b. Prime all gypsum drywall walls with an approved drywall sealer that receives vinyl fabric.
 - c. All seams shall be closely and neatly butted, air pockets & bubbles eliminated, and a firm bond provided between fabric and subsurface.
 - c. Maintain minimum 3" clearance from floor line to allow for adhesive where vinyl base is scheduled. Maintain minimum 6" wrap-around at all exterior corners.

PAINTING SCHEDULE

01 EXTERIOR WORK

- a. Ferrous Metal (Brush)
 - 1. 1 coat primer (by Supplier).
 - 2. 1 coat exterior undercoat, tinted.
 - 3. 1 coat exterior trim enamel.
- b. Exposed Block (Roll or Spray)
 - 1. 1 coat Latex block filler.
 - 2. 2 coats block coating.

02 INTERIOR WORK

- a. Gypsum Board where scheduled for paint (Spray or Roll)
 - 1. 1 coat (Latex) primer sealer, tinted
 - 2. 1 coat eggshell enamel.
 - 3. 1-1/2 to 2 mils per coat.
- b. Ferrous Metal (Brush)
 - 1. Sand rust spots and touch-up, primer.
 - 2. 1 coat Alkyd primer, tinted
 - 3. 1 coat Alkyd eggshell enamel.
- d. Wood Natural Finish (Brush) Wood Trim
 - 1. Sand, wipe.
 - 2. 1 coat P & L Tonic Stain, sand lightly.
 - 3. 1 coat P & L Polyurethane varnish, satin , sand lightly.
 - 4. 1 coat P & L Polyurethane varnish, satin, Steel Wool.
- e. Block (Paint) (Roll or Spray)
 - 1. 1 coat block filler.
 - 2. 1 coat eggshell enamel.
- f. Block Epoxy (Roll)
 - 1. 1 coat block filler-apply with stiff brush, fill all pores and voids, roll out all brush marks.
 - 2. 1 coat epoxy paint semi-gloss-minimum thickness: 12 mils dry.
- g. Concrete Floors (Brush or Roll)
 - 1. 1 coat Epoxy - cut 50%.
 - 2. 1 coat Epoxy.

GUARANTEE

- 01 This Contractor shall guarantee his work for a period of one (1) year from date of final acceptance against defects due to faulty workmanship or material.

SECTION 09C**GYPSUM DRYWALL****GENERAL**

- 01 The work under this Section shall provide all materials, labor, protections and appliances necessary to furnish, deliver, and install gypsum board panels indicated on the Drawings and noted herein. Gypsum panels are identified as "Drywall" or "Gyp. Bd." on drawings.
- 02 Work by Others:
- a. By Section 05H – Metal studs and framing, furring, insulation, sill sealers.

MATERIALS

- 01 All gypsum board materials described herein are as manufactured by United States Gypsum Company and shall be installed in accordance with its printed instructions. All structural members shall be as manufactured by Unimast Inc., and designed in accordance with American Iron and Steel Institute (AISI) "Specification for the Design of Cold-Formed Steel Structural Members" and conform to the requirements of ASTM A446 with a minimum yield strength of 401 ksi for SJ studs and 33 ksi for CR runners. All structural members shall be zinc coated, meeting ASTM A525.
- a. Accepted Alternate Manufacturers: National Gypsum Co., U.S. Steel Super C Steel Framing, Wheeling Steel Framing, CECO, Dale/Incor.
- 02 Gypsum Panels:
- a. Face Boards: Shall be 5/8" tapered edge Sheetrock SW, 48" wide in lengths as long as practical to minimize the number of joints; 5'8" Sheetrock Firecode (ASTM C36, Type "X") where required for fire rated construction. W/R Regular Gypsum Panels where required for water-resistant construction, Sheetrock Gypsum Sheathing for exterior usage.
- b. All exterior panels shall be foil backed to provide a vapor barrier.
- c. High Impact Boards: Shall be 5/8" Fiberock Brand VHI Panels.
- 03 Joint System: U.S. Gypsum "Perf-A-Tape" joint system.
- 04 Fasteners: Per Selector Guide for USG Screws - for conditions of use.
- 05 Accessories:
- a. Corner Bead - USG No. 104 Dur-A-Bead.
- b. Casing Bead - USG No. 200A or 200B Type metal trim.
- c. Control Joint - USG No. 093.
- 06 Carrier Channels: 16 gauge cold rolled steel channels.
- 07 Adhesive: USG Durabond 200 or 300 adhesive.
- 08 Caulking: USG Sheetrock Acoustical Sealant.
- 09 Access Panel: Milcor 3208-024, prime painted steel.
- 10 Primer-Surfacer: USG Sheetrock Brand Primer-Surfacer Tuff-Hide.

MATERIAL LOCATIONS

03 **D.P.S. Storage Building Addition:** At interior demising wall

INSTALLATION

01 General:

- a. This Contractor shall inspect all walls, grounds, surfaces, hangers, electrical boxes, heating outlets, etc., by other trades and assure himself that all are true and secure. Defective work shall be reported and corrected before proceeding with the work. No work of other trades shall be covered until installations are complete, tests and inspections made, and approval given.
- b. The temperature of the area where the gypsum panels are being applied shall be maintained between 45 degrees and 70 degrees and adequate ventilation shall be provided to eliminate excessive moisture.
- c. Material shall be applied by skilled mechanics, properly trained and experienced in the application of the board and joint treatment.
- d. System shall generally consist of 5/8" gypsum panels suspended or applied over steel framing. Drywall shall be applied with manufacturer's approved screws, and joints treated with tape and joint compound.

02 Walls:

- a. Before applying gypsum board, install metal casing bead at termination of work, specifically where drywall abuts masonry, door frames etc. Use maximum lengths of material available to avoid joints.
- b. Apply gypsum panels vertically to studs or furring. Position all edges over studs. Use maximum practical length to minimize joints. Fit ends and edges closely, but not forced together. Install panels with USG screw application method. Secure panel at top and bottom.
- c. Corner beads shall be applied to all external corners of the boards. Beads shall be set plumb and in the plane of the board. Corner beads shall be straight and true, without bends, butt joints or crimps.
- d. Provide control joints at all construction changes in the plane of the panels, and for partition or ceiling runs exceeding 30 feet.

04 Joint System:

- a. Using a suitable tool or machine, a thin uniform layer of joint compound approximately 3" wide shall be applied over the joint to be reinforced. The tape shall be centered over the joint and seated into the compound, leaving sufficient compound under the tape to provide proper bond. Excess compound shall be cleaned from the surface of the board.
- b. The tape shall be covered with topping spread evenly over and slightly beyond the tapered edge area of the board and feathered at the edges. After the previous coat is

dry, it shall be covered with a second coat of topping with a smooth uniform slight crown over the joint and the edge feathered slightly beyond the preceding coat. All dimples at nail heads shall receive three coats of joint compound.

- e. Flanges of all corner beads and casing beads shall receive at least two coats of joint compound. When completed, the compound shall extend approximately 8" to 10" on either side of the exposed nosing. Columns and ceiling drops, less than 20" wide shall have full bed of compound between beads.
- f. All coats in finished ceiling areas shall be sanded as necessary after each application of joint compound has dried. The final coat and subsequent sanding shall leave gypsum wallboard and treated areas uniformly smooth and ready to receive paint finish.
- g. All panels in concealed ceiling areas shall be "fire taped" only to seal off attic space.

CLEANING

- 01 Upon completion of work, remove all debris resulting from the work and leave areas in neat condition for subsequent trades.

PROTECTION

- 01 Protect all wood, glass, aluminum and other finished work during the progress of work and make good any damages done to such work.

GUARANTEE

- 01 This Contractor shall guarantee all materials and workmanship under this heading for a one (1) year period from the date of acceptance. The guarantee shall include repainting of areas damaged due to defects under this heading.

DIVISION 10**SPECIALTIES**

01 All work under this heading shall meet requirements of Division 01 and Instructions to Bidders and include everything necessary and incidental to completion of items outlined.

04 D.P.S. Storage Building Addition work included, but not limited to:

10A Fire Extinguishers

SECTION 10A**FIRE EXTINGUISHERS**

01 Furnish and install fire extinguishers and/or cabinets where indicated on the drawings and scheduled below. Approved Manufacturers: JL Industries (Models indicated), Larsen, Ansul, American LaFrance, Kidde.

02 Schedule of Extinguishers: DPS Storage Building Addition

LOCATION	TYPE	CAPACITY	REMARKS	QUANT.
Adj. to service doors	Surface Mounted	Cosmic 10E	Red Enamel Finish	03

03 Install extinguishers prior to final inspection of work. Verify locations on drawings with local Fire Marshal.

04 Furnish Academy (Color anodized aluminum) 1025V10 Doors and Trim for all cabinets. Cabinet rough in size - 10 1/2" W x 24" H x 6" D.

05 Locate bottom of recessed cabinets 24" above finished floor line.