

PROJECT MANUAL

for

GAYLORD COMMUNITY SCHOOLS

SF3.8 – 2024 SINKING FUND PROJECTS

BID PACKAGE NO. 1

Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation

PROJECT NO. 0284-20H

March 1, 2024



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DOCUMENT 00 01 01

PROJECT TITLE PAGE

PROJECT NAME: GAYLORD COMMUNITY SCHOOLS
PROJECT 3.8 – 2024 SINKING FUND PROJECTS
BID PACKAGE NO. 1
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation

OWNER: Gaylord Community Schools
615 South Elm Street
Gaylord, MI 49735
Contact: David Parsell, Transportation and Maintenance Director
Telephone: 989/731-5230

ARCHITECT: Anthony Esson, Architect

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Gaylord, MI 49734

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Contact: Anthony P. Esson, Architect, LEED AP
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Gaylord, MI 49735
jkowatch@jlkengineering.com

**CONSTRUCTION
MANAGER:** Sugar Construction, Inc.
2968 Venture Drive
Midland, MI 48640
Contact: Jerry Brown, Project Manager
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jerrybrown@sugarconstruction.com

DOCUMENT 00 01 10

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INVITATION TO BID

Project:

GAYLORD COMMUNITY SCHOOLS
PROJECT SF3.8 – 2024 SINKING FUND PROJECTS
BID PACKAGE NO. 1
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation

Owner:

Gaylord Community Schools
615 South Elm Street
Gaylord, MI 49735

Architect/Engineer:

Anthony P. Esson, Architect, PLLC
PO Box 479
Gaylord, MI 49734

Date: March 1, 2024

Gaylord Community Schools will receive Bids from qualified Trade Bidders for renovation work at the Gaylord High School building located at 90 Livingston Blvd., Gaylord, MI 49735 and at the Gaylord Intermediate School Building located at 240 East Fourth Street,, Gaylord, MI 49735..

In general, the work comprises replacement of designated shingle roofing with new membrane roofing, and renovation of the locker rooms at Gaylord High School. The work also comprises replacement of designated soffits at Gaylord Intermediate School.

Sealed Bids may be delivered in person to Gaylord Community Schools, c/o Joe Hart, Business Manager, 615 South Elm Street, Gaylord, MI 49735. Bids must be received prior to 10:30 AM local time on March 25, 2024. Bids will be opened publically and read aloud at 1:30 PM local time on March 25, 2024, in the Board Meeting Room in the BOECC building, 615 South Elm Street, Gaylord, MI 49735. The Owner will not consider or accept a bid received after the date and time specified for bid submission. Post Bid Interviews with the apparent low Bidder(s) will be scheduled following receipt of Bids. All Bids will be evaluated at a later date.

There will be a Pre-Bid Meeting conducted by the Construction Manager, Owner and Architect/Engineer at 3:30 PM local time on March 14, 2024. The meeting will convene in the Gaylord High School Commons, 90 Livingston Blvd., Gaylord, MI 49735. The Pre-Bid Meeting will consist of a brief informational meeting

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followed by an opportunity for Bidders to examine the Project site. Attendance by Bidders is not mandatory, but is strongly recommended.

The Owner requires that the work be substantially complete and approved for occupancy by the Bureau of Construction Codes no later than end of business August 16, 2024.

The Construction Manager will award the contracts for work on or about April 9, 2024.

Bidding Documents will be available on or about March 4, 2024. Interested Bidders may view and download bidding documents at www.sugarconstruction.com/current-bids. Select Gaylord Community Schools, SF3.8 – 2024 Sinking Fund Projects; Bid Package No. 1.

Bidding Documents will also be on file at the following Plan Rooms.

Builders Exchange Traverse City, Grand Rapids, Lansing, and Saginaw

Each Bidder shall include with its Bid, a sworn and notarized statement disclosing any familial relationships that exist between the owner or any employee of the Bidder and any member of the Board of Education of the Superintendent of the School District.

Compliance with the Iran Economic Sanctions Act (PA 517 of 2012) is required. Each Bidder shall include a sworn and notarized certification that they are not an "Iran Linked Business" as the term is defined in the Act.

A Bid security in the amount of no less than 5 percent of the Bid Sum in the form of a Bid Bond, or certified check payable to the Owner shall accompany each Bid. A personal or company check does not constitute a Bid security.

Refer to other bidding requirements described in Document 00 21 13.

Bids shall be submitted on the Bid Form provided in the Bidding Documents. Bidders may supplement this form as appropriate.

Trade Bidders will not be required to furnish Performance and Labor/Material Payment Bonds for this project.

Bids will be required to be submitted under a condition of irrevocability for a period of 60 days after submission.

The Owner reserves the right to accept or reject any or all Bids, either in whole or in part; to award the Contract to other than the lowest Bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interest of the Owner.

END OF DOCUMENT

DOCUMENT 00 21 13

INSTRUCTIONS TO BIDDERS

1.1 SUMMARY

- A. Document Includes:
 - 1. Bid submission.
 - 2. Intent.
 - 3. Work identified in contract documents.
 - 4. Contract Time.
 - 5. Definitions.
 - 6. Contract Documents identification.
 - 7. Availability of documents.
 - 8. Examination of documents.
 - 9. Inquiries and Addenda.
 - 10. Product substitutions.
 - 11. Site examination.
 - 12. Prebid conference.
 - 13. Subcontractors.
 - 14. Submission procedure.
 - 15. Bid ineligibility.
 - 16. Security deposit.
 - 17. Performance Assurance.
 - 18. Bid Form requirements.
 - 19. Fees for changes in the Work.
 - 20. Bid Form signature.
 - 21. Familial Disclosure Statement
 - 22. Iran Economic Sanctions Act Compliance Affidavit
 - 23. Selection and award of alternates.
 - 24. Bid opening.
 - 25. Duration of offer.
 - 26. Acceptance of offer.

- B. Related Documents:
 - 1. Document 00 11 16 - Invitation to Bid.
 - 2. Document 00 31 00 - Available Project Information.
 - 3. Document 00 41 13 - Bid Form - Stipulated Sum (Trade Contract).

1.2 BID SUBMISSION

- A. Bids signed and under seal, executed, and dated will be received by Gaylord Community Schools c/o Joe Hart, Business Manager, 615 S. Elm Street, Gaylord, MI 49735, until 10:30 AM local time on the 25th day of March, 2024.
- B. Bids submitted after the above time will be returned to Bidder unopened.
- C. Amendments to submitted Bids will be permitted when received in writing prior to bid closing and when endorsed by the same party or parties who signed and sealed the Bid.
- D. Bidders may withdraw their Bid by written request at any time before bid closing.

1.3 INTENT

- A. The intent of this Bid request is to obtain an offer to perform Trade Contract work to complete the Work described in the Contract Documents.
- B. This is a “Construction Management as Constructor” project and there will be no “general contractor”. The Construction Manager will award trade contracts for each Bid Category as described below:
 - 1. Bid Category 6.0 - General Trades
 - 2. Bid Category 7.0 – Roofing
 - 3. Bid Category 9.3 – Fluid Applied Flooring
 - 4. Bid Category 9.5 – Drywall EIFS
 - 5. Bid Category 9.9 – Painting
 - 6. Bid Category 15.5 – Fire Suppression
 - 7. Bid Category 16.0 – Electrical

1.4 WORK IDENTIFIED IN CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises renovations and improvements to Gaylord High School and Gaylord Intermediate School as described in the drawings, specifications and specific Bid Categories for each trade discipline.
- B. Locations:
 - 1. Gaylord High School located at 90 Livingston Boulevard, Gaylord MI 49735.
 - 2. Gaylord Intermediate School located at 240 East Fourth Street, Gaylord, MI 49735.

1.5 CONTRACT TIME

- A. Perform the Work within time stated in Document 00 52 14, Sample Subcontract Agreement, and Sample Subcontract Agreement - Exhibit "A". The Bidder, in submitting an offer, accepts the Contract Time period stated for performing the Work.

1.6 DEFINITIONS

- A. Bidding Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Information Available to Bidders, Bid Form, and bid securities, identified
- B. Contract Documents: As defined in AIA Document A201-2007 Article 1, including issued Addenda.
- C. Bid: Executed Bid Form and required attachments submitted in accordance with these Instructions to Bidders.
- D. Bid Price: Monetary sum identified by the Bidder in the Bid Form.

1.7 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as Project No. 284-20H Gaylord Community Schools Project SF3.8 – 2024 Sinking Fund Projects; Gaylord High School Roof and Locker Room Renovation and Gaylord Intermediate School Soffit Renovation as prepared by Anthony P. Esson, Architect.

1.8 AVAILABILITY OF DOCUMENTS

- A. Bidding Documents may be obtained as stated in Invitation to Bid.
- B. Partial sets of Bidding Documents will not be issued to Bidders.
- C. Bidding Documents are made available only for the purpose of obtaining offers for this Project. Their use does not grant a license for other purposes.

1.9 EXAMINATION OF DOCUMENTS

- A. Bidders are responsible for full examination of the drawings, specifications, exhibits and any Addenda prior to submission of bids.
- B. Bidding Documents may be viewed at the office of the Owner
- C. Upon receipt of Bidding Documents verify documents are complete. Notify Architect/Engineer if documents are incomplete.
- D. Immediately notify Architect/Engineer upon finding discrepancies or omissions in Bidding Documents.

1.10 INQUIRIES AND ADDENDA

- A. Direct questions in writing to Anthony P. Esson, at the office of the Architect/Engineer; e-mail at tony@anthonyessonarchitect.com.
- B. Verbal answers are not binding on any party.
- C. Submit questions not less than 7 days before date set for receipt of Bids. Replies will be made by Addenda.
- D. Addenda may be issued during bidding period. Addenda will be posted on the Construction Manager's website. Addenda become part of the Contract Documents. Include resultant costs in the Bid Price.

1.11 PRODUCT SUBSTITUTIONS

- A. Where Bidding Documents stipulate particular Products, substitution requests will be considered by Architect/Engineer up to 5 days before receipt of Bids.
- B. With each substitution request, provide sufficient information for Architect/Engineer to determine acceptability of proposed products.
- C. When a request to substitute a Product is made, Architect/Engineer may approve the substitution. Approved substitutions will be identified by Addenda.
- D. In submission of substitutions to Products specified, Bidders shall include in their Bid, changes required in the Work, changes to Contract Time and Contract Price to accommodate such approved substitutions. Later claims by the Bidder for an addition to the Contract Time or

Contract Price because of changes in Work necessitated by use of substitutions will not be considered.

1.12 SITE EXAMINATION

- A. Examine Project site before submitting a Bid.

1.13 PREBID CONFERENCE

- A. A Bidders conference is scheduled for 3:30 PM on the 14th day of March, 2024. The meeting will convene in the Gaylord High School Commons located at 90 Livingston Boulevard, Gaylord MI 49735. The Pre-Bid Meeting will consist of a brief informational meeting followed by an opportunity for Bidders to examine the project sites. No other opportunity to examine the project sites will be offered.
- B. Attendance is not mandatory but, is strongly recommended.
- C. Representatives of the Owner, Architect/Engineer and Construction Manager will be in attendance.
- D. Information relevant to Bidding Documents will be issued by Addendum

1.14 SUBCONTRACTORS

- A. The owner reserves the right to reject a proposed subcontractor for reasonable cause.
- B. Refer to AIA Document A201-1997 Article 5 of General Conditions.

1.15 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for delivery of Bids in manner and time prescribed.
- B. Submit three copies of executed offer on Bid Forms provided, signed and sealed with required security deposit in a closed opaque envelope, clearly identified with Bidder's name, Project name, Specific Bid Category and Owner's name on the outside.
- C. Each Bid Category must be bid in its' entirety. Bid qualifiers that omit portions of the work will be grounds for rejection.
- D. Bidders may bid more than one Bid Category however each category must be bid separately, using separate Bid Forms, in separate envelopes.
- E. An abstract summary of submitted Bids will be made available to all Bidders following bid opening.

1.16 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, will be declared unacceptable at Owner's discretion.

- B. Bid Forms, Appendices, and enclosures which are improperly prepared will be declared unacceptable at Owner's discretion.
- C. Failure to provide security deposit, bonds or insurance requirements will invalidate the Bid at the discretion of the Owner.
- D. Bidders that are "Iran Linked Businesses" as the term is defined in PA 517 of 2012, Iran Economic Sanctions Act are ineligible to Bid. Eligible Bidders must submit certification in accordance with the Act. Refer to Section 00 45 02.

1.17 SECURITY DEPOSIT

- A. Bids shall be accompanied by security deposit as follows:
 - 1. Bid Bond in the amount of not less than five percent (5%) of the Bid Price on standard surety company form or;
 - 2. Certified check payable to Owner in the amount of five percent (5%) of the Bid Price.
- B. Endorse Bid Bond in name of Gaylord Community Schools as obligee, signed and sealed by the principal (Contractor) and surety.
- C. Endorse certified check in name of Gaylord Community Schools.

1.18 PERFORMANCE ASSURANCE

- A. The Construction Manager will administer this project. All correspondence, submittals, changes to the contract, etc. shall be directed to the attention of the Project Manager: Jerry A. Brown

1.19 BID FORM REQUIREMENTS

- A. Complete requested information in the Bid Form and Bid Form Supplements.

1.20 FEES FOR CHANGES IN THE WORK

- A. Include in the Bid Form, the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Price is based.
 - 1. Overhead and profit fees may not exceed 10%.
 - 2. Overhead and profit fees will be applied to the net cost of additions to, or the net cost of deductions from the Work.

1.21 BID FORM SIGNATURE

- A. Sign Bid Form, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 - 3. Corporation: Signature of a duly authorized signing officers in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the Bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, submit a copy of the by-law

resolution of their board of directors authorizing them to do so, with the Bid Form in the bid envelope.

4. Joint Venture: Signature of each party of the joint venture under their respective seals in a manner appropriate to such party as described above, similar to requirements for Partnerships.

1.22 FAMILIAL DISCLOSURE STATEMENT

- A. Include Familial Disclosure Statement – 00 45 01.
- B. Complete all requested information in the affidavit.
- C. Signature of the affidavit shall be notarized.
- D. Failure of the Bidder to submit a fully executed affidavit will result in disqualification of the bidder.

1.23 IRAN ECONOMIC SANCTIONS ACT COMPLIANCE AFFIDAVIT

- A. Include Iran Economic Sanctions Act Compliance Affidavit – 00 45 02.
- B. Complete all requested information in the affidavit.
- C. Signature of the affidavit shall be notarized.
- D. Failure of the Bidder to submit a fully executed affidavit will result in disqualification of the bidder.

1.24 SELECTION AND AWARD OF ALTERNATES

- A. Indicate variation of Bid Price for alternates listed in the Bid Form. Indicate "difference" in Bid Price by adding to or deducting from base Bid Price.
- B. Bids will be evaluated on total of base Bid Sum with full consideration of alternates.

1.25 BID OPENING

- A. Bids will be opened publicly immediately after time for receipt of Bids. Bidders may be present.

1.26 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of 30 days after bid closing date.

1.27 ACCEPTANCE OF OFFER

- A. The Owner reserves the right to accept or reject any or all offers.
- B. After acceptance by the Owner, the Construction Manager, on behalf of the Owner, will issue to the accepted Bidder, a written Notice to Proceed.

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- C. Notwithstanding delay in the preparation and execution of the Agreement, accepted Bidder shall be prepared, upon written Notice to Proceed, to commence work within (3) days following receipt of official written order of the Owner to proceed, or on date stipulated in such order.
- D. The accepted bidder shall enter into a Contract Agreement with the Construction Manager, and within (5) days following its presentation shall execute Agreement and return it to the Construction Manager.

END OF DOCUMENT

BID CATEGORY 6.0 – GENERAL TRADES

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.

21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.
22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will be given access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

04 05 03 – Mortar and Masonry Grouting
04 20 00 – Unit Masonry Assemblies
08 12 13 – Hollow Metal Frames
08 14 16 – Flush Wood Doors
08 71 00 - Door Hardware
10 21 13 – Toilet Compartments
10 51 53 – Locker Room Benches

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements
02 41 19 – Selective Demolition
07 90 00 – Joint Protection

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Quote alternates as applicable.
3. Perform selective demolition of existing masonry, doors, frames, soffits, fascia and framing, etc, as required for new work. (Includes salvaged toilet accessories)
4. Furnish and install all new masonry work as shown.

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5. Furnish and install any required shoring for the installation of new masonry.
6. All new masonry shall be toothed in to the existing.
7. Furnish and install hollow metal frames and doors.
8. Furnish and install wood doors.
9. Furnish and install all door hardware for hollow metal frames and wood doors.
10. Install wood nailers at roof edges as shown.
11. Furnish and install joint sealants at control joints in masonry and concrete joints.
12. Furnish and install locker benches as shown.
13. Furnish and install toilet partitions.
14. Install salvaged toilet accessories.
15. Furnish and install joint sealants for this Bid Category's work.
16. Provide a dumpster for waste materials generated under this Bid Category and pay all costs for disposal.
17. This Bid Category will be responsible for protection of existing finishes that it may affect.
Damages by this category will be repaired at the expense of this Bid Category.
18. Update the Construction Manager's as built drawings weekly.
19. Provide temporary lunch room facilities as required for this Bid Category's work.

Exclusions:

1. Temporary toilet facilities will be provided by the Construction Manager.

END OF BID CATEGORY 6.0

BID CATEGORY 7.0 – MEMBRANE ROOFING

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and / or Architect's specifications, the Bid Category descriptions shall take precedence.
21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.

22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor provided lunch room facilities. Food or drink will not be permitted outside of the designated area.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will have access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

07 54 19 – Polyvinyl-Chloride Roofing

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under General Requirements

02 41 19 – Selective Demolition

07 90 00 – Joint Protection

Inclusions for This Project: (but not limited to)

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Provide adequate barricading and /or protection as required for the safety of individuals that may be entering the building.
2. Quote Alternates as applicable.
3. This Bid Category shall include a \$15,000 allowance in their proposal for removal and replacement of existing substrate that is found to be unfit to support new roofing.
4. Demolish and dispose of existing roofing materials as noted on the plans. Report any existing substrates that are in need of repair to the construction manager. This will include demo at GIS.
5. Provide a dumpster for the demolition under this bid category and pay all costs for disposal.
7. Furnish and install new roofing and flashing per plans at both schools.
8. Furnish and install joint sealants at adjoining dissimilar materials.
9. This Bid Category will be responsible for protection of existing finishes and/or site conditions that it may affect. Damages by this category will be repaired at the expense of this category.
10. Update Construction Manager's as built drawings weekly.

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11. Provide temporary weather protection as required for unfinished openings.
12. Carefully examine all reference drawings for locations of existing lines, etc.
13. Electrical work is by others. All work required for the completion of the roof installation is the responsibility of this Bid Category.
14. Flash in all mechanical and electrical roof penetrations as required.

Exclusions:

1. Construction Manager will provide temporary restroom facilities.

END OF BID CATEGORY 7.0

BID CATEGORY 9.3 – FLUID APPLIED FLOORING

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.

21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.
22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will have access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

09 67 23 – Resinous Flooring

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements

02 41 19 – Selective Demolition

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Perform all necessary preparation of the existing floor including removal of adhesives.
3. Furnish and install resinous flooring.
4. This Bid Category will be responsible for protection of existing finishes that it may affect. Damages by this category will be repaired at the expense of this Bid Category.
5. Provide temporary lunch facilities for this bid category's work.

Exclusions:

1. Temporary restrooms will be provided by the Construction Manager.
2. Removal of existing carpet and base is by others.

END OF BID CATEGORY 9.3

BID CATEGORY 9.5 – DRYWALL / EIFS

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.

21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.
22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will be given access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

07 24 23 – Direct Applied Finish System
09 21 16 – Gypsum Board Assemblies

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements
07 90 00 – Joint Protection

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Furnish and install metal stud framing and furring.
3. Furnish and install new drywall per plans.
4. Furnish and install exterior finish system as shown.
5. This Bid Category will be responsible for protection of existing finishes that it may affect. Damages by this category will be repaired at the expense of this Bid Category.
6. Furnish contractor lunch facilities as required for this Bid Category.

Exclusions:

1. Temporary restrooms will provided by the Construction Manager.

END OF BID CATEGORY 9.5

BID CATEGORY 9.9 – PAINTING

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.

21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.
22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will have access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

09 90 00 – Painting and Coating

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements

02 41 19 – Selective Structure Demolition

07 90 00 - Joint Protection

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Perform finish painting as detailed on the drawings.
3. Finish paint patch work in masonry in door openings that are scheduled to have frames removed and replaced.
4. This Bid Category will be responsible for protection of existing finishes that it may affect. Damages by this category will be repaired at the expense of this Bid Category.
5. Provide temporary lunch facilities for this bid category's work.

Exclusions:

1. Temporary restrooms will be provided by the Construction Manager.

END OF BID CATEGORY 9.9

BID CATEGORY 15.5 – FIRE PROTECTION

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.

21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.
22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will have access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

21 00 01-General Fire Protection Requirements
21 05 00-Common Work Results For Fire Suppression
21 13 00-Fire-Suppression Sprinkler Systems

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements
02 41 19 – Selective Demolition

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Provide the required permits for work in this Bid Category.
3. Rework Sprinkler piping as required.
4. Furnish a dumpster and pay for disposal of materials demolished under this Bid Category.
5. This Bid Category will be responsible for protection of existing finishes that it may affect. Damages by this category will be repaired at the expense of this Bid Category.
6. Provide temporary lunch facilities for this bid category's work.

Exclusions:

1. Temporary restrooms will be provided by the Construction Manager.

END OF BID CATEGORY 15.5

BID CATEGORY 16.0 – ELECTRICAL

General Inclusions for This Category's Work

1. The term "general contractor" will not apply to any body of work for this project. Each trade discipline will be responsible for such work as described by Bid Category content.
2. Provide all required layout for this Bid Category's work.
3. Provide daily housekeeping and clean up and dispose of any wastes generated by this bid category in dumpster provided by the Construction Manager unless noted otherwise in Specific Inclusions below. "Daily" means daily. Should it be necessary for the Construction Manager to get involved in clean up the costs will be passed along to this contractor.
4. Contractor shall have a competent supervisor on site while performing any work for this bid category.
5. Contractor shall be responsible for coordination and interface with other contractors for the duration of the project.
6. Contractor shall be responsible for the receiving, unloading, storage and storage facilities for materials brought to the site.
7. The owner shall have the right to reclaim demolished materials.
8. All front end paperwork such as insurance certificates, schedule of values, submittals and/or shop drawings must be submitted to the Construction Manager within ten work days of award.
9. Contractor shall be responsible for safe work practices as required by Michigan Laws and as per the safety policy of the Construction Manager.
10. Contractor is responsible for the complete bid documents including drawings, specifications, Addenda, schedules, etc. and shall perform all that is required for a complete product that complies with same.
11. Contractor's representative shall attend scheduled progress meetings each week as directed by the Construction Manager.
12. Any Contractor that knowingly installs their work on another's mistake or faulty work will be responsible for correcting same.
13. All contractors shall complete their work to a fully operational condition in full compliance with governing codes and authorities.
14. Contractors shall obtain and pay all costs for permits that are associated with this categories work. Scheduling inspections by governing officials will be by this bid category and shall be coordinated with the Construction Manager. The Building Permit will be purchased by the Construction Manager.
15. Copies of permits (if applicable) shall be forwarded to the Construction Manager as soon as received. Occupancy approvals shall also be forwarded on or before the date of substantial completion.
16. Contractor shall supply sufficient manpower or any overtime that might be required to meet the project schedule.
17. Contractor is responsible for the protection of existing structures, plants, lawns, trees, etc.
18. Mud and/or debris tracked onto the parking lots, streets or any roadways by this contractor shall be swept and properly cleaned by this contractor.
19. Bid Category descriptions are intended to define the job scope in as much detail as possible however not necessarily "all" inclusive. Each bidder shall review all Bid Categories for a clear understanding of responsibility of scope and should advise the Architect of any conflicts or irregularities that could affect the bidding or the execution of this contract.
20. Should there be a conflict regarding assignment of work between the Bid Category descriptions and notes and/or Architect's specifications, the Bid Category descriptions shall take precedence.
21. All Contractors shall be subject to liquidated damages for failure to meet the specified date of substantial completion as set forth in these documents and/or obtaining a Certificate of Occupancy (temporary or final), by the Michigan Bureau of Construction Codes prior to said date.

22. The Construction Manager will have a safety policy governing the work activities of this project. Each Contractor shall comply with said policy as well as the minimum requirements under Michigan Law.
23. The Construction Manager will designate an area outside the school for contractor lunch room trailers.
24. Smoking is not permitted anywhere on School Property.
25. Questions that arise during the construction period shall be directed to the Construction Manager who will provide the appropriate response. Contractors shall not approach the owner or any persons employed by the owner with job questions or concerns.
26. Certain areas may be occupied by the owner during construction. Profane or abusive language, pornography, etc. will not be tolerated.
27. Provide and maintain dust control for this Bid Category's work.
28. Contractors will be given access to the site from 7:00am to 5:30pm weekdays only. Saturday work may be granted if specifically stated in your bid proposal.
29. All punch list work and all closeout documents must be completed to the satisfaction of the architect before acceptance of any invoice for retainage or any portion of retainage.

The contractor shall provide all labor, materials and equipment to perform the work specified in the construction documents and as set forth in this Bid Category description.

Specifications Included for This Bid Category:

(Total responsibility for these sections in their entirety unless otherwise noted)

26 000 – Electrical (All Sections)

See Electrical Drawings for Electrical Requirements.

Reference Specifications for This Bid Category:

(Include portions of these specifications as they apply to this bid category)

All sections under Division 1 General Requirements

02 41 19 – Selective Demolition

Inclusions for This Project: (but not limited to):

Any work that may be reasonably construed as part of this bid category's responsibility shall be included.

1. Coordination with other trade contractors.
2. Provide required electrical permit.
3. Electrical demolition.
4. Provide a dumpster for the demolition under this bid category and pay all costs for disposal.
5. Provide temporary support for fixtures in ceilings that are to be removed and replaced.
6. Furnish and install new electrical work as shown on the plans.
7. Access through existing ceilings and restoration of same will be the responsibility of this Bid Category.
8. Furnish and install firestopping at all penetrations made by this bid category through fire rated and / or smoke barrier systems.
9. Update Construction Manager's as built drawings weekly.
10. Provide temporary lunch facilities for this bid category's work.

GAYLORD COMMUNITY SCHOOLS
SF3.8 2024 SINKING FUND PROJECTS
BID PACKAGE NO. 1
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation
March 1, 2024

Exclusions:

1. Temporary restrooms will be provided by the Construction Manager.

END OF BID CATEGORY 16.0

**DOCUMENT 00 41 13
BID FORM – STIPULATED PRICE**

To: Gaylord Community Schools
c/o Joe Hart, Business Manager
615 South Elm Street
Gaylord, Michigan 49735

Project: Gaylord Community Schools
Project SF3.8 – 2024 Sinking Fund Projects
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation
Project No. 284-20H

Date: _____

Submitted by: _____
(full name)

(full address)

Estimator _____
(name and telephone)

Bid Category: _____

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Anthony Esson, Architect for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the

Stipulated Sum of: \$ _____ (numerical)

\$ _____ dollars
in lawful (written) money of the United States of America.

- We have included the required security deposit as required by the Instruction to Bidders.
- All applicable federal and/or State of Michigan taxes are included in the Bid Sum.
- We have included the costs of all required construction permits and inspections in the bid sum.
- We have included all allowances as provided in each respective Bid Category.
- We acknowledge that Liquidated Damages will be assessed for our failure to achieve Substantial Completion and/or obtain approval for occupancy from the Michigan Bureau of Construction Codes (where applicable) prior to the dates indicated in the Contract Documents.

2. ALLOCATION OF PRICE

Our Stipulated Sum can be allocated to each project component for information, but not as separate Bids as follows:

That portion of our Stipulated Price allocated to work at Gaylord High School Roof:

\$ _____ (numerical).

That portion of our Stipulated Price allocated to work at Gaylord High School Locker Rooms: School:

\$ _____ (numerical).

That portion of our Stipulated Price allocated to work at Gaylord Intermediate School Soffits:

\$ _____ (numerical).

3. ALTERNATE PRICES

We offer the following alternate prices for specific portions of the Work as required by the Bidding Documents:

Gaylord High School Bid Alternate 1 – Remove Shingle-print membrane and replace with new

Add \$ _____ (numerical).

3. COMBINED BID DEDUCT

If we are awarded a combination of multiple bid categories, a combined bid deduct in the amount stated below may be deducted from the total combined bid of the bid categories indicated:

Deduct \$ _____ (numerical) if awarded Bid Categories _____.

4. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for sixty (60) days from the bid closing date. If this bid is accepted by the Owner within the time period stated above, we will:

- a. Execute the Agreement within five (5) days of receipt of Notice of Award by the Construction Manager.
- b. Commence work within three (3) days after written Notice to Proceed by the Construction Manager.

If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

5. CHANGES TO THE WORK

When the Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:

_____ percent (may not to exceed 10%) overhead and profit on the net cost of our own Work;

_____ percent (may not to exceed 10%) on the cost of work done by any Subcontractor.

6. ADDENDA

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

Addendum # _____ Dated _____

Addendum # _____ Dated _____

GAYLORD COMMUNITY SCHOOLS
SF3.8 2024 SINKING FUND PROJECTS
BID PACKAGE NO. 1
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation
March 1, 2024

7. BID FORM SIGNATURE(S)
The Corporate Seal of

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

(Authorized signing officer

Title)

(Seal)

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

END OF BID FORM - STIPULATED PRICE

DOCUMENT 00 45 01

FAMILIAL DISCLOSURE STATEMENT

The undersigned, as owner or authorized officer of the Bidder, and pursuant to the familial disclosure requirement provided in the advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ (the Bidder) and any member of the Board of Education or the Superintendent of Gaylord Community Schools (the School), except as indicated below:

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

State of Michigan)
) SS
County of)

This instrument was acknowledged before me on the _____ day of _____, 200__, by
_____.

, Notary Public

_____, County, Michigan

My Commission Expires: _____

Acting in the County of: _____

END OF FAMILIAL DISCLOSURE STATEMENT

DOCUMENT 00 45 02

IRAN ECONOMIC SANCTIONS ACT COMPLIANCE AFFIDAVIT

Effective April 1, 2013, all Bids and/or Proposals received by public entities in the State of Michigan must comply with the Iran Economic Sanctions Act, Act 517 of 2012. As a condition to compliance with the Act, the following certification must be submitted with the Bid.

The undersigned, as owner or authorized officer of _____ (the Bidder), pursuant to the requirements of the Iran Economic Sanctions Act, Act 517 of 2012, hereby certifies under civil penalty for false certification, that the Bidder is not an "Iran Linked Business", as defined in the Act, and is eligible to submit a Bid.

By: _____

Its: _____

State of Michigan)
) SS
County of)

This instrument was acknowledged before me on the _____ day of _____, 200__, by
_____.

, Notary Public

_____, County, Michigan

My Commission Expires: _____

Acting in the County of: _____

END OF IRAN ECONOMIC SANCTIONS ACT COMPLIANCE AFFIDAVIT

DOCUMENT 00 52 14

AGREEMENT FORM

1.1 SUMMARY

A. Document Includes:

1. Agreement.

B. Related Documents:

1. Document 00 72 14 - General Conditions.

1.2 AGREEMENT

- A. The Subcontractor Agreement included in this section (see following Sample agreement) forms the basis of Agreement between the Construction Manager and Trade Contractor.

END OF DOCUMENT

SUBCONTRACT AGREEMENT

Construction Manager: Sugar Construction, Inc.
2968 Venture Drive
Midland MI 48640
Phone: 989 631-4154
Fax: 989 631-7012

PROJECT: Project SF3.8 Gaylord 2024 Sinking Fund Projects
Gaylord Community Schools
615 South Elm Street
Gaylord MI 49735

SUBCONTRACTOR: Sample Subcontractor
Address:

Phone:
Fax:
Email:
Attn:

Federal ID #:

SCI JOB #: 885

CONTRACT DATE:

CONTRACT #: 8049

Taxable: Yes

SUBCONTRACT SUM: \$55,000.00 EXACTLY FIFTY-FIVE THOUSAND DOLLARS

CONTRACT DOCUMENTS:

1. This Subcontract Agreement.
2. As described in Exhibit A.

TIME OF COMPLETION: 08/16/2024

1. THE WORK:

- 1.1 The Subcontractor represents that it is fully qualified and licensed to perform this Agreement, and acknowledges that, prior to the execution of this Agreement it has (a) by its own independent investigation ascertained (i) the Work required by this Agreement (ii) the conditions involved in performing the Work, and (iii) the obligations of this Agreement and the Contract Documents; and (b) independently verified all information furnished by the Owner, Construction Manager, or others satisfying itself as to the correctness and accuracy of that information. Any failure by Subcontractor to investigate independently and become informed will not relieve the Subcontractor from its responsibilities hereunder nor serve as a basis for an adjustment to the contract value.
- 1.2 The Subcontractor shall provide all necessary labor, material, equipment, tools, shop drawings, layout, samples, professional services, taxes, permits, fees, licenses, insurances, etc. to perform the Work.
- 1.3 The Work shall be performed in accordance with all applicable local, state and federal codes, laws and regulations (including OSHA and MIOSHA) and in accordance with the Contract Documents.
- 1.4 Subcontractor shall keep the Project free and clean of trash and debris attributable to the Work. On twenty-four (24) hours written notice by the Construction Manager, Subcontractor shall remove all trash and debris or be responsible for the cost, plus twenty percent, incurred by Construction Manager to do same.
- 1.5 The Subcontractor shall furnish a workforce that will work in harmony with all other subcontractors on the Project. The Subcontractor shall not suffer, support or take any action to picket, strike, handbill, engage in sympathy or unfair labor practice strikes, or any work stoppages or otherwise interfere with the Work or the business of the Construction Manager or any of its subcontractors. The Subcontractor shall not suffer its employees to honor or recognize any picket line by any union against the Construction Manager.
- 1.6 Subcontractor agrees promptly to make good, without cost to the Owner or Construction Manager, any and all defects due to faulty workmanship and/or materials which may appear within the guaranty or warranty period established in the Contract Documents or for one year from Owner's acceptance of the Construction Manager's work, whichever is later.
- 1.7 Time is of the essence of this Agreement. Subcontractor shall provide sufficient manpower to complete the Work on or before the Completion Date stipulated herein, including working his forces overtime at no cost to the Construction Manager, if deemed necessary by the Construction Manager to meet the Completion Date.
- 1.8 The Subcontractor shall be bound by the terms of the Specifications, General Conditions and Supplemental Conditions and Addenda in the Contract between the Construction Manager and the Owner, shall conform to and comply with the Drawings and Specifications and Addenda, and shall assume toward the Construction Manager all the obligations and responsibilities that the Construction Manager assumes toward the Owner.
- 1.9 If the Work is delayed, substantially without fault or responsibility of Subcontractor, the Subcontractor may receive an extension of the Contract Time and an adjustment to the Schedule of Work. Subcontractor expressly understands that its sole and exclusive remedy for delay will be an extension of time for performance of the Work. Written documentation of delays in work must be accepted by Sugar Construction. Without written documentation, short comings in manpower, schedule, etc. will be the responsibility of the Subcontractor. A subcontractor's ability to not fulfill the contract obligations will result in Sugar Construction fulfilling these obligations at the expense of the subcontractor.

Initials: _____

2. PAYMENTS

- 2.1 Subcontractor shall submit a Subcontractor Application for Progress Payment ("Application for Payment"), completed in full, signed and notarized, to the Construction Manager on or before the 20th day of each month for that portion of the Work completed through the end of the month, less ten percent (10%) retainage, per the attached format. Applications for Payment must be mailed or delivered to Construction Manager; facsimile copies shall not be accepted.
- 2.2 Construction Manager agrees to pay Subcontractor within thirty (30) days from the end of the month in which the Work was performed and the Application for Payment submitted, or within ten (10) business days following Construction Manager's receipt of payment from the Owner for the Work, whichever is later. It shall be an express condition precedent to Construction Manager's obligations to pay Subcontractor any amount under this Contract that Construction Manager shall have first actually received payment for the Work from the Owner.
- 2.3 If notification of any claim against Subcontractor is made to Construction Manager, Construction Manager, at its discretion has the right to withhold sufficient funds from any payment due Subcontractor to cover the cost of the claim, pending final settlement. If Subcontractor fails to settle any claim, Construction Manager shall have the right to pay the Subcontractor's sub-subcontractors or suppliers and deduct those payments from the Subcontract Sum. Any expenses incurred by the Construction Manager including but not limited to costs associated with bonding of liens, attorneys' fees, court costs and Construction Manager's personnel expenses incurred in order to resolve claims shall be deducted from the Subcontract Sum. In the event that the cost to resolve said claims is greater than the unpaid amounts and retainage, Subcontractor shall pay those amounts to Construction Manager upon receipt of a written statement from the Construction Manager. If such amounts are not paid within fifteen (15) days of receipt of statement, Subcontractor agrees to pay Construction Manager interest on all such amounts at a rate of twelve percent (12%) per annum and Subcontractor agrees to pay all costs of collection, including but not limited to court costs and attorney's fees.
- 2.4 Final payment shall be paid Subcontractor upon Construction Manager's receipt of:
 - a. Final payment by Owner.
 - b. Subcontractor Application for Final Payment, as per the attached format, completed in full, signed & notarized.
 - c. Final lien waiver from Subcontractor; and
 - d. Written statement of guaranty of work, warranties, manuals, as-builts and any other required documents from Subcontractor.

3. CHANGES IN WORK

- 3.1 Subcontractor expressly agrees that no changes will be made, nor extra work performed, nor changes made in the quality or quantity of materials furnished, nor additional compensation paid, unless such matter is previously authorized by the Project Manager, in the form of a written change order.
- 3.2 If the written change order entitles the Subcontractor to additional compensation, the change order must include written documentation from any sub-subcontractors or suppliers that are entitled to compensation pursuant to or as a result of the written change order.
- 3.3 Any work that is deemed a change in value for the Subcontract Agreement, and which would delay Subcontractor or Construction Manager's scheduled completion, and for which the parties do not agree as to the value, shall upon twenty four (24) hours written notice, be diligently prosecuted by the Subcontractor according to the following guidelines. The Construction Manager shall determine an undisputed amount for the change order work, which shall be billed in accordance with the Payment terms herein. The disputed amount shall be submitted to the owner or architect for their ruling as to the value of the work. The decision as to the value of the work shall be based on the Owner or architect's ruling, and this amount shall thereby be the agreed upon value of the work.
- 3.4 Subcontractor will give Construction Manager written notice of any claims relating to Subcontractor's performance under this Agreement, including claims for which Construction Manager or Owner might be liable, within three (3) calendar days of the occurrence of the condition or event which forms the basis of such claim. Failure to provide such written notice within the three-day period constitutes a waiver of any such claim.

4. INSURANCE

- 4.1 The Subcontractor shall procure and maintain at the Subcontractor's own expense, during the entire contract time, Liability Insurance as hereinafter specified:
 - a. Business Automobile Liability shall be provided for a Combined Single Limit of at least \$1,000,000 for Bodily Injury and Property Damage. Coverage shall include owned, leased, hired and non-owned vehicles. Construction Manager shall be named as Additional Insured.
 - b. Workers Compensation Insurance for the protection of all Subcontractor's employees including partners and individual owners working on or in connection with the Project.
 - c. Commercial General Liability shall be provided for a Combined Single Limit of at least \$1,000,000 for each occurrence, \$1,000,000 Personal Injury and Advertising Liability, \$2,000,000 Products and Completed Operations aggregate and \$2,000,000 general aggregate. The policy shall contain no restrictions for contractual liability and xcu (explosion, collapse and underground). Construction Manager shall be named as additional insured, per form CG2010 1185 or equivalent. Subcontractor shall maintain Products and Completed Operations insurance and shall name Construction Manager as additional insured for at least two (2) years from the date of final payment. Subcontractor's insurance shall be primary and non-contributing so that the Construction Manager's policy will not respond until the limits under the Subcontractor's policy are exhausted.
 - d. Commercial Umbrella Liability shall be provided for at least \$1,000,000 and shall be as broad as the primary General Liability and Automobile.

- 4.2 Certificates of Insurance, including a copy of the additional insured endorsement, acceptable to Construction Manager must be provided prior to Subcontractor commencing any work or ordering any materials. Renewal certificates must be provided no less than 14 days prior to expiration. All insurance carriers named in the Subcontractor's certificate of insurance shall have an A.M. rating of A- or better. The Certificates must also contain a provision that coverage afforded under the policies will not be canceled unless at least thirty (30) days prior written notice has been given to Construction Manager. Construction Manager shall not make any payment to Subcontractor until proper evidence of insurance is received. If Subcontractor performs any portion or all of the Work without the required insurances, Construction Manager shall deduct the greater of twenty five percent (25%) broken down as follows: 10% for General Liability, 10% for Workers Compensation, 3% for Automobile Liability and 2% for Umbrella coverage of the Subcontract Sum, or the value of the insurance premium as solely determined by Construction Manager's insurance carrier.
- 4.3 Waiver of Subrogation: Subcontractor waives all rights against Construction Manager, Owner and architect and their agents, officers, Directors and employees for recovery of damages caused by fire or other causes of loss to the extent such damages are covered by any insurance provided under this Subcontract Agreement.

5. INDEMNIFICATION

- 5.1 The Subcontractor shall indemnify and hold harmless Construction Manager and its agents and employees from and against any and all liability, suits, actions, claims, damages, losses, judgments, settlements, costs and expenses, including attorney's fees and litigation costs (including fees and expenses of consultants and/or expert witnesses), arising out of, related to or resulting from the Subcontractor's performance of the Work, provided that such suit, action, claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use therefrom, and is caused in whole or in part by any negligent or willful act or omission of the Subcontractor, its sub-subcontractors, suppliers, anyone directly or indirectly employed by Subcontractor or anyone for whose acts Subcontractor may be liable.
- 5.2 In any or all claims against the Construction Manager, or any of its agents or employees, by any employee of the Subcontractor, anyone directly or indirectly employed by Subcontractor, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, of benefits payable by or for the Subcontractor under workers compensation acts, disability benefits acts, or any other employee benefit acts.
- 5.3 If Construction Manager is assessed liquidated damages or other damages for delay on the Project, the Construction Manager may assess delay damages against Subcontractor according to Subcontractor's responsibility for the delay. In addition, Subcontractor shall be liable to Construction Manager for actual damages including, without limitation, reasonable attorney's fees caused by Subcontractor's delay.
- 5.4 Subcontractor shall at all times comply with all safety regulations as set forth by any state regulatory agency or any federal regulatory agency and shall indemnify Construction Manager against all claims and/or penalties arising from inspections by these agencies.

6. TERMINATION AND SUPPLEMENTING FORCES

- 6.1 The failure by Subcontractor to supply a sufficient number of skilled workmen, or to supply the specified or required materials, or sufficient and proper equipment, to prosecute the Work in a manner to comply with the Completion Date, to pay in a timely manner for third party materials, equipment and labor, or to perform any covenant contained in the Contract Documents, shall constitute a default of the Subcontractor, and Construction Manager may, at its option, and after forty-eight (48) hours of written notice of said default to Subcontractor, terminate this Agreement.
- 6.2 The Construction Manager also has the right, with forty-eight (48) hours written notice to the Subcontractor, to hire third party forces to help to complete the work if the Subcontractor is proving unable to meet the scheduled Completion Date. All such supplemental charges incurred shall be deducted from the Subcontract Sum. In the event that the cost to supplement forces is greater than the unpaid amounts and retainage, Subcontractor shall pay those amounts to Construction Manager upon receipt of a written statement from the Construction Manager. If such amounts are not paid within fifteen (15) days of receipt of statement, Subcontractor agrees to pay Construction Manager interest on all such amounts at a rate of twelve percent (12%) per annum and Subcontractor agrees to pay all costs of collection, including but not limited to court costs and attorney's fees.
- 6.3 In the event of default by Subcontractor and subsequent termination of Subcontractor by Construction Manager, Construction Manager shall complete the Work through its own or third party forces, and shall deduct the costs thereof from the unpaid amounts and retainage of this Subcontract. In the event the cost to complete the Work is greater than the unpaid amounts and retainage, Subcontractor shall pay those amounts to Construction Manager upon receipt of a written statement from the Construction Manager. If such amounts are not paid by Subcontractor within fifteen (15) days of receipt of statement, Subcontractor agrees to pay Construction Manager interest on all such amounts at a rate of twelve percent (12%) per annum, and Subcontractor further agrees to pay any and all costs of collection, including but not limited to court costs and attorney's fees.

7. DISPUTES

- 7.1 The interpretation, performance and enforcement of this Agreement will be governed by the laws of the State of Michigan and or governing body that has jurisdiction over the project work site.
- 7.2 Any and all claims, disputes and other matters in questions arising out of or relating to this Agreement, or breach thereof, will be resolved, at Construction Manager's option (1) by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association in the County of Oakland, Michigan; or (2) in the Circuit Court of Oakland County, Michigan or such other venue as may be agreed upon by Construction Manager. Construction Manager and Subcontractor hereby waive their right to demand a jury trial. In the event that Construction Manager prevails in such arbitration or litigation, Subcontractor shall pay the Construction Manager the costs and expenses, including such reasonable attorney's fees and costs, including expert witness fees and expenses, incurred by Construction Manager in such arbitration or litigation.
- 7.3 Subcontractor shall turn the Work over to Construction Manager in good condition, free and clear of all claims, encumbrances and liens growing out of the performance of this Agreement. In the event a mechanic's or materialman's lien is filed by reason of work done or materials furnished to or by the Subcontractor or any of its sub-subcontractors, Subcontractor will, upon demand by Owner or Construction Manager and at Subcontractor's expense, cause such lien to be released of record, by bonding or otherwise. If Subcontractor fails to do so within a reasonable time after demand, Owner or Construction Manager may take such action as shall be necessary to remove such lien of record and if either of them do so, Subcontractor will, upon demand, reimburse them for all costs incurred, including, without limitation, attorney's fees.

8. MISCELLANEOUS PROVISIONS

- 8.1 Any amounts owed to Subcontractor under this Subcontract Agreement may be withheld by Construction Manager and applied to any actual or potential amounts or sums that are, or may in the future be owed by Subcontractor to Construction Manager on this or any other project, job, matter or contract between Construction Manager and Subcontractor including, without limitation, legal expenses and costs associated therewith.
- 8.2 Within ten (10) days following any request by Construction Manager, Subcontractor will furnish Construction Manager with a list of all subcontractors and material suppliers who have performed labor or supplied materials to Construction Manager as part of the Work, together with a statement of current balance owed to or claimed by each sub-subcontractor or supplier.
- 8.3 The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision. The failure of either party to insist, in any or more instances, upon the performance of any of the terms, covenants, or conditions of this Agreement, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respect to further performance.
- 8.4 This Agreement and the Contract Documents constitute the entire agreement between parties and may not be amended, superseded or otherwise affected, except by an agreement in writing signed by both parties. This subcontract or the amounts due hereunder cannot be sublet or assigned in whole or in part without prior written approval from the Construction Manager.
- 8.5 The individual signing below has read and understands all of the terms described herein, and has the capacity to bind the Subcontractor.
- 8.6 No Asbestos containing building materials (ACBM) shall be used in the construction of this project.

8.6 LIQUIDATED DAMAGES: Recognizing that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not Substantially Complete and approved for occupancy by the Michigan Bureau of Construction Codes (if applicable) within the time limits established herein, plus any extensions of time as allowed under the General Conditions, and also recognizing the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the Owner if the Work is not Substantially Complete on time, instead of requiring any such proof, The Construction Manager and Contractor agree that as liquidated damages for delay (but not as penalty) Contractor will pay The Construction Manager (to be forwarded to the Owner)One Thousand Dollars (\$ 1,000.00) for each day that expires after the date of Substantial Completion established herein until the Work is Substantially Complete and approved for occupancy by the Michigan Bureau of Construction Codes (if applicable). Liquidated damages charges shall be deducted from the Contractor's progress payments or final payment as applicable. The Owner reserves the right to demand legal proceedings in the event that the actual loss exceeds the damages provided for herein.

8-7 In addition, Contractor shall be responsible for all Architectural costs incurred by the Construction Manager after the established Final Completion date (thirty days after actual Substantial Completion date) resulting from Contractor's failure to properly complete the work. Any such costs shall be deducted from the Contractors progress payment or final payment as applicable.

This Agreement is entered into as of the day and year first written above, labeled as the contract date.

CONSTRUCTION MANAGER

Sugar Construction, Inc.

SUBCONTRACTOR

Sample Subcontractor

BY: _____

BY: _____

NAME: Jerry A Brown

NAME: _____

TITLE: Project Manager

TITLE: _____

DATE: _____

DATE: _____

EXHIBIT "A"

Pursuant to the terms and conditions stated below, which are part of this agreement, the Subcontractor shall furnish all labor, materials, tools equipment, hoisting, scaffolding, clean-up and services necessary for the satisfactory completion of all work as described in the contract specifications as follows:

Scope of Work: Furnish labor, materials and equipment to install masonry work per plans and specifications and as detailed in Bid Category 4.0 Masonry.
Addendums as applicable are noted received.

Bidding Addenda / Bulletins **See Exhibit B for Addendums**

And as shown on the drawings, including applicable addenda, accepted alternates, and all related work, and Subcontractor shall pay the government taxes, sales taxes, and use taxes as applicable. Without limiting the above scope, the following items of work are part of this Sub-Contract Agreement.

Specifications Dated: _____

Drawings Dated: _____

DOCUMENT 00 72 14

GENERAL CONDITIONS

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
- B. Related Documents:
 - 1. Document 00 52 14 - Agreement Form.

1.2 GENERAL CONDITIONS

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

END OF DOCUMENT



AIA® Document A201® – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Gaylord Community Schools

Sinking Fund Projects on a Project-by-Project basis or other projects as authorized by the Owner

THE OWNER:

(Name, legal status and address)

Gaylord Community Schools

615 S. Elm Avenue

Gaylord, Michigan 48735

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

THE ARCHITECT:

(Name, legal status and address)

Anthony Esson, Architect, PLLC

2111 Forester Drive

Frederic, Michigan 49733

(989) 732-0585

THE CONSTRUCTION MANAGER:

(Name, legal status and address)

Sugar Construction Inc.

2968 Venture Drive Midland, Michigan 48640 (989) 631-5154

The term "Contractor" shall also mean the Construction Manager, as that term is defined in the Contract.

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Init.

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the ~~Agreement-Contract~~ between the Owner and Contractor (hereinafter the ~~Agreement-Contract~~) and consist of the ~~Agreement, Contract, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement-Contract and Modifications issued after execution of the Contract.~~ A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the ~~Architect, Architect or Owner.~~ Unless specifically ~~enumerated-excluded~~ in the ~~Agreement, Contract,~~ the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the ~~Contractor's bid or proposal, Project Manual, the Contractor's bid or proposal (to the extent it does not conflict with Owner's Bid Documents),~~ or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means ~~the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations.~~ consists of all goods and services, such as labor, transportation, materials, tools, and equipment (1) to be incorporated into the Project (or the Contractor's portion of the Project if the Contractor is not responsible for the entire Project), (2) required of the Contractor under the Contract Documents, or (3) necessary or appropriate to fully construct, fixture, operate and maintain the Project (or the Contractor's portion of the Contract if the Contractor is not responsible for the entire Project). The Work shall be performed in accordance with the Contract Documents. The Work may constitute the whole or a part of the Project. The term "Work" shall also include labor, materials, equipment and services provided or to be provided by subcontractors, sub-subcontractors, material suppliers or any other entity for whom the Contractor is responsible under or pursuant to the Contract Documents.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement shall be the Architect, unless otherwise identified in the Contract to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2. Contract under Section 14.2.2.

§ 1.1.9 THE PROJECT MANUAL

The Project Manual is a volume of documents assembled for the Work which may include the bidding requirement, sample forms, Conditions of the Contract, Specifications, Drawings, the Contract and other information furnished by the Owner.

§ 1.1.10 APPLICABLE LAWS

Applicable Laws means all applicable federal, state and local codes, statutes, ordinances, laws including, but not limited to, the Americans with Disabilities Act ("ADA"), the Revised School Code, MCL 380.1 et seq., the School Building Construction Act, MCL 388.851 et seq., the Stille-Derose-Hale Single State Construction Code Act, MCL 125.1501 et seq., the Michigan Building Code, and the rules and regulations, and lawful orders of all public authorities having jurisdiction over the Project, the Work site, the Work or the prosecution of the Work.

§ 1.1.11 CONSTRUCTION SCHEDULE

The Construction Schedule is the Critical Path Method ("CPM") schedule for construction of the Work submitted as part of the Contractor's Proposal, prepared by the Contractor and approved by the Owner in writing in accordance with Section 3.10. The Construction Schedule can be modified only by Change Order. Following any such modification, the term "Construction Schedule" shall mean the most recent Owner-approved version. The initial agreed upon Construction Schedule is attached to the Contract as an Exhibit and is referred to as the Project Schedule. Sometimes in these General Conditions the term "Project Schedule" is used. It shall have the same meaning as the Construction Schedule.

§ 1.1.12 MILESTONE DATES

The Milestone Dates are those dates included in the Construction Schedule that are critical to ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents.

§ 1.1.13 CONSTRUCTION TEAM

The Construction Team includes the Contractor, Subcontractors, Sub-subcontractor at any tier and suppliers and (1) all other persons in privity of contract with any of them in connection with the Work (except the Owner), (2) anyone else providing labor, materials, supplies, equipment or services as part of or in connection with the Work (except those, if any, hired directly or indirectly by the Owner) and (3) all of their officers, employees, agents, and independent contractors.

§ 1.1.14 CONTRACT TIME

The Contract Time is the number of calendar days described in the Construction Schedule in which (or, alternatively, the date set forth in the Construction Schedule by which) Substantial Completion shall be achieved, subject to any extensions granted in duly executed Change Orders or otherwise specifically permitted by the Contract Documents.

§ 1.1.15 EXTRAORDINARY MEASURES

Extraordinary Measures are corrective measures necessary to expedite the progress of the Work, including (1) working additional shifts or overtime, (2) supplying additional manpower, equipment, and facilities, (3) expediting the delivery of materials, and (4) other similar measures. The Owner shall have the right to order the Contractor to take Extraordinary Measures when it determines that the performance of the Work, as of a Milestone Date, has not progressed to or reached the level of completion required by the Contract Documents, at Contractor's sole cost and expense.

§ 1.1.16 MASTER DESIGN AND CONSTRUCTION SCHEDULE

The Master Design and Construction Schedule is the preliminary schedule for the Work to be developed by the Owner or Contractor during the bidding and negotiation process and which shall, at a minimum, provide for major elements such as preparation of the design, phasing of construction, the time of commencement and completion required for each anticipated Bid Package.

§ 1.1.17 PUNCHLIST

Init.

Punchlist means a list of uncompleted or unacceptable items of Work which do not interfere with the use or occupancy of any part of the Work for its intended purpose and which, unless delayed by a need to order materials that could not reasonably have been anticipated by the Contractor, collectively are capable of being completed within sixty (60) days.

§ 1.1.18 The term "Product(s)" as used in the Contract Documents refers to the materials, systems and equipment provided by the Contractor for use in the Work of the Project.

§ 1.1.19 The terms "Warranty" and "Guarantee" as used in the Contract Documents shall have the same meaning and shall be defined as "legally enforceable assurance of satisfactory performance or quality of a product or "Work."

§ 1.1.20 Where materials, systems and equipment items are referred to in the singular, such reference shall not serve to limit the quantity required. The Contractor shall furnish quantities as required by the Contract Documents to complete the Work.

§ 1.1.21 Unless specifically limited in the Contract, the words "furnish," "install," and "provide," or any combination thereof mean to furnish and incorporate into the Work, including all necessary labor, materials, and equipment and other items required to perform the Work indicated.

§ 1.1.22 HAZARDOUS MATERIALS. Hazardous Materials shall mean and include any toxic or hazardous materials or substances as defined or regulated by in any U.S. environmental law or any Applicable Laws.

§ 1.1.23 PERMITTED MATERIALS. Permitted Materials shall mean materials that are general supplies and equipment that have a hazardous or potentially hazardous nature and are or will be used for their intended purpose and which do not pose any significant threat of contamination to the Project Site or neighboring properties.

§ 1.1.22 VALUE ENGINEERING

Value Engineering means the detailed analysis of systems, equipment, materials, services, facilities, and supplies required by the Contract Documents for the purpose of achieving the desired and essential functions of the Owner's program at the lowest cost consistent with required and necessary performance, reliability, quality and safety.

§ 1.1.23 The words "consent," "approved," "satisfactory," "proper," "as directed," any derivatives of them, or similar terms, mean written approval by the Owner, and may include approval of the Architect if the Owner so directs. Except where a different standard is specifically established, the Owner has the right to grant or withhold such approval in its sole discretion.

§ 1.1.24 The word "provide" and any derivatives thereof, and similar terms, mean to properly fabricate, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all items and expenses necessary to properly complete in place, ready for operation or use under the terms of the Contract Documents.

§ 1.1.25 The terms "known," "knowledge," "recognize," "believe," and "discover," and any derivatives thereof and similar terms, when used in reference to the Contractor, shall mean that which the Contractor knows or should reasonably know, recognized or should reasonably recognize, and discovers or should reasonably discover in exercising the care, skill, and diligence required of the Contractor by the Contract. The expression "reasonably inferable" and similar terms mean reasonably inferable by a Contractor familiar with the Work an exercising the care, skill and diligence required of the Contractor by the Contract.

§ 1.1.26 The word "including" shall not be a word of limitation, but instead shall be construed as introducing one or more nonexclusive examples.

§ 1.1.27 Words or abbreviations that are not defined but have well-known technical, trade or construction industry meanings, shall have those meanings ascribed to them. The singular shall include the plural and vice versa. Pronouns are interchangeable. The word "person" includes human beings and recognized legal entities. Unless the context clearly requires otherwise, reference to a section shall include all subsections beneath it bearing identical introductory numbers.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 ~~The intent of the Contract Documents is to include all items everything necessary for the proper execution and completion of the Work by the Contractor. Work.~~ The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. Work called for on the Drawings and not mentioned in the specifications, or vice versa, shall be performed as though fully set forth in both. Nothing in this Section 1.2, however, shall relieve the Contractor of any of its obligations under the Contract Documents. Other conflicts between or among the Contract Documents shall be resolved under the following rules of construction:

- .1 The specific shall govern over the general;
- .2 Specified dimensions shown on the Drawings shall govern, even though they may differ from dimensions scaled on the Drawings, if any;
- .3 Drawings of larger scale shall govern over those of smaller scale; any special Drawing details shall govern over standard detail;
- .4 Specifications shall govern over Drawings in matters of material or equipment specified; Drawings shall govern over Specifications in matters of construction or installation detail;
- .5 Documents of later date shall always govern; except that
- .6 the Owner's Bidding Documents shall govern over Contractor's Proposal; and
- .7 the Contract shall govern over all other documents, regardless of their dates.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Work not particularly detailed, marked or specified shall be the same as similar parts that are detailed, marked or specified. On certain Contract Documents, only a portion of the detail may be fully shown and the remainder indicated in outline, in which case the general detail shall be understood as applying also to other like portions of the Work. For example, if case carving, ornament, facing, veneer or similar treatment is indicated by starting of the detail, such detail must be continued throughout the course of parts in which it occurs, and to all similar parts in the Work wherever such general detail shall apply unless otherwise specifically provided in the Contract Documents.

§ 1.2.3 ~~Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. The~~ organization of the specifications into divisions, selections, and/or articles, and the arrangement of the Drawings, shall not dictate to the Contractor in any way how the Work is to be divided among subcontractors, or establish the extent of Work to be performed by any trade. Similarly, the organization of the Contractor's duties into different phases or categories in the Contract is for convenience only and shall not limit the generality of the Contractor's obligation to provide all of the services whenever necessary.

§ 1.2.4 All references in the Contract Documents to standards (such as commercial standards, federal specifications, trade association standards or similar standards), whether for materials, processes, assemblies, workmanship, performance or any other purpose, shall mean, unless otherwise noted, the most recent available published version of such standard as of the date of that part of the Contract Documents bearing the reference. All standards referred to, except as modified in the Contract Documents, shall have the same force and effect as though printed therein. These standards will not be furnished to the Contractor, as the Contractor and all members of the Construction Team are required to be familiar with their requirements.

§ 1.2.5 Whenever a provision of the Contract Documents conflicts with agreements or regulations in force among members of trade associations, unions or councils, which regulate or distinguish the portions of the Work which shall or shall not be performed by a particular trade, the Contractor shall make necessary arrangements to reconcile the conflict without delay, damage, cost or recourse to the Owner. Delays in the Work resulting from the failure of the

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Contractor to use its best efforts to reconcile any such conflicts shall not result in an extension of the Contract Time and shall not result in the increase of the Contract Sum or Guaranteed Maximum Price.

§ 1.2.6 The Contractor acknowledges that there may be items of the Work, which the Contractor is responsible to provide under the Contract that are not drawn or specified in the Design but are necessary for the proper execution and completion of the Work and are consistent with and reasonably inferable from the Drawings and Specifications. All such items shall be provided as part of the Work without delay in its progress and without any increase in the Contract Sum or Guaranteed Maximum Price.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights. Drawings, Specifications, Project Manual and all other documents, electronic or otherwise, and all data used in compiling, and the results of, any tests, surveys or inspections at the Project Site, as well as all photographs, drawings, specifications, schedules, data processing output, building information modeling (BIM), integrated project delivery (IPD) and/or computer-aided design/drafting (CADD) system disks/tapes, computations, studies, audits, reports, models and other items of like kind, and all intellectual property, prepared or created for or in connection with the Project, regardless of whether they were prepared by the Owner, the Contractor, the Architect, or a third party, shall constitute the Project Documents, and shall belong to the Owner.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work Service, or any other documents prepared for or in connection with the Project, or any concepts or ideas developed in connection with the Project, for any purpose other than the Project without the specific written consent of the Owner, Architect and the Architect's consultants. Owner. The Owner shall at all times have access to and control over the disposition of any Drawings, Specifications, and other documents pertaining to the Project.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Project Documents or Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement Contract or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement Contract and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

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~~§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein may at any time and from time to time designate a third-party, such as an architect or engineer or other professional consultant, to perform any of its duties under the Contract. In the event of any such designation, the Owner shall provide written notice to the Contractor. The duties, responsibilities and limitations of authority of any third party designated by the Owner pursuant to Section 2.1.1, shall not be restricted, modified or extended without written consent of the Owner.~~

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

~~§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; or (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The increases the Contract Sum. If requested in writing by the Contractor, the Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~

~~§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. All permits, fees, licenses and approvals not specifically identified in the Contract or Contract Documents as the responsibility of the Owner shall be the responsibility of the Contractor.~~

~~§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall immediately notify Owner and Architect of any errors, inaccuracies or problems which Contractor becomes aware of in the course of its use of the survey.~~

~~§ 2.2.4 Upon written request, the Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.~~

~~§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.~~

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

~~If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. This right shall be in addition to and not in limitation of Owner's rights under any provision of the Contract Documents, and Owner's right to stop Work shall not relieve Contractor of any of its obligations under the Contract Documents.~~

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

~~If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such~~

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action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. § 2.4.1 If the Contractor fails or defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a five-day period after receipt of written notice from the Owner or the Owner's designee to commence and continue correction of such failure, default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies, including any claim against the Contractor's Performance Bond, correct such deficiencies. In the event the Contractor's failure, default or neglect results in a threat to the safety of persons or property, the Contractor shall immediately correct such failure, default or neglect; otherwise, the Owner may undertake the same actions as permitted in the prior sentence. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including any and all legal expenses incurred to effectuate and enforce this provision, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. In the event the Owner directs another entity to perform Work pursuant to this Section that otherwise is the obligation of the Contractor, including correction of safety violations, either at the Contractor's request or as a result of the Contractor's failure to perform such Work, that other entity shall charge the Contractor all costs for labor, material and equipment plus that other entity's administrative, profit and overhead costs. The Contractor shall pay that other entity within ten (10) days of the date of invoice. If not paid within ten (10) days, the Contractor authorizes the Owner to withhold that amount from the Contractor and to pay the same to that other entity from the next payment due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.4.2 Upon notification to the Contractor, the Owner shall have the right to place and install equipment and machinery during the progress of the Work before the completion of the various parts of the Work. Such placing and installing of equipment and machinery shall not in any way evidence the completion of the Work or any portion thereof by the Contractor, nor signify the Owner's acceptance of the Work or any portion thereof. If the Owner places or installs such equipment and machinery with its own forces, the Owner shall be responsible for any damage to Work of the Contractor caused by the Owner's workers. If the Owner engages another contractor for such placement or installation, the Owner shall require said contractor to be responsible for such damages caused by its work, its workers, or its subcontractor(s). Upon discovery of any such damage, Contractor shall immediately notify Owner in writing.

§2.5 LIMITATION ON OWNER'S RESPONSIBILITY

§2.5.1 The Owner and Architect will not, under any circumstances, have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. Owner and Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents except the Architect shall provide services at no additional cost, made necessary by major defect or deficiencies in the Work of the Contractor(s) which, through reasonable care, should have been discovered by the Architect and promptly reported to the Owner and the Contractor(s), but which the Architect failed to so discover and/or report. Additionally, any design or Specification error furnished by the Architect shall be promptly corrected by the Architect at no cost to the Owner.. The Owner will not have control over or charge of and will not be responsible for acts or omissions of any member of the Construction Team.

§2.5.2 The Contractor shall only be entitled to rely upon instructions and directions provided by the Owner's authorized representative(s).

§2.5.3 The Owner may, in addition to delivering them to the Architect, from time to time review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with the Owner's objectives and goals. Review of such submittals will not be conducted for the purpose of determining their accuracy and completeness of details, such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor. The Owner's review and approval of or taking other appropriate action on the Contractor's submittals shall not relieve the Contractor or the Architect of any of their obligations. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component. The Owner's receipt of any informational submittals, of any submittals relating to equipment or system

designed by the Contractor, or of any submittals relating to alternatives proposed by any member of the Construction Team shall not constitute approval of or action by the Owner on such submittals. All such submittals will be received by the Owner for record purposes only.

§2.5.4 The Owner may from time to time review or observe or take other appropriate action concerning the Work and any documents, and the selection of Subcontractors and Suppliers. The Owner's doing so shall be solely for the limited purpose of providing the Contractor with information as to how such items relate to the Owner's objectives and goals with respect to the Work and not for the purpose of determining their accuracy and completeness and shall in no way create any responsibility on the part of the Owner for or complicity by the Owner in errors, inconsistencies, or omissions, nor shall any such review, approval, other action or payment of the Contractor alter or in any way reduce the Contractor's obligations under the Contract.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement-Contract and is referred to throughout the Contract Documents as if singular in number. The Contractor is the primary (main) contractor who oversees and is responsible for all the Work performed on the Project, and to whom any and all subcontractors on the Project are responsible. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Owner or the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 These General Conditions refer to the relationship between the Owner and Contractor. As to the contract between the Contractor and its Sub-Contractors, the General Conditions shall be read as the Contractor having the position of the Owner and the Sub-Contractors having the position of the Contractor. The Sub-Contractors are bound to the Contractor just as the Contractor is bound to the Owner. The Sub-Contractor shall have all the rights, duties and obligations to the Contractor as the Contractor has rights, duties and obligations to the Owner. The Sub-Contractors shall agree to and accept the same responsibility to the Owner as the Contractor. In the event any failure of a Sub-Contractor causes any type of injury or loss to the Owner, direct or indirect, the Contractor shall be jointly and severally liable to the Owner for such injury or damage in addition to any responsibility or liability of the Sub-Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions (including weather conditions) under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Documents. The Contractor shall promptly report to the Owner and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Owner and Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. Failure by the Contractor to report to, or request clarification from, the Owner and Architect of any errors, omissions or inconsistencies shall result in interpreting and resolving such errors, omissions or inconsistencies in favor of the Owner and with no additional compensation to the Contractor.

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§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with ~~applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, Applicable Laws,~~ but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. ~~If the Contractor performs those obligations, permits any construction activity to be performed that involves an error, inconsistency or omission in the Contract Documents or a physical condition at the Project Site it recognized or should, employing the degree of diligence required of that Contractor under the Contract Documents, have recognized without providing notice to the Owner and receiving authorization to proceed, the Contractor shall assume responsibility for such performance and bear all costs attributable to correction, without recovery, whether under the Contract Sum, Guaranteed Maximum Price or otherwise. If the Contractor performs the obligations of Sections 3.2.2 and 3.2.3, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, Documents or for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.~~ Construction Documents unless the Contractor recognized such errors, inconsistency, omission or difference and knowingly failed to report such to the Owner and Architect.

§ 3.2.5 Except and only to the extent otherwise provided in Section 2.2.3, by signing the Contract, the Contractor agrees: (1) to bear the risk of concealed or unknown conditions, if any, which may be encountered in performing the Work; and (2) that the established Contract Sum or Guaranteed Maximum Price accepted this responsibility with full knowledge of this risk. In agreeing to bear the risk of concealed or unknown conditions to the extent herein provided, the Contractor understands that, except and only to the extent provided otherwise in Section 2.2.3 or Section 4.3.4, concealed and/or unknown conditions shall not excuse the Contractor from its obligation to achieve full completion of the Work within the Contract Time, and shall not entitle the Contractor to an adjustment of the Contract Sum or Guaranteed Maximum Price. Except as provided in Section 2.2.3: (1) the Owner has not determined the accuracy or completeness of any information it may provide concerning physical conditions at the Project site, and all such information is made available to the Contractor, and shall by the Contractor be made available to bidders without any representation or warranty by the Owner whatsoever as to its accuracy, completeness, or relevancy; (2) the Contractor and the bidders shall independently evaluate such information for their use and shall be solely responsible for use or interpretation of such information; (3) any such use or interpretation shall not be the basis of any claim whatsoever against the Owner.

§ 3.2.6 If the Contractor encounters concealed or unknown conditions that differ materially from those anticipated or expected, the Contractor shall promptly notify the Owner, in writing of such conditions so that the Owner can determine if such conditions require design details, which differ from those design details shown in the Design or some other remedial action. The Contractor shall be liable to the Owner for any extra costs incurred as the result of the Contractor's failure to give such required notice.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed in writing to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and Sub-subcontractors at any tier, and their respective agents and employees, and any other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors. Subcontractors or Sub-subcontractors at any tier. References in the Contract Documents to the Work, obligations or acts or omissions of Contractor shall be interpreted to apply to the Subcontractors, Sub-subcontractors at any tier, suppliers, materialmen, and those employees and agents, irrespective if they are identified.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Such provision of labor and materials shall occur in sufficient time to satisfy the existing Project Schedule. The Contractor bears the risk of any failure to timely provide such labor and materials for any reason. The Contractor agrees to execute the appropriate UCC forms to effectuate the Owner's ownership of the material and equipment furnished pursuant to this Contract to the extent the Owner has paid for services rendered.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the prior written consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.2.1 By making requests for substitutions based on Subparagraph 3.4.2 above, the Contractor:

- (1) Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
- (2) Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified.
- (3) Certifies that the cost data presented is complete and includes all related costs, including but not limited to the Architect's redesign costs; and waives all claims for additional costs related to the substitution which subsequently became apparent; and
- (4) Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be completed in all respects.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.3.1 The Contractor shall only employ labor on the Project or in connection with the Work capable of working harmoniously with all trades, crafts and any other contractors and individuals associated with the Project. The Contractor shall also minimize the likelihood of any strike, work stoppage or other labor disturbance.

§ 3.4.3.2 If the Work is to be performed by Trade Unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage or cost to the Owner and without recourse to the Architect or the Owner, any conflict between the Contract Documents and any agreements or regulations of any kind which regulate, control or distinguish what activities shall or shall not be included in the Work of any particular trade.

§ 3.4.3.3 The Contractor shall cause pre-purchased equipment and material to be delivered to the Project Site or temporarily stored to assure coordination with other trades. The Contractor shall be responsible to verify that such equipment is in accordance with the Specifications.

§ 3.4.3.4 To the extent practicable, materials and equipment will be delivered to the Project site in original containers or wrappings. Used materials or equipment will not be permitted to be incorporated into the Work without the written approval of the Architect and the Owner or unless specifically permitted or required by the Contract Documents. The Architect and the Owner shall have the right to have any such improperly used materials or equipment removed from the Project site or completed Work whenever detected. The Architect's or Owner's failure to detect such used materials or equipment shall not relieve the Contractor of its obligations under this paragraph. Neither the Architect nor the Owner shall have any obligation to inspect for or improperly detect used materials or equipment.

§ 3.4.5 ASBESTOS, PCB, and Urea Formaldehyde-Free Product Installation.

§ 3.4.5.1 It is hereby understood and agreed that no product, substance, or material containing or treated with asbestos, including chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, asbestos in vermiculite, erionite, and taconite (hereinafter collectively "asbestos"), polychlorinated biphenyls (PCB), or urea formaldehyde and any combination of these substances shall be installed or introduced into the Work by the Contractor, its employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors or Sub-subcontractors at any tier or other individuals or entities over whom the Contractor has control. The Contractor shall be required to provide a signed certification statement ensuring that all products or materials installed or introduced into the Work all be asbestos, PCB, and Urea Formaldehyde-free.

§3.4.5.2 The Contractor shall also be required to furnish certified statements from the manufacturers of supplied materials used during construction verifying their products or materials to be asbestos, PCB, and Urea-Formaldehyde-free in accordance with the requirements of Section 3.4.5.1.

§3.4.5.3 The Contractor shall complete and submit to the Owner a certification evidencing asbestos, PCB, and Urea Formaldehyde-free product and material installation prior to issuance of the final Certificate for Payment, in a form acceptable to the Owner.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, ~~except for those inherent in the quality of the Work the Contract Documents require or permit.~~ Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All warranties shall be in the form and substance required by the Owner and/or Contract Documents.

In addition to any other warranties, guarantees or obligations set forth in the Contract Documents or applicable as a matter of a law and not in limitation of the terms of the Contract Documents, the Contractor warrants and guarantees that:

- .1 The Owner will have good title to the Work and all materials and equipment incorporated into the Work and, unless otherwise expressly provided in the Contract Documents, will be new;
- .2 The Work and all materials and equipment incorporated into the Work will be free from all defects, including any defects in workmanship or materials;
- .3 The Work and all equipment incorporated into the Work will be fit for the purpose for which they are intended;
- .4 The Work and all materials and equipment incorporated into the Work will be merchantable; and
- .5 The Work and all materials and equipment incorporated into the Work will conform in all respects to the Contract Documents.

Upon notice of the breach of any of the foregoing warranties or guarantees or any other warranties or guarantees under the Contract Documents, the Contractor, in addition to any other requirements in the Contract Documents, will commence to correct such breach within seventy-two (72) hours after written notice thereof and thereafter will use its best efforts to correct such breach to the satisfaction of the Owner; provided that if such notice is given after final

payment hereunder, such seventy-two (72) hour period shall be extended to seven (7) days. The foregoing warranties and obligations of the Contractor shall survive the final payment and/or termination of the Contract.

§ 3.5.1 The Contractor shall assign to the Owner at the time of Substantial Completion any and all manufacturer's warranties relating to materials and labor used in the Work. Contractor shall perform the Work in a manner that will preserve any and all manufacturer's warranties.

§ 3.5.2 If the Contractor uses any portion of the Work or the Owner's other property, such items will be restored to the condition they were in immediately prior to such use at or before the time of Substantial Completion, or as otherwise specified in the Contract Documents. The Contractor's warranty and agreement to correct defective Work includes the Contractor's obligations under this section.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contract Sum includes all such applicable taxes and the Contract Sum shall not be modified as a result of Contractor's failure to include all applicable taxes, or a change in Contractor's tax liability. The Contractor shall pay all state and federal taxes levied on its business, income or property and shall make all contributions for social security and other wage or payroll taxes. The Contractor shall be solely responsible for such payments and shall indemnify the Owner and hold it harmless from any assessment and payment of the same. Notwithstanding the foregoing, in the event any federal, state or local taxes are revised, changed or amended, the Contractor shall comply with all such revised, changed or amended taxes, provided however, to the extent such revisions, changes or amendments to such applicable taxes cause a material increase to Contractor's Contract Sum, the Owner and Contractor agree to negotiate in good faith a mutual agreeable reasonable adjustment, if any, to the Contractor's Contract Sum hereunder.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded and other permits, governmental fees, licenses and inspections by governmental agencies necessary for the proper execution, completion and occupancy of the Work, including without limitation, all connection charges, assessments and inspection fees imposed by the Michigan Bureau of Construction Codes, the Michigan Bureau of Fire Safety, any municipal agency or utility company. All such permit fees and charges are included in the Contractor's Contract Sum or Guaranteed Maximum Price.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to Applicable Laws regarding the performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, Applicable Laws, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article

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15. The Contractor shall notify the municipality, public utilities, agencies, Miss Dig and the Owner in a timely manner so as to allow reasonable response time before digging any tunnels or similar underground work, and shall protect all existing utilities, sidewalks, streets, and similar improvements while performing the Work.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify by providing written and dated notification the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or ~~features.~~ features, as needed. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 ~~Allowances~~ allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 ~~Whenever~~ whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner ~~with reasonable promptness.~~ in sufficient time to avoid delay in the Work.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be satisfactory to the Owner in all respects, and the Owner shall have the right to require the Contractor to remove any superintendent from the Project whose performance is not satisfactory to the Owner and to replace such superintendent with a superintendent who is satisfactory to the Owner; provided the request is made in good faith and for cause.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and Architect through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's prior written consent, which shall not unreasonably be withheld or delayed. ~~delayed~~ except with another superintendent who is satisfactory to the Owner.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, as part of its Contract Sum or Guaranteed Maximum Price, promptly after being awarded the Contract or at other times requested by Owner or set forth in the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's proposed construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the

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conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the ~~Work~~Work in accordance with Project Manual or Bid Documents.

§ 3.10.2 ~~The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.~~

~~Except with the Owner's prior written approval, the Construction Schedule shall contain any Milestones and deadlines established in the Project Manual or Bid Documents. Once approved by the Owner, the Construction Schedule shall be reviewed monthly or at appropriate intervals as required by the conditions of the Work.~~ **§ 3.10.3** ~~The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect. Construction Schedule shall be in a detailed format satisfactory to the Owner which shall also: (1) provide a graphic representation coordinating and sequencing all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; (3) set forth Milestone Dates and manpower loading.~~

§ 3.10.4 The Construction Schedule shall allow for and depict the following:

- .1 Local weather conditions;
- .2 Local jurisdictional or other work restrictions;
- .3 Specific restrictions, constraints and Contract completion dates stipulated in the Contract Documents;
- .4 Intermediate completion dates stipulated in the Contract Documents;
- .5 Time for needed submittals by the Contractor and needed approvals by the Owner, Architect, or other agency or authority;
- .6 Owner, Architect, or other agency or authority inspections and/or tests where required by the Contract Documents;
- .7 The work of separate contractors or the Owner;
- .8 Necessary resources to accomplish the Work within the Contract Time;
- .9 Other information that may be provided by the Architect or the Owner; and
- .10 A legend for each report or chart which clearly identifies how to interpret each.

§ 3.10.5 Upon review and acceptance by the Owner, the Construction Schedule shall be deemed part of the Contract Documents and shall not be subject to change except in accordance with Section 8.3 and Article 7. If it is not approved, the Construction Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and Architect and resubmitted for approval.

- .1 the Construction Schedule, subject to any modification granted in accordance with the Contract, shall constitute the Contractor's scheduling commitment to the Owner. It shall also serve as the basis for the Contractor's Contract Sum or Guaranteed Maximum Price.
- .2 The Contractor shall meet at least bi-weekly with the persons providing labor or materials under each trade package to review their progress and take appropriate action to maintain the Construction Schedule.

- .3 The accepted Construction Schedule shall be updated (1) monthly to compare actual progress with projected progress and (2) at any other time if requested by the Owner. The updated Construction Schedule shall reflect the status of the Project's progress at the date of update and the Contractor's planned progress of remaining portions of the Work.
- .4 The Contractor shall develop recovery schedules when milestone dates are or may be at risk.
- .5 The Contractor is responsible for the completeness of the Construction Schedule. The Contractor shall confirm in writing, with each submission of the Construction Schedule, that the Contractor has reviewed the Construction Schedule with Subcontractors and Suppliers and has coordinated and allowed for the lead times associated with the delivery of materials or equipment required for the proper progress of the Work.
- .6 The sequence of activities in the Construction Schedule will reflect the Contractor's intended approach to the execution of and completion of the Work. The Construction Schedule shall be broken into work areas to provide for a clear identification of the Planned Progress of the Work.
- .7 The Owner's or the Architect's review of Construction Schedule shall not constitute or imply the acceptance of or relieve the Contractor of the responsibility for the means, methods, sequences, techniques or procedures used in the performance of the Work.
- .8 The Construction Schedule shall represent the Contractor's plan for organizing, directing, managing, controlling, staffing and executing the Work required by the Contract Documents. The Owner shall have the right to rely on such Construction Schedule to coordinate and otherwise plan the work of the Owner, Architect, or other separate contractors, and to evaluate progress for payment purposes or other purposes as described in the Contract Documents.
- .9 At the completion of the Work and as a condition precedent to final payment to the Contractor, the Contractor shall submit two (2) copies of the final updated Construction Schedule to the Owner.

§ 3.10.6 The Contractor shall proceed strictly (not substantially) in accordance with the Construction Schedule. The Contractor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delay or potential delays. If any progress report indicates any delays, the Contractor shall, at no cost to the Owner, propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment of the Contract Time or any Milestone Date or the Construct Sum or Guaranteed Maximum Price unless any such adjustment is agreed to by the Owner and authorized pursuant to a Change Order. The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect and incorporated into the approved Project Schedule.

§ 3.10.7 The Contractor shall cooperate in scheduling and performing its Work to avoid conflict or interference with the Work of others, and shall be responsible for any such conflict or interferences caused. The Contractor acknowledges and understands that the work schedule will be modified from time-to-time to work around the work of other contractors, in an effort to avoid conflicts or interference in the work of the Contractor or other contractors, and that such schedule changes do not give rise to a claim for damages by the Contractor for delay or otherwise. If the schedule for the Work is revised, the Contractor shall conform to the most recent schedule. The Contractor acknowledges that the schedule may change during the duration of the Project and that fact was taken into account by the Contractor when it agreed to the Contract Sum and entered into this Contract under the terms of the conditions set forth herein. As a result, the Contractor shall not be entitled to any additional monies or damages as a result of such schedule changes and the Contractor agrees that the Project Schedule, as modified, shall be an accepted term and contractual requirement. The Contractor shall complete work in accordance with the Project Schedule and Milestone Schedule(s).

§ 3.10.8 The Contractor shall cooperate in working out the proper sequence of operations between the Work of the Contractor and that of other trades on the Project site. The Contractor acknowledges that the schedule for the Work may change during the duration of the Project and the Contractor took that fact into account when it entered into the

Contract. As a result, the Contractor shall not be entitled to any additional monies or damages as a result of such schedule changes.

§ 3.10.9 Contractor shall prosecute the Work undertaken in a prompt and diligent manner whenever such Work, or any part of it, becomes available, or at such other time or times as the Owner or Architect may direct so as to promote the general progress of the entire construction. The Contractor shall not, by delay or otherwise, interfere with or hinder the Work or the work of any other Contractor. Any materials that are to be furnished by the Contractor shall be furnished in sufficient time to enable the Contractor to perform and complete its Work within the time or times provided in the schedule. If the Contractor shall, through its action or inactions, including the actions or inactions of its' subcontractors or suppliers, fall behind in furnishing necessary labor and/or materials to meet the construction needs in accordance with the established schedule, then it shall increase its forces or work such overtime as may be required, at its own expense, to bring its part of the work up to the proper schedule. In the event that Contractor does not take such action necessary to bring its part of the work up to schedule within twenty-four (24) hours of receiving notice from the Owner or Architect, then, as allowed by, the Owner may supplement Contractor's forces or remove Contractor from the Project and retain others to complete part or all of the remainder of Contractor's Work. Contractor shall be responsible for any and all costs of performing or completing the Work. Contractor shall pay any such sums within ten (10) days of date of invoice. If not paid within ten (10) days, the amount will be withheld from Contractor and paid to the relevant parties from next payment due Contractor.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These documents shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as ~~constructed~~-constructed together with a certification that they are "as-built" documents.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work. All Work shall be furnished and installed in accordance with the Drawings, Specifications and as additionally required by the manufacturer's printed instructions. The Contractor shall review the manufacturer's instructions, and where conflict occurs between the Drawings or Specifications and the manufacturer's instructions, the Contractor shall request clarification from the Architect prior to commencing the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence Construction Schedule as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

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§ 3.12.5.1 The Contractor shall check thoroughly all such submittals, including those it prepares itself, as to measurements, sizes of members, materials and all other details, to assure that they conform to the intent of the Contract Documents.

§ 3.12.5.2 The Contractor shall promptly return to the Subcontractors and/or Suppliers, for correction, any of the submittals that are found inaccurate or otherwise erroneous be corrected.

§ 3.12.5.3 After the Contractor has checked and approved such submittals, the Contractor shall place thereon the date of its approval and the legible signature of the individual who reviewed them and shall then submit them to the Architect for review. The Architect may refuse to check or review any submittals, which are not submitted in compliance with these requirements.

§ 3.12.5.4 Submittals describing manufactured equipment must be "Project Specific." Every submission copy must be clearly marked to fully define the intended model number, configuration and other applicable product information.

§ 3.12.5.5 Among other things, the Contractor shall be responsible for the constructability, content, completeness and consistency of all submittals.

§ 3.12.5.6 The Contractor shall notify the Owner when submittals are received. It shall deliver copies to the Owner upon request.

§ 3.12.5.7 The Contractor shall notify the Owner and the Architect in writing if any submittals appear to modify the requirements of the Contract Documents. This notice shall identify each and every change.

§ 3.12.5.8 The Contractor shall furnish to the Architect for review when requested, or when required by the Contract Documents, samples of all materials and finishes to be used in the execution of the Work. Such samples shall be of sufficient size to be representative and the required number of them shall be submitted before the Work utilizing the materials they exemplify is commenced and in ample time to permit examination thereof. In all cases, samples shall be submitted at least three (3) weeks prior to when approval is needed to maintain the progress required by the Construction Schedule. All materials furnished and finishes applied to the Work shall be fully equal to the submitted samples.

- .1 Samples shall be forwarded to the Architect with all shipping charges prepaid. Unless otherwise directed, samples shall be submitted in triplicate, boxed or wrapped properly, each labeled with the name, type or brand of the materials, its place of origin, the names of its producer, Contractor and the Project.
- .2 The approval of Samples is generally directed towards establishing quality, color and finish criteria, and does not modify the requirements of the Contract Documents at to dimensions or design.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.6.1 The Architect will check and review the submittals with reasonable promptness and within any time limits agreed upon in writing and will return them as hereinafter described, indicating by notation, or by written instructions, or other directions, any corrections, which in the judgment of the Architect, may be necessary to meet the requirements of the Contract Documents. The Contractor shall then review such notations, instructions, or directions, and if the Contractor concurs therein, shall make or have made such corrections, and shall, when so noted on the submittals or requested by the Architect, resubmit corrected submittals to the Architect as soon as possible, for final check and review. Such final check and review by the Architect of submittals so corrected and resubmitted will be limited to the corrections only, and the Contractor, by such resubmission shall be held to have represented that such submittals contain no other alterations, additions, or deletions, unless the Contractor, in writing, directs the Architect's specific attention to same. Should the Contractor question or disagree with such notations, instructions, or directions, the Contractor shall direct the Architect's attention to same for further clarification before resubmitting them.

Corrections or changes indicated on submittals shall not be construed as an order for a change in the Work or to perform extra work.

§ 3.12.6.2 The Architect's review of submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment of systems, all of which remain the responsibility of the Contractor. The Architect does not assume responsibility for errors, omissions or deviations from the Contract Documents contained in such submittals. Any such errors, omissions or deviations from the Contract Documents must be corrected by the Contractor, irrespective of the receipt and review of the submittals by the Architect, and even through the Work is done in accordance with such submittals, unless such error, omission or deviation from the Contract Documents is specifically called to the Architect's attention by the Contractor in a separate written letter of communication, at the time of submittal, and the Architect has given written approval of such error, omission or deviation.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

~~The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.~~ **§ 3.13.1** The Contractor shall confine operations at the site to areas permitted by Applicable Laws, and the Contract Documents and shall not unreasonably encumber the Project site with materials or equipment. Only materials and equipment which are to be used for the Project or carry out the Work shall be stored at the Project site. Protection of such materials and equipment shall be the sole responsibility of the Contractor. No off-site storage is permitted without the Owner's prior written consent.

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§ 3.13.2 No member of the Construction Team shall erect any sign on the Project Site without the Owner's prior written consent.

§ 3.13.3 The Contractor shall ensure that the Work is at all times performed in a manner that affords the Owner, the Architect, and the Owner's separate contractors reasonable access, both vehicular and pedestrian, to the Project Site and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Project site shall be free from all debris, building materials and equipment. Without limiting any other provision of the Contract Documents, the Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of (1) any areas and buildings adjacent to the Project site or (2) portions of the Project in which Work is not being carried out in the event of partial occupancy.

§ 3.13.4 The Contractor shall not, without the Owner's prior written approval, permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and eating and parking areas, other than those designated by the Owner. Without limiting any other provision of the Contract, the Contractor shall enforce compliance with all policies, procedures, rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and the surrounding area. Existing Construction Team to comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site and the surrounding area. However, the Contractor shall not be responsible to regulate the workers' conduct outside of work hours except as may be permitted under applicable laws and collective bargaining agreements.

- .1 Should any room or part of an existing building or facility be temporarily used by any member of the Construction Team as a shop, storeroom, locker room, an office, or for any other purpose, such room or part shall, prior to completion and when so directed, be thoroughly cleaned and returned to its original condition. All damage to any such room or part of an existing building or facility arising therefrom shall be corrected, and the whole left in a condition acceptable to the Owner by the Contractor. No room or part of an existing structure shall be so used without the prior written consent of the Owner.

§ 3.13.5 Anything contained in the Contract Documents to the contrary notwithstanding, no one except the Owner shall be permitted to disrupt the operation of any building system, utilities, or any other services without the Owner's prior written consent. Any request to perform such work shall be in writing, received by the Owner no less than five (5) days prior to the commencement of the requested disruption, and shall detail (1) the exact nature and duration of such interruption, (2) the area affected, and (3) any impact upon the Construction Schedule caused by such proposed temporary disruption. Except in the case of extraordinary measures, all Work shall be performed during the hours and on the days set forth in the Specifications. The Contractor's failure to comply with the notice provisions of this section shall constitute a waiver by the Contractor of any right it may have to an adjustment of its Contract Sum, or the Contract Time, on account of any postponement, rescheduling, or other delays ordered by the Owner in connection with any Work affecting a critical service for which appropriate notice was furnished.

§ 3.13.6 The Contractor will consult with the Owner concerning any necessary operations at the Project site, including staging area limits, office or storage trailer locations, dumpster operations, equipment and material deliveries, hoisting areas and any other construction impacts on the Owner's grounds.

§ 3.13.7 The Contractor shall provide suitable toilet facilities, at locations approved by the Owner, for the use of all its employees and those of the Construction Team and shall maintain same in proper sanitary condition acceptable to the Owner. All temporary toilet facilities shall be removed upon completion of the Work. The Contractor or any of its employees, agents or Subcontractors shall not use any toilet facilities of Owner's buildings without the Owner's prior written consent.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents. Only skilled tradespersons shall perform any cutting, fitting or patching work.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by

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excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

~~§ 3.15.1 The Contractor shall keep the premises~~ Contractor, its employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors or Sub-subcontractors at any tier shall keep the Project site and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

~~§ 3.15.2 If the Contractor fails to clean-up as provided in the Contract Documents,~~ keep the Project site clean as required by the Owner or as provided in the Contract Documents or fails to clean up the Project site upon completion, the Owner may do so and Owner shall be entitled to reimbursement for all costs and expenses for clean-up from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall indemnify and hold harmless the Owner and Architect harmless from any and all costs, damages and losses, including, but not limited to, actual attorneys' fees, loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

~~§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.~~ Contractor shall indemnify, defend and hold harmless the Owner, its Board and its Board Members in their official and individual capacities, its administrators, employees and agents, from and against all claims, counter-claims, suits, debts, demands, actions, judgments, liens, injuries, liabilities, costs, expenses, damages, and actual attorney fees and actual expert witness fees arising out of or in connection with Contractor's performance of the Work pursuant to the Contract Documents and/or from Contractor's violation of any of the terms of the Contract, including, but not limited to: (1) the negligent acts or willful misconduct of the Contractor, its officers, directors, employees, agents and Subcontractors; (2) any breach of the terms of the Contract by the Contractor, its officers, directors, employees, agents and Subcontractors; (3) any violation of applicable state and/or federal law, rule, ordinance, policy or regulations and/or licensing and permitting requirement applicable to providing the Work by its officers, directors, employees, agents and Subcontractors; or (4) any breach of any representation or warranty by the Contractor under the Contract by its officers, directors, employees, agents and Subcontractors. The Contractor shall notify the Owner by certified mail, return receipt requested, immediately upon knowledge of any claim, suit, action, or proceeding for which it may be entitled to indemnification under the Contract. This paragraph shall survive the expiration or earlier termination of the Contract and shall not be limited by the Contractor's insurance obligations contained in this Contract. In addition to and not in limitation of the Contractor's other indemnity obligations, the Contractor hereby accepts and assumes

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exclusive liability for and shall indemnify, protect and save harmless the Owner and Architect from and against the payment of the following:

All contributions, taxes or premiums (including interest and penalties thereon) which may be payable under the unemployment insurance law of any state, the federal Social Security Act, federal, state, county and/or municipal tax withholding laws, or any other law, measured upon the payroll of or required to be withheld from employees by whomsoever employed, engaged in the Work to be performed and furnished under the Contract;

All sales, use, personal property and other taxes (including interest and penalties thereon) required by any federal, state, county, municipal or other law to be paid or collected by the Contractor or any of its Subcontractors or vendors or any other person or persons acting for, through or under it or any of them, by reason of the performance of the Work or the acquisition, ownership, furnishing, or use of any materials, equipment, supplies, labor, services or other items for or in connection with the Work; and

All pension, welfare, vacation, annuity and other benefit contributions payable under or in connection with respect to all persons by whomsoever employed, engaged in the Work to be performed and furnished under the Contract.

The Contractor shall indemnify, defend and hold the Owner harmless from any claim, damage, loss or expense, including but not limited to actual attorney fees, incurred by the Owner related to any hazardous material or waste, toxic substance, pollution or contamination brought into the Project site or caused by the Contractor or used, handled, transported, stored, removed, remediated, disturbed or dispersed of by Contractor.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.19 RECORD DOCUMENTS

§ 3.19.1 The Contractor shall maintain at the Project site on a current basis for review by the Owner, the Architect, and all members of the Construction Team, the Record Documents, which include: a record copy of all logs, reports, Contract Documents, and Record Drawings, in good order and marked to record all changes made during construction; all approved Shop Drawings, Product Data, Samples, and other submittals; applicable handbooks; maintenance and operating manuals and instructions; and other related documents and revisions which arise out of the Contract Documents or the Work. As part of the Record Documents, the Contractor shall maintain records of principal building layout lines, elevations of the bottoms of footings, project floor levels and key site elevations certified by a qualified surveyor. The Contractor shall at all times make all records (excluding internal memoranda or reports, privileged communications and documents with incidental references to the Work, or documents which discuss multiple projects) available to the Owner and the Architect, and, at the completion of the Work, shall deliver all such Record Documents to the Owner neatly organized, bound and indexed. The Contractor shall monitor preparation of as-built Drawings by Subcontractors on a monthly basis and shall take corrective action as appropriate when as-builts are not being properly updated. The Contractor shall be permitted to retain a copy of the Record Documents for its own use after the Work is completed and, in any event, the Owner shall continue to provide access to the Record Documents, for the Contractor to inspect and copy.

§ 3.19.2 The Record Drawings shall be prepared and updated during the prosecution of the Work. The prints for Record Drawing use will be a set of blackline prints provided by the Architect to the Contractor at the start of construction. The Contractor shall maintain said set in good condition and shall use colored pencils or other methods reasonably acceptable to the Owner to mark up said set with "record information" in a legible manner to show: (1) deviations from the Drawings made during construction; (2) details in the Work not previously shows; (3) changes to existing conditions or existing conditions found to differ from those shown on any existing drawings; (4) the actual installed position of equipment, piping, conduits, light switches, electric fixtures, circuiting, ducts, dampers, access panels, control valves, drains, openings and stub-outs; and (5) such other information as the Owner may reasonably request.

§ 3.19.3 The Contractor shall keep note of all the deviations and discrepancies in the underground, concealed conditions and other items of construction and the Work on field Drawings. At the completion of the Project the

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Contractor's notes on the record field Drawings shall be neatly transcribed onto a clean set of Drawings furnished by the Architect. The Contractor shall submit the final Record Drawings to the Architect for review.

§ 3.19.4 During construction, the Contractor shall maintain on the Project site, a separate, clean set of Drawings for the sole purpose of recording changes and actual 'as installed' information. This set shall be accessible for inspection by the Owner and the Architect at all times. The Contractor shall bring this set of Drawings to the scheduled construction progress meetings. The Contractor shall record all information as the Work progresses, clearly and neatly, in color and maintain it on a current basis as directed by the Owner and submit these Drawings to the Owner within thirty (30) days after Substantial Completion. As a general guide, the type of information to be recorded includes, but is not limited to: (1) revisions made except minor or non-critical dimensional changes, (2) omissions, including Work omitted by Change Order or accepted alternates, (3) exact dimensioned locations of concealed lines, (4) locations of all control devices, (5) any additions to Work, (6) changes in significant details, (7) and any other information of a similar nature.

§ 3.19.5 Upon substantial completion of the Project, the Contractor shall submit to the Owner the Contractor's mechanical and electrical coordination Record Drawings prepared during construction by the Contractor. Examples of such drawings include sheet metal ductwork drawings, piping drawings, fire protection piping drawings, electrical raceway drawings, and the like. When the Contractor produces drawings by computer aided drafting, the Contractor shall also submit their coordination drawings on electronic data files compatible with AutoCAD computer software. All such documents shall contain the Owner's Project Number for identification purposes.

§ 3.20 WARRANTIES AND MANUALS

§ 3.20 Unless the Contract Documents require otherwise, the Contractor shall bind and turn over to the Owner two (2) sets of manufacturers' warranties and operating and/or maintenance manuals, instructions, or schedules for all equipment and special materials requiring such. Such binders will clearly categorize and index each piece of equipment and material included, and shall be clearly marked noting "Project Specific" equipment, model numbers, and other applicable information. Such manuals will be collected and organized by the Contractor and submitted to the Owner at one time, prior to the issuance of the certificate of substantial completion.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

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

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate ~~for~~ For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. The Contractor

shall reimburse Owner for all costs and expenses for the Architect's time to interpret and decide matters it deems clear and unambiguous.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith. The Contractor shall, and shall cause all Subcontractors to comply with an interpretation and decisions of the Architect.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. ~~Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.~~

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

~~By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and~~

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Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1.1 Work performed for the Contractor by a Subcontractor shall be performed pursuant to a written subcontract, which shall (in addition to the requirements of Sections 5.3 and 5.4) contain provisions that:

- (1) Requires that such portion of the Work be performed in accordance with the requirements of the Contract Documents;
- (2) Requires timely submission of Subcontractor's applications for payment and ancillary materials in order to enable the Contractor to apply for payment in accordance with the provisions of Article 9;
- (3) Waives all rights to contracting parties may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the property insurance described in Article 11;
- (4) Recognizes the rights of the Owner pursuant to the Contingent Assignment of Subcontracts contained in these General Conditions and require the Subcontractor (upon notice by the Owner that the Owner has terminated the Contract with the Contractor pursuant to the terms of Article 14, and that the Owner has elected to retain the Subcontractor pursuant to the terms of its Subcontract with the Contractor) to complete the unperformed obligations under such Subcontract and, if requested by the Owner, to enter into an appropriate agreement evidencing the fact that the Subcontractor is bound to the Owner under its Subcontract in the manner in which it had been bound to the Contractor;
- (5) Requires the Subcontractor performing labor at the Project site to carry and maintain the insurance described in Article 11, unless otherwise approved by the Owner, and to deliver certificates of insurance to the Contractor prior to commencement of its portion of the Work;
- (6) Includes the following sentence: "Owner is an intended third-party beneficiary of this Subcontract.";
- (7) Requires each Subcontractor to make all claims for changes or extensions of time to the Contractor strictly (not substantially) in the manner provided in the Contract;
- (8) Limits claims and damages in the manner provided in the Contract; and

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(9) Are in no way inconsistent with any provision of the Contract;

(10) Requires the Subcontractor to indemnify the Owner the same extent required under Section 3.18.

Sub-subcontracts and supply contracts shall be subject to identical conditions, except: (1) suppliers that are not performing any Work on the Project site are not subject to the insurance requirements described in Article 11; and (2) Subcontractors and Sub-subcontractors may satisfy the insurance requirements described in Article 11 by being named as an additional insured under the Contractor's insurance policies or, in the case of a Sub-subcontractor, by being named as an additional insured under a Subcontractor's insurance policies.

§ 5.3.1.2 Upon request, the Contractor shall deliver a copy of any Subcontract, Sub-subcontract or Supply Contract to the Owner.

§ 5.3.2 COORDINATION OF SUBCONTRACTORS

§ 5.3.2.1 The Contractor shall provide supervisory, administrative, management, inspection and related services as required to properly coordinate, schedule and sequence the Work of the Subcontractors with each other (to avoid both duplication and omission of Work) and with the activities and responsibilities of the Contractor, the Owner and the Architect to complete the Work in accordance with the requirements of the Contract Documents with respect to cost, time and quality and to ensure that the other goals of the Work are otherwise met or exceeded.

§ 5.3.2.2 The Contractor shall schedule and conduct with the Subcontractors and Sub-subcontractors construction progress and any other meetings deemed necessary to discuss such matters as procedures, progress, problems, safety, inspections, sequencing, and scheduling, and shall prepare and promptly distribute minutes. Construction progress meetings will be conducted by the Contractor weekly unless otherwise directed by the Owner and attended by all Subcontractors and Sub-subcontractors whose Work has not been completed. Executive level progress meetings will be held on a monthly basis. All progress meetings minutes shall be provided to the Owner by the Contractor within five (5) days after the meeting and distributed to all attendees promptly after they have been approved by the Owner. The Owner will act promptly in providing its approval.

§ 5.3.2.3 Schedule of Subcontractors' Work. The Contractor shall require each Subcontractor to agree to be contractually bound to the requirements of the Construction Schedule. The Contractor shall require each Subcontractor to agree to cooperate with the Contractor in developing a detailed schedule applicable to its portion of the Work within fourteen (14) days after award of contract unless otherwise specified. The Contractor shall assist in the development of all Subcontractor schedules and shall prepare such schedules if any Subcontractor fails to do so. The Contractor shall require all Subcontractors to meet as often as necessary with the Contractor to complete their detailed schedules. However, the Construction Schedule will take precedence over any schedules prepared by Subcontractors with respect to time of completion for each bid package. If any such schedule indicates that additional time or effort will be required to maintain these schedules, the Contractor, Subcontractor shall agree to work additional time, including weekends if necessary, or to add manpower, all at no extra cost to the Owner. The Contractor will require all their subcontractors to include the requirements in Sections 5.3.2.3 and 5.3.2.4 in their sub-subcontractor contracts.

§ 5.3.2.4 Subcontractors' Performance. The Contractor shall ensure satisfactory and timely (with reference to both Milestone and Substantial Completion Dates) performance from each of the Subcontractors. The Contractor shall take appropriate measures when any Subcontractor is not performing its obligations satisfactorily.

§ 5.3.2.5 Payments to Subcontractors. Upon award of the Subcontract, the Contractor shall have each Subcontractor prepare and submit a schedule of values allocating that portion of the Cost of the Work attributable to its Subcontract to the various portions of the Work. Each schedule of values shall be prepared in a form and substance acceptable to the Contractor (which form shall previously have been approved by the Owner) and supported by such data as may be necessary to substantiate its accuracy. The Contractor shall develop and implement procedures for the review and processing of applications by Subcontractors for progress and final payments. Payment packages shall include, but shall not be limited to, each of the following documents: schedule of values, sworn statements, and appropriate forms of full or partial construction lien waivers or other similar waivers and releases of claims.

§ 5.3.2.6 Safety Programs. The Contractor shall provide a general review of safety programs developed by each of the Subcontractors, including a verification that each Subcontractor has submitted its report of the recommended safety precautions and programs, as required by the Contract Documents. If the Contractor observes a safety violation, the Contractor shall require a Subcontractor to correct it. After written notification to the Subcontractor to correct the safety violation, if the Subcontractor does not correct the problem in a timely fashion, the Contractor shall cause the Work to be corrected by other means. The performance of such services by the Contractor shall not relieve the Subcontractors of their responsibilities for performance of the Work and for the safety of persons and property, and for compliance with all federal, state and local statute, rules, regulations and orders applicable to the conduct of the Work. The Contractor shall conduct regular safety meetings with Subcontractors' superintendents to ensure the Subcontractors' compliance with federal, state or local statutes, rules, and regulations relating to the Workers' safety or any other aspect of the Work.

§ 5.3.2.7 Work. The Contractor shall determine in general that the Work of each Subcontractor is being performed in accordance with the requirements of the Contract Documents, and shall guard the Owner against defects and deficiencies in the Work. As appropriate, the Contractor shall require special inspection or testing, or make recommendations to the Architect regarding special inspection or testing, of Work not in accordance with the provisions of the Contract Documents whether or not such Work has been then fabricated, installed or completed, and shall reject Work which does not conform to the requirements of the Contract Documents. The Contractor shall coordinate any inspections which may be required by any governmental agencies.

§ 5.3.2.8 Interpretation. The Contractor shall consult with the Architect and the Owner if any Subcontractor requests interpretations of the meaning and intent of any of the Contract Documents, and shall assist in the resolution of questions, which may arise.

§ 5.3.2.9 Insurance Certificates. The Contractor shall receive certificates of insurance from the Subcontractors, and shall review such certificates for compliance with the requirements of the Contract Documents, and shall forward the original certificates to the Owner. No member of the Construction Team shall be permitted to commence any portion of the Work or have a presence at the Project Site without complying with all insurance requirements of the Contract Documents. The Contractor shall monitor the same to ensure the certificates of insurance remain current, and shall advise the Subcontractors of the impending expiration of their respective certificates, but the failure of Contractor to give such advice shall not, as between the Contractor and any of the Subcontractors, excuse the obligation of the Subcontractors to maintain current, unexpired certificates.

§ 5.3.2.10 System Readiness. The Contractor shall, in the company of the Architect and the Owner's maintenance personnel, observe the Subcontractors' evaluation of utilities, operational systems and equipment for readiness, and shall assist in their initial start-up and testing.

§ 5.3.2.11 Contractor and Subcontractors' Warranty Acknowledgment. The Contractor shall execute and deliver to the Owner, and shall cause anyone giving warranties that is contractually bound to the Contractor to execute and deliver to the Owner, the following Warranty Acknowledgment before a Certificate of Final Completion is issued:

WARRANTY ACKNOWLEDGMENT

(Name of Subcontractor) ("Contractor") warrants that all of its Work complies with the requirements of the Contract Documents. If, within one (1) year after the date of Substantial Completion of the Work or designated portion of the Work, any of Contractor's Work is found to be not in accordance with the requirements of the Contract Documents, Contractor shall correct the Work at its sole expense promptly after receipt of written notice from the Owner. This one (1) year period shall be extended (1) with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of Contractor's Work, and (2) with respect to warranty work for an additional one (1) year period following each correction. This obligation shall survive acceptance of the Work and termination of our contract.

This warranty shall be in addition to the terms of any other warranty or longer period of obligation specified in the Contract Documents, any applicable special warranty required by the Contract Documents, or the terms of any general warranty and is not in lieu of any of them. This warranty shall not be construed to establish a period of limitation with

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respect to other obligations which Contractor might have under the Contract Documents and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced or to the time which any proceeding may be commenced.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

- § 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that
- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
 - .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

~~§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.~~

~~§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right but assumes no obligation to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to ~~insurance and waiver of subrogation~~, insurance. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor ~~Agreement~~, Contract.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly

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report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs including costs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.2.6 Subject to the provisions of, and rights to recover from, any property insurance that the Owner is responsible to maintain, the Contractor shall, at its expense, without recovery from the Owner, under the Contract Sum, or Guaranteed Maximum Price, or use of any contingency or otherwise, promptly remedy damage caused by any member of the Construction Team to completed or partially completed construction or to property of the Owner or separate contractors.

§ 6.2.7 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect and Owner will allocate the cost among those ~~responsible~~ responsible in their sole discretion. The Owner's right to clean up shall in no event be deemed a duty, and should the Owner choose not to pursue this remedy, the Contractor necessitating such action shall remain fully responsible for the same.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, only by Change Order, Construction Change ~~Directive~~ Directive, written contract amendment or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect ~~alone~~ alone with the Owner's prior approval.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 Changes in the Work may be made without notice to the Contractor's sureties, and absence of such notice shall not relieve such sureties of any of their obligations to the Owner. If notice of any extra Work or change in the Work affecting the general scope of the Work or the provisions of the Contract Documents is required by the provisions of any bond, to be given to any surety issuing such bonds, the giving of any such notice shall be the Contractor's sole responsibility.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and

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- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Written agreement by the Owner, Architect and Contractor on any Change Order shall constitute a final settlement of and a waiver of and permanent bar to all claims by Architect or Contractor relating to the change in the Work which is the subject to the Change Order, including all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum or Guaranteed Maximum Price and the Contract Time. The Contractor shall include the Work covered by such Change Orders in its Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly. However, the Contract Time shall only be adjusted if the Contractor demonstrates the Construction Change Directive adversely affects the Construction Schedule.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one or more of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably ~~adjusted~~, adjusted, unless the Contractor provided such unit prices as a part of a competitive bid, in which case the unit price may not increase.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. Contractor agreements to a Construction Change Directive shall require a follow-up writing or signature as contemplated in Section 7.3.6.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine with the Owner's approval the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the ~~Agreement, Contract,~~ or if no such amount is set forth in the ~~Agreement, a reasonable amount-Contract, a reasonable amount~~ however, any such change shall not exceed five percent (5%) in the changes in the Work. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs-Actual costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

- .2 ~~Costs~~ Actual costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 ~~Costs~~ Actual costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 ~~Additional costs of supervision and field office personnel directly attributable to the change.~~

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for undisputed Work completed under the Construction Change Directive in Applications for Payment. ~~The For those undisputed portions, the~~ Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of ~~cost~~ cost, if agreed to by the Owner in writing, shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of ~~either party~~ the Contractor to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree in writing with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, in writing, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 In no event shall the Contractor be entitled to receive, and the Contractor hereby waives the right to receive any payment or any extension of time for additional or changed work, whether partially or fully completed or simply proposed, unless such additional work is authorized by a written Change Order or Construction Change Directive signed by the Owner, nor shall the Contractor be obligated to proceed with any such work. Only the Owner shall have the right to issue a written Change Order or Constructive Change Directive to the Contractor authorizing an addition, deletion or other revision in the scope of the Work and/or an adjustment in the Contract Sum or Guaranteed Maximum Price or the Construction Schedule.

§ 7.4 MINOR CHANGES IN THE WORK

~~The Architect has Architect, with the Owner's written approval, has the authority to order minor changes in the Work not involving adjustment in the Contract Sum or Guaranteed Maximum Price or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.~~ shall be effected by written order and shall be binding on the Contractor. The Contractor shall carry out such written orders promptly. Architect shall not, without written approval of Owner, order changes in the Work under this Section 7.4.1 that (1) are inconsistent with the intent of the Contract Documents; (2) render the Drawings and Specifications not in material conformity with the Work; or (3) materially affect the quality, utility or general aesthetics of the Work or any component, or result in the use of materials or equipment which are not equivalent to or better than the materials and equipment set forth in the Drawings and Specifications prior to such change.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 ~~Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work. See Section 1.1 for Basic Definitions.~~

§ 8.1.2 The date of commencement of the Work is the date established in the ~~Agreement~~ Contract.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

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§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement ~~Contract~~ the Contractor confirms that the Contract Time ~~is and~~ the Construction Schedule contain a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 ~~to be furnished by the Contractor and Owner~~, or delivery of the performance and payment bonds required by law, ~~to be furnished by the Contractor~~. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall ~~proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time~~ see to the diligent, expeditious performance of the Work, with adequate resources so that all the Work will be completed within the Contract Time. The Contractor shall require overtime, multiple shifts and any other action necessary to complete of the Work within the Contract Time, all without additional cost to the Owner except as otherwise specifically provided in Section 8.4 in a Change Order or Construction Change Directive. The Contractor shall not, without the Owner's prior written approval, reschedule or re-sequence the Work that will cause the date of Substantial Completion to be modified so that an action, approval, or activity of the Owner moves onto the critical path or otherwise becomes critical to the Contract Time so long as such action, approval, or activity would not in fact have been critical but for the rescheduling or re-sequencing.

§ 8.2.4 Should the Contractor fail, refuse or neglect to supply sufficient workers or to cause the delivery of equipment and materials promptly to prevent delay, or fail in any material respect to commence and prosecute the Work diligently in accordance with the Contract Documents, or if the Work falls behind schedule, the Owner may require the Contractor to take Extraordinary Measures and to have the members of the Construction Team do likewise, all at no additional cost to or compensation from the Owner unless otherwise agreed to in writing by the Owner. Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the Construction Schedule.

- .1 The Contractor shall not be entitled to an adjustment in its compensation in connection with Extraordinary Measures required by the Owner under or pursuant to this Article 8 except as specifically provided in Section 8.4.2 or in a Change Order or Construction Change Directive.
- .2 The Owner may exercise the rights furnished it under or pursuant to this Article 8 as frequently as necessary to ensure that the Contractor's performance of the Work will comply with any Milestone Date or completion date set forth in the Contract Documents.
- .3 Subject to reasonable prior notice and opportunity to cure, and except to the extent caused by Owner delay, the Owner shall also have the right to offset against any amounts then or thereafter due to the Contractor, or to be reimbursed by the Contractor for, any costs incurred as a result of an increase in the Owner's own labor force or for overtime, Saturday, Sunday, and/or holiday work as a result of implementing Extraordinary Measures for which the Contractor is responsible to pay.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. Except as provided in this Section 8.3, the Contractor shall be fully responsible for the timely completion of the Work in accordance with the Construction Schedule. The Contractor will use its best efforts to cause all members of the Construction Team to meet all Milestone Dates in the Construction Schedule and shall not be liable for delay caused by the Owner or Architect. The Contractor agrees to use its best efforts to avoid the occurrence of any cause for delay, to avoid any extension of performance dates, and to mitigate the effect of any delay that does occur. The Contract Time will be extended only under the exact

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circumstances described in this Section 8.3 and then if and only if the Contractor complies strictly (not substantially) with the requirements of this Section 8.3.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. Notices in connection with delays shall be made by the Contractor to the Owner in accordance with this Section 8.3.2. The Contractor shall use its best efforts to provide verbal notice to the Owner within twenty-four (24) hours after the commencement of a delay. It must in any event do so as soon as possible and not later than three (3) days after commencement of the delay. Any verbal notice given shall be confirmed in writing within four (4) days. If the Contractor fails to deliver verbal notice within three (3) days after the commencement of a delay, it shall not be entitled to any relief pertaining to the period of time before it gave verbal notice. If the Contractor fails to confirm any verbal notice within four (4) days after the verbal notice was given, it shall not be entitled to any relief for the period of time beginning after the passage of such four (4) days and ending when the confirmation is actually received by the Owner. And, if the Contractor fails to provide verbal notice within ten (10) days after the commencement of a delay or to confirm any verbal notice in writing within ten (10) days after the verbal notice was given, the Contractor shall be barred from seeking any relief whatsoever relating to the delay. The Contractor shall submit such information as may be required by the Owner to evaluate the Change Order Request. The Owner shall decide whether to grant, grant in part or deny the Change Order Request. Any extension of time or adjustment granted shall be memorialized in the form of a Change Order.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents. Except in the case of changes to the Work covered by Article 7 or failure of the Owner to pay the Contractor for Work performed, the Contractor shall not be entitled to an extension of time unless set forth in a Change Order. The Contractor acknowledges that in preparing the Construction Schedule and in agreeing to the times or dates of completion required by the Contract Documents it will make a reasonable allowance for commercially anticipated delays. Adjustments in the Contract Time will be permitted only to the extent such delay (1) is not caused or contributed to, and could not have been anticipated, by the Contractor using the degree of diligence required by the Contract Documents, (2) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, and (3) is of a duration of not less than one (1) day.

§ 8.3.4 The Owner's exercise of any of its rights under the Contract Documents or the Owner's good faith exercise of any of its remedies, including requirement of correction or re-execution of any defective Work, regardless of the extent, number or frequency of the Owner's good faith exercise of such rights or remedies, shall not under any circumstances be construed as unreasonable interference with the Contractor's performance of the Work or an event of default.

§ 8.3.5 The Contractor shall use its best efforts to mitigate the effects of any delay.

§ 8.3.6 This Section 8.3 does not preclude the recovery of other damages by the Owner for delay under other provisions of the Contract. However, the Contractor acknowledges that the Schedule for the Work may change during the duration of the Project and that fact was taken into account by the Contractor when it agreed to the Contract Sum and entered into this Contract under the terms and conditions set forth herein. As a result, the Contractor shall not be entitled to any additional monies as a result of such schedule changes.

§ 8.4 NO DAMAGE FOR DELAY

§ 8.4.1 Except only as provided in Section 8.4.2 below, an extension in the Contract Time or adjustment of the Construction Schedule, to the extent permitted under Section 8.3, and the Contractor's rights in connection with a suspension of the Work, as provided in the Contract, shall be the sole and exclusive remedies (in lieu of all other remedies whatsoever) of the Contractor for any delay, interference, hindrance in the performance of the Work, loss of productivity, manpower inefficiencies, impact damages and similar claims and damages, whether or not contemplated by the parties. Except only as provided in Section 8.4.2, in no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any delay, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar remuneration. The Contractor hereby expressly waives and covenants and agrees not to assert any claims against the Owner for any damages, costs, losses or expenses of any nature whatsoever which any member of the Construction Team may incur as a result of any delays, interferences, suspensions, rescheduling, changes in sequences, congestion, disruptions, or the like arising from, out of or in connection with any act or omission of the Owner, its representatives or agents, it being understood and agreed

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that their sole and exclusive remedy in such event shall be an extension of the Contract Time, but only in accordance with the provisions of this Article 8.

§ 8.4.2 In the event of Owner Delay, the Contractor shall be entitled to an equitable adjustment in the Contract Sum or Guaranteed Maximum Price. This adjustment shall be based solely upon and limited to additional direct out-of-pocket expenses to the extent they are incurred directly as a result of the Owner Delay. Without limiting the generality of the foregoing, such out-of-pocket expenses shall be calculated on an "actual cost" basis, and shall exclude home office expense and other overhead, profit and the value of lost opportunities. However, the Contractor shall use its best efforts to avoid or reduce delay damages to any member of the Construction Team caused by Owner delay.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the ~~Agreement-Contract~~ and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. The initial schedule of values shall be consistent with the Contract Sum prepared by Contractor and shall include actual Subcontractor bids. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section ~~9.2, 9.2.~~, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders. A request for payment of sums related to Work regarding Construction Change Directives shall, unless qualified in writing at the time of request, constitute full and complete consent to the Construction Change Directive(s) and to the issuance of a Change Order.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Contractor shall provide copies of its insurance certificates, bonds, and the same for all Subcontractors prior to submitting the first Application for Payment, unless required to be submitted sooner by the Owner or the Contract. The Contractor shall submit with each monthly Application for Payment (1) an Affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous application was submitted and the Owner might in any way be responsible have been paid or otherwise satisfied, and (2) a release or waiver of liens arising out of the Contract from each Contractor and/or Subcontractor, materialmen, supplier and laborer or the Contractor addressing all previous Applications for Payment submitted for the Project.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site. Payment to Contractor for materials stored off site is discouraged. When circumstances indicate that the Owner's best interest is served by off-site storage,

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the Contractor shall make written request to the Owner for approval to include such material costs in his next progress payment. The Contractor's request shall include the following information:

- .1 A list of the fabricated materials consigned to the Project site (which shall be clearly identified, giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.
- .3 A letter from the Contractor's Surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve either party of their responsibility to complete the Work.
- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as additionally insured.
- .5 Costs incurred by the Owner and Architect to inspect material in off-site storage shall be paid by the Contractor.
- .6 Subsequent pay requests shall itemize the materials and their cost which were approved on previous pay requests and remain in off-site storage.
- .7 When a partial payment is allowed on account of material delivered on the site of the Work or in the vicinity thereof or under possession and control of the Contractor, but not yet incorporated therein, such material shall become the property of the Owner, but if such material is stolen, destroyed or damaged by casualty before being used, the Contractor will be required to replace it at its own expense.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.3.4 Each Application for Payment shall be accompanied by the following, all in form and substance reasonably satisfactory to the Owner:

- .1 A duly executed and acknowledged sworn statement with all required information provided, together with properly notarized sworn statements, from the Contractor and all of the Subcontractors; and
- .2 Except as otherwise provided, duly executed unconditional releases in the form required by the Owner establishing payment or satisfaction of all obligations as reflected on the sworn statements referred to in Section 9.3.4.1, provided, however, that the Contractor may furnish with each Application for Payment applicable waivers of lien or releases and properly notarized sworn statements covering the immediately preceding Application for Payment, as opposed to the current Application for Payment, (i.e., 30 day lag), provided Final Payment shall not be forthcoming until final construction lien waivers or releases from all members of the Construction Team have been delivered.
- .3 In addition to the final construction lien waiver, the Owner will require the Contractor and Subcontractors to provide a signed and notarized affidavit that releases and discharges the Owner and Owner's agents from all liability to the Contractor and Subcontractor, which has arisen or which shall arise in connection with any work performed or materials delivered to the Project.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has ~~(1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.~~

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 ~~repeated failure to carry out the Work in accordance with the Contract Documents.~~ Documents;
- .8 failure to provide any documentation, Record Documents, certified weekly payroll reports, as required, etc., in a timely manner;
- .9 Any failure by Contractor or a Subcontractor to fully perform any obligation under the Contract;
- .10 Stop Work notice.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.5.4 If the Contractor disputes any determination by the Owner or Architect with regard to any Certificate for Payment, the Contractor shall nevertheless continue to expeditiously perform the Work and such dispute shall provide no basis for any manner of suspension of the Contractor's performance of the Work.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4. The Owner may, in its sole discretion, after providing Contractor with ten (10) days prior written notice, make direct payments to the Contractor's Subcontractors, material men, laborers or claimants relating to labor or material provided to the Contractor for which the Contractor has not provided a waiver of lien, in the event the Subcontractors, material men, laborers or claimants threaten to or actually cease providing labor and/or materials for the Project such that, in the Owner's determination, progress of the Project and the Project's schedule are jeopardized. All payments made pursuant to this section shall be considered the same as if paid directly to the Contractor and shall constitute partial payment of the Contract Sum. In the event the Contractor disagrees with the amount proposed to be paid to one or more Subcontractors, material men, laborers or claimants, the Contractor shall provide a bond in the amount the Contractor believes the Owner will overpay, within ten (10) days of receipt of notice, or be barred from making any claim that the amount of the direct payment was incorrect. Payment under this provision shall not jeopardize any other remedy available to the Owner.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 ~~Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision otherwise provided in the Contract or Contract Documents, the Owner may retain out of each progress payment a "Retainage" equal to ten percent (10%) of that payment. Retainage will be paid upon Final Completion and acceptance of the Work in accordance with Section 9.10. Upon mutual agreement of the Owner, the Architect and the Contractor, payment in full may be made to subcontractors whose Work is fully completed during early stages of the Project. The Contractor acknowledges and agrees that payments by the Owner shall only be made in respect of Applications for Payments, or portions thereof, reasonably approved by the Owner. If the Contractor disputes any good faith determination by the Owner with regard to any Certificate of Payment, or amount paid by the Owner in respect thereof, the Contractor shall nevertheless expeditiously continue to prosecute the Work while such dispute is being resolved.~~

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a ~~comprehensive list~~ Punchlist of items to be completed or corrected prior to final payment. Failure to include an item on such ~~list~~ does Punchlist does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's ~~list, Punchlist,~~ the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's ~~list, Punchlist,~~ which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the ~~list~~ Punchlist accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of ~~Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion of the Work by Owner~~ following final completion and final payment under Section 9.10.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 Notwithstanding Sections 9.8.1 and 9.8.2, as a condition precedent to establishing the date of Substantial Completion, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or correct (a "punch list"). The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Should the Contractor fail to make corrections in a timely fashion, but not later than thirty (30) calendar days from the date of Substantial Completion or notification of the required corrections, whichever is earlier, such Work may be corrected by the Owner at the Contractor's sole expense, and the Contract Sum may be adjusted accordingly.

§ 9.8.7 Prior to the final payment, Owner shall make a payment equal to the entire balance of the Contract Sum less one hundred fifty percent (150%) of the estimated cost to complete the "punch list" items. This payment shall be due within thirty (30) days after the earlier of (1) receipt of a Temporary or Conditional Certificate of Occupancy for all the Work required under this Agreement from the State of Michigan, (2) completion of Project pursuant to the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt completion of the Work the Contractor's shall provide to the Architect a written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if an affidavit that states the Work is fully completed and performed in accordance with the Contract Documents and is satisfactory to the Architect and the Owner, (6) in the event of Contractor bankruptcy, at the Owner's option, an order entered by the court having jurisdiction of the Contractor's insolvency proceeding authorizing such payment, (7) a general release executed by the Contractor on a form provided by the Architect; and (8) if required by the Owner, other data establishing payment or satisfaction of obligations, such as close out documentation, the other documentation required by the Contract Documents, receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable actual attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents; Documents;
- .4 Owner's Claims arising after final payment;
- .5 Owner's claims for indemnification; or
- .6 Claims about which the Owner has previously given notice to the Contractor

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.10.6 The amount of the final Payment shall be the Contract Sum or Guaranteed Maximum Price unless the amount paid to date. If the aggregate of previous payments made by the Owner exceeds the amount due the Contractor, the Contractor shall immediately reimburse the difference to the Owner.

§ 9.10.7 Project Closeout. The requirements for Project Closeout begin at the start of a Project. This section outlines the integration of the closeout process into the Construction Phase. Project closeout requirements generally comprise of the following:

Certificate of Substantial Completion [by the Architect]
Certificate of occupancy, including proof of all final/ [closed] inspection permits
Operation & Maintenance Manuals
As-Constructed Record Drawings
Training of Owner's Personnel
Attic Stock Materials
Documents – Warranty, Asbestos free, Smoke & Flame Spread, etc.
Punchlist Completion (signed by the Architect and the Owner)
Copies of Shop Drawings, Product Data and Samples

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

~~The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.~~

§ 10.1.1 The Contractor shall continuously maintain adequate protection of all Work from damage and shall protect the Owner's property from injury or loss. The Contractor shall repair any such damage, injury or loss at no cost to the Owner, except to the extent directly caused by agents or employees of the Owner. The Contractor shall adequately protect the Work and adjacent property as required by Applicable Laws, the Contract Documents, or as otherwise required, to cause no damage to the Work and adjacent property during the execution of the Work. This requirement shall also apply to structures above and below ground as conditions of the Work site require. The Contractor shall at all times observe and comply with all Applicable Laws which may in any manner affect the equipment and materials used in the proposed construction, those employed on the work, and the conduct of the Work. The Contractor shall hold harmless and indemnify the Owner and its Board (in its individual and official capacities), employees and administrators, against any claim or liability arising from the violation of any Applicable Laws, whether the violations are by the Contractor or any Subcontractor, Sub-subcontractor or any other person employed or engaged by the Contractor or Subcontractor.

§ 10.1.2 The Contractor is solely responsible to the Owner for health and safety at the Project site and, accordingly, shall be solely responsible for initiating, monitoring, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. The foregoing does not relieve the Subcontractors of their responsibility to the Contractor for the safe performance of their Work in accordance with all Applicable Laws.

§ 10.1.3 The Contractor shall develop and implement a health and safety plan that complies with all Applicable Laws covering all activities on the Project site except those activities performed solely by the Owner. The Contractor shall provide the Owner a copy of such health and safety plan prior to commencement of Work. The Owner shall have no duty to review the plan and shall assume no duty by doing so.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and

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- 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by ~~applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities~~ Applicable Laws, bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 ~~When No use or storage of explosives or other hazardous materials or unusual methods shall be allowed at the Project site without the Owner's express written consent. If use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary~~ permitted by the Owner for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified ~~personnel~~ personnel, and shall store and use in compliance with all Applicable Laws.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter. The Contractor shall take all necessary precautions for the safety of employees and visitors on the Project site and shall comply with Applicable Laws and provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the Project Site where the Work is being performed. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and the public. The Contractor shall post danger signs warning against the hazards created by such features of construction such as protruding nails, hoists, holes, elevator hatchways, scaffolding, window openings, stairways, falling material and other such features.

§ 10.2.9 When all or a portion of the Work is suspended for any reason, the Contractor shall be responsible for securely fastening down all coverings and protecting the Work from injury by any cause.

§ 10.2.10 The Contractor shall promptly report in writing to the Owner all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages occur, the accident shall be reported immediately by telephone or messenger to the Owner. The obligations in this Section are in addition to the Contractor's reporting obligations under Applicable Laws.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, Documents, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up. Contractor shall not permit itself or any third party to use, generate, handle, store or dispose of any Hazardous Materials in, on, under, upon or affecting any of the Owner's property in violation of any Applicable Laws or regulation. Without limiting any other provisions of the Contract Documents, Contractor shall indemnify, defend and hold harmless the Owner, its Board of Education, its Board Members in their official and individual capacities, administrators, employees, agents, contractors, successors and assignees, from and against all liabilities, claims, losses, costs and expenses (specifically including, without limitation, attorneys', engineers', consultants' and experts' fees, costs and expenses) arising from (1) any breach of any representation or warranty made in this paragraph and/or (2) environmental conditions or noncompliance with any Applicable Laws or regulation that result, in the case of Contractor, from operations or the Work by Contractor or its agents, employees or Subcontractors. As used herein, the term "Hazardous Materials" shall mean (1) any hazardous or regulated substance, pollutant, contaminant, material, or waste as defined by any federal, state and local environmental laws, or regulations promulgated thereunder, including, but not limited to, Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et seq.) ("Clean Water Act") the Resource Conservation & Recovery Act (42 U.S.C. §§ 6901 et seq.) ("RCRA"), Safe Drinking Water Act (42 U.S.C. §§ 300f-j-26 et seq.) (Toxic Substances Control Act (14 U.S.C. §§ 2601 et seq.) (Clean Air Act 42 U.S.C. §§ 7401 et seq.), the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §§ 9601 et seq.) ("CERCLA"), the Emergency Planning and Community Right to Know Act, 42 U.S.C. §§ 11001 et seq.) ("EPCRA"), the Atomic Energy Act, 42 U.S.C. Sections 2014, et seq., and the Michigan Natural Resources and Environmental Protection Act (MCL§ 324.101 et seq.) or any other similar federal, state or local law or administrative rule or regulation of similar effect, each as amended and as in effect and as adopted as of the date of execution of this Contract, or date of Work, whichever is more protective of the Owner, (2) any other pollutant, contaminant, hazardous substance, solid waste, hazardous material, radioactive substance, toxic substance, noxious substance, hazardous waste, particulate matter, airborne or otherwise, chemical waste, medical waste, crude oil or any fraction thereof, radioactive waste, petroleum or petroleum-derived substance or waste, asbestos, PCBs, radon gas, all forms of natural gas, or any hazardous or toxic constituent of any of the foregoing, whether such substance is in liquid, solid or gaseous form, or (3) any such substance the release discharge or spill of which requires activity to achieve compliance with Applicable Law. This paragraph shall survive the expiration or earlier termination of the Contract.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property

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(other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity. The Owner shall not be responsible for any substances or Hazardous Materials which Contractor, its agents, employees or Subcontractors bring into the Project site, or Owner's property.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 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 and must have an A.M. Best's Rating of "A" or better, such insurance as required by the Contractor under the Contract. Unless otherwise required by the Contract, said insurance shall protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor any member of the Construction Team or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:~~

- .1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that 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;
- .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 a motor vehicle;
- .7** Claims for bodily injury or property damage arising out of completed operations; ~~and~~
- .8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Section ~~3.18.3.18~~;
- .9** Liability insurance shall include all major divisions of coverage and e on a comprehensive basis including:
 - Premises' Operations (deleting X, C, or U exclusions);
 - Owner's and Contractor's Protective;
 - Products and Completion Operations;
 - Contractual – including specific for the Contractor's obligations under Paragraph 3.18;
 - Any auto; and
 - Broad Form Property Damage, including Completed Operations; and
- .10** All Bonds required by law, including bid bond, performance bond and payment bond.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract or Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. Owner shall be named as an additional insured. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given ~~to the Owner.~~ to the Owner and shall be endorsed to name the Owner as an additional insured. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable ~~promptness.~~ promptness, but not less than 30 days prior to any reduction in coverage.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's ~~consultants.~~ Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 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 written on a builder's risk "all-risk" or equivalent policy form in the amount of ~~the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional 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 as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. ~~This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project and with deductibles reasonably determined by Owner.~~

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, ~~and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss requirements.~~

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that 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 in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 ~~If Except as otherwise provided in the Contract Documents, if the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.~~

§ 11.3.1.4 ~~This If approved in writing by the Owner, this property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.site.~~

§ 11.3.1.5 Partial occupancy or use in accordance with Section 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 written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance. Property insurance coverage for Contractor's owned or hired equipment, tools, automobiles, and materials not incorporated into the final Work shall be the sole responsibility of the Contractor.

§ 11.3.2 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 insureds.Owner.~~

§ 11.3.3 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 all 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.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss 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.

§ 11.3.5 ~~If during the Project construction period the Owner insures properties, real or personal or both, at 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 Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.~~

§ 11.3.6 Before an exposure to loss may occur, the Owner shall ~~file with~~ provide the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. ~~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 canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

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 causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 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 of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective 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.

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§ 11.3.7.1 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the Contractor, Subcontractor and suppliers, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner as fiduciary shall have the power to adjust and settle a loss with insurers.

§ 11.3.9 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 so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 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 is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish ~~bonds~~ separate Performance and Labor and Material Payment Bonds covering faithful performance of the Contract and payment of obligations arising thereunder each in the penal sum of 100% of the Contract Sum and in accordance with Applicable Laws as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.1.1 Bonds shall be executed by a responsible surety licensed in the state where the Work is located with a Best's rating of no less than A, XII or better and shall remain in effect for a period not less than one (1) year following the later of (1) the date of Substantial Completion or (2) the time required to resolve any items of incomplete Work and the payment of any disputed amounts.

§ 11.4.1.2 Bonds under this Section 11.4 must display the surety's bond number. A rider including substantially the following provisions shall be attached to each bond:

- .1 Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents, the Subcontracts and the Sub-Subcontracts, any addition, alteration, change, extension of time, or other modification of the Contract Documents, the Subcontracts and the Sub-Subcontracts. Any addition, alteration, change, extension of time, or other modification of the Contract Documents, the Subcontracts or the Sub-Subcontracts, or a forbearance on the part of either the Owner, the Contractor or one or more Subcontractors to one or more of the other, shall not release the Surety of its obligations and notice to the surety of such matters is hereby waived.
- .2 Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner or the Contractor.

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§ 11.4.1.3 Each Subcontractor's surety shall also agree, in the form of a rider to each bond or via a separate agreement, that before it may seek exoneration, release or any kind of relief from its obligations under the bond as a result of any default by the Owner or the Contractor in the performance of any obligations to the Subcontractor under the Subcontract, the surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner and the Contractor, and both of them shall have thirty (30) days from time after receipt of such notice within which to cure such default or cause it to be cured, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured immediately. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first class postage prepaid, to the Owner and the Contractor.

§ 11.4.1.4 Each Subcontractor's Performance Bond and the Labor and Material Payment Bond shall each be "dual obligee" type bonds naming both the Owner and the Contractor as obligees.

§ 11.4.1.5 Each Subcontractor shall cause the attorney-in-fact who executes the required bonds on behalf of its surety to affix thereto a certified and current copy of his or her power of attorney indicating the monetary limit of such power.

§ 11.4.1.6 Upon the request of any person or entity appearing to be potential beneficiary of bonds covering payment of obligations arising under the Contract or any Subcontract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 11.4.1.7 The Contractor shall keep the sureties informed of the progress of the Work, and, without limiting the requirements of Section 11.4.1.2 (1) above, where necessary, obtain the sureties' consent to, or waiver of: (1) notice of changes in the work; (2) request for reduction or release of retainage; (3) request for Final Payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety requesting or pertaining to consents or waivers. The Owner may, in the Owner's sole discretion, inform sureties of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits pursuant to any bond issued in connection with the Works.

§ 11.4.1.8 The Contractor may, in its discretion, determine other members of the Construction Team who will be required to supply bonds. All such bonds shall be (1) purchased solely at the expense of the Contractor (or the persons supplying them), without reimbursement under the Contract Sum or Guaranteed Maximum Price or otherwise, and (2) dual obligee bonds, naming the Owner as one of the Obligees.

§ 11.4.2 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 authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's sole cost and expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request with the Owner's written consent to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of

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uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's sole cost and expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one (1) year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall without interfering with Owner's operations, correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4. This obligation shall survive the termination of the Contract.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum or Guaranteed Maximum Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

§ 12.4 OWNER'S RIGHT TO CORRECT OR REMOVE DEFECTIVE WORK

§ 12.4.1 If the Contractor fails to cause defective Work to be corrected within a reasonable time after receipt of notice from the Owner, the Owner may correct it and the Contractor shall pay the Owner all costs of correction (including the value of the Owner's staff time) upon demand. Alternatively, in the event of such failure, the Owner may (without being deemed a bailee) remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten (10) days after written notice, the Owner may upon ten (10) additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting from the sale proceeds all costs, expenses and damages that should have been borne by the Contractor (including the value of the Owner's staff time and reasonable attorneys' fees). If the proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum or Guaranteed Maximum Price shall be reduced by the deficiency, plus interest. If payments then or thereafter due the Contractor are

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not sufficient to cover the amount owed, the Contractor shall pay the difference to the Owner immediately upon demand.

§ 12.4.2 The Owner's right to store and sell such defective Work shall not give rise to a duty to do so. Instead, the Owner may upon ten (10) day's prior written notice simply dispose of such defective Work as it sees fit. All costs of disposal shall be borne by the Contractor, without recovery from the Owner, under the Contract Sum or Guaranteed Maximum Price, any contingency or otherwise.

§ 12.4.3 Tests. If tests or inspections reveal that portions of the Work are Defective, any additional tests or inspections required to assure the Architect and the Owner that the defective Work has been remedied or is in an acceptable condition shall be conducted at the expense of the Contractor, without increase in the Contract Sum, and without use of any contingency. The Contractor shall pay all additional costs of the Architect and the Owner, which are associated with such additional tests or inspections.

§ 12.4.4 Periods of Limitation. Nothing contained in this Article 12 shall be construed to establish a period of limitation with respect to other obligations, which the Contractor might have under the Contract Documents or Applicable Laws. Establishment of the Correction Period relates only to the specific obligation of the Contractor to correct the Work under this Article 12 and has no relationship to the time within which the obligation to comply with the Contract may be sought to be enforced by the Owner, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligations under the Contract.

§ 12.4.5 The Owner's Right to Stop the Work. If the Contractor fails to correct Work, which is not in accordance with the requirements of the Contract Documents as required by Section 12.2.2 or fails to carry out the Work in accordance with the Contract Documents, the Owner may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§12.5 DAMAGE

§ 12.5.1 If prior to the date of Final Completion any member of the Construction Team uses or damages any portion of the Work or other property, including, without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner, without recovery from the Owner, under the Contract Sum or Guaranteed Maximum Price, any contingency or otherwise, unless such damage is caused by the Owner or Architect.

§ 12.5.2 The Contractor shall bear the cost of correcting destroyed or damaged construction or other property, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

§ 12.5.3 Nothing in this Section 12.5 either limits the parties' rights to obtain recovery from any applicable property insurance or entitles the insurer to pursue a subrogation claim.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4. located.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole or in part without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a ~~lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents- third party.~~ The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by national overnight courier service providing a tracking system and proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by ~~applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities.~~ Applicable Laws. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's ~~expense.~~ expense without increase in the Contract Sum or Guaranteed Maximum Price, and without use of any contingency.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, in accordance with Michigan law, regardless of time frames identified herein, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement-Contract within the time period specified by applicable law, Applicable Law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

§ 13.7.1 Regardless of any provisions to the contrary, the statute of limitations with respect to any defective or nonconforming Work which is not discovered by the Owner shall not commence until the discovery of such defective or nonconforming Work by the Owner.

§ 13.8 SURETY NOTICE AND PRIOR APPROVAL

Except where otherwise expressly required by the terms of the Contract, the Contract Documents or the General Conditions, exercise by the Owner of any contractual or legal right or remedy without prior notice to or approval by the Contractor's surety shall in no way bar or prohibit the Owner's ability to pursue such right or remedy. Further, pursuit of such a right or remedy without prior notice to or approval of surety shall in no way compromise, limit or bar any claim by the Owner against a surety bond of the Contractor.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.stopped.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages. executed.

~~**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3. The Contractor acknowledges that it has certified to the Owner that no owner, employee, agent, representative, contractor, Subcontractor, Sub-subcontractors and/or other personnel of the Contractor will be on any School District premises if they are a registered criminal sexual offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of "Listed Offense" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.722 (the "Certification"). The Contractor acknowledges and agrees that if it is found to have submitted a false Certification or otherwise breaches or fails to comply with the requirements of the Certification, the Owner may immediately terminate the Contract and notwithstanding any other provision of this Contract, the~~

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Contractor shall be liable to the Owner for any and all costs and expenses incurred by the Owner to secure a replacement contractor to complete the Work in accordance with the Contract Documents, including, but not limited to, any costs or expenses required to be paid by the Owner to the replacement contractor in addition to those required to be paid to the Contractor, all attorney and/or professional service fees, and any and all other actual and consequential damages incurred by the Owner.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly-refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, disregards Applicable Laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or
- .5 the Contractor fails to prosecute the Work or any part thereof with promptness and diligence or fails to perform any provisions of this Contract, or goes into bankruptcy, liquidation, makes an assignment for the benefit of creditors, enters into a composition with its creditors, or becomes insolvent.

§ 14.2.2 When any of the above reasons exist, the Owner, ~~upon certification by the Initial Decision Maker that sufficient cause exists to justify such action,~~ Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

In the event the Contractor's surety bond requires notice of intent to declare a default of the Contractor and if such bond notice is provided by the Owner, such notice shall be adequate to satisfy the three (3) day written notice described above in this section.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until ~~the Work is finished,~~ final completion of the Work is finished and determination of the sums due pursuant to Section 14.2.4 below.

§ 14.2.4 ~~If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the or Guaranteed Maximum Price exceeds all costs to the Owner of completing the Work, including increased costs resulting from Contractor's default for the Owner's staff time, then the Contractor shall be paid for all Work performed by the Contractor to the date of termination, but in no case shall the amount paid to the Contractor cause the Contract Sum or Guaranteed Maximum Price to be exceeded. If the costs to the Owner of completing the Work exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.~~ difference, plus interest, to the Owner within thirty (30) days after the Owner's demand. The costs to the Owner of completing the Work shall include (but only to the extent caused or exacerbated by the Contractor's default) the cost of any additional architectural, legal, managerial, and administrative services required, any costs incurred in retaining another Contractor or other Subcontractors, any additional interest or fees which Owner incurs or must pay by reason of a delay in completion of the Work, attorneys' fees and expenses, and any other damages, costs, and expenses Owner may incur by reason of completing the Work.

§ 14.2.5 If the Owner erroneously or improperly terminates the Contractor for cause, then the Owner's action shall be deemed to be a termination for convenience, subject to the provisions of Section 14.4.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum or Guaranteed Maximum Price and Contract Time ~~shall~~ may be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. ~~Adjustment of the Contract Sum shall include profit.~~ No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the ~~Contract~~ Contract, in whole or in part, for the Owner's convenience and without cause. Termination by the Owner under this Section shall be by a notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 ~~cease operations as directed by the Owner in the notice;~~ notice and deliver to the Owner the originals or legible copies of all Drawings, Specifications, reports and other data, records and materials in the Construction Manager's custody and control pertaining to the portion of the Work for which the employment of the Contractor was terminated;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work ~~executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.~~ executed as of the date of termination by the Owner and subject to negotiation by both parties.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the ~~Contract~~ Contract, including but not limited to, additional sums, additional time for performance, or damages for delay. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the ~~Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker.~~ Architect. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the ~~Initial Decision Maker.~~ Architect.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Failure to provide such notice shall serve as an absolute bar against a

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claim for such an increase in the Contract Sum. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, ~~excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for~~ shall be referred to the Architect for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the ~~Agreement-Contract.~~ Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to ~~mediation-litigation or any other mutually agreed upon dispute resolution forum~~ of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the

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reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1. In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a

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written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

~~§ 15.4.2~~ The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

~~§ 15.4.3~~ The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

~~§ 15.4.4 CONSOLIDATION OR JOINDER~~

~~§ 15.4.4.1~~ Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

~~§ 15.4.4.2~~ Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

~~§ 15.4.4.3~~ The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Work by Owner.
- C. Owner supplied products.
- D. Contractor's use of site and premises.
- E. Work sequence.
- F. Owner occupancy.
- G. Specification Conventions.

1.2 CONTRACT DESCRIPTION

- A. Gaylord High School: Work of the Project generally comprises replacement of designated shingle roofing with new membrane roofing and renovation of locker rooms as described in the Drawings and Specifications.
- B. Gaylord Intermediate School: Work of the Project generally comprises replacement of designated soffits and fascia with new materials as described in the Drawings and Specifications.
- C. Perform Work under separate stipulated sum Contracts with Construction Manager in accordance with Conditions of Contract.
- D. Work of each separate Contract is identified in the Bid Categories and on Drawings and in Specifications.

1.3 WORK BY OWNER

- A. Asbestos abatement required in connection with this work will be completed by the Owner's independent Contractor.

1.4 OWNER SUPPLIED PRODUCTS – Not Used

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Work by Others and Work by Owner.
 - 3. Use of site and premises by the public.

- B. Adjacent areas of the building will be occupied by the Owner during the duration of the Work. Contractor shall coordinate construction operations to avoid disruption of Owner's operations.
- C. Work occurring during normal school hours in areas within the building shall be separated from occupied areas by minimum 1 hour fire rated partitions. Where access is required through fire separations, Contractor shall provide and maintain minimum C-label (45 minute) fire-rated doors with self-closing and self-latching hardware.
- D. Where the Work requires construction on or outside the limits protected by fire separation assemblies, or in areas concurrent with occupancy during normal school hours, Contractor shall limit construction operations to unoccupied time periods.
- E. Emergency Building Exits During Construction: Maintain required means of egress at all times during construction operations.
- F. Utility Outages and Shutdown: Required utility outages and shutdowns shall be coordinated and scheduled with the Owner.
- G. Vehicular access to the site is limited to existing paved or gravel drives and parking areas. Vehicular access with not be permitted across lawns or concrete sidewalks. Coordinate site and building access routes with Owner.

1.6 WORK SEQUENCE

- A. Construct Work in accordance with the project schedule and per the direction of the Construction Manager.

1.7 OWNER OCCUPANCY

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

1.8 SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.
- B. The Architect has endeavored to prepare Contract Documents without conflicts or inconsistencies, however it shall be recognized by the Contractor that conflicts and inconsistencies in the Drawings and Specifications may occasionally occur. As such, in case of a conflict or inconsistency in the Drawings or Specifications not clarified by Addendum prior to bidding, the Contractor shall include, and is deemed to include the higher quantity or quality of material, or more labor intensive or costly installation in the Bid.

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- C. The Architect has endeavored to coordinate various aspects of the project in the preparation of the Contract Documents, however it shall be recognized by the Contractor that components of the work of any one trade may be identified at various locations throughout the Contract Documents. As such, the Contractor is responsible for the Work identified in the Contract Documents as a whole, irrespective of the specific locations of the information provided.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cash allowances.
- B. Contingency allowances.
- C. Schedule of values.
- D. Applications for payment.
- E. Change procedures.
- F. Defect assessment.
- G. Unit Prices
- H. Alternates.

1.2 CASH ALLOWANCES

- A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; product delivery to site and handling at site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.
- B. Architect/Engineer Responsibilities:
 - 1. Confirm quantities.
 - 2. Prepare Change Order.
- C. Contractor Responsibilities:
 - 1. Obtain proposals from suppliers and installers and offer recommendations.
 - 2. Execute purchase agreement with supplier and installer.
 - 3. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
 - 4. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- D. Differences in costs will be adjusted by Change Order.
- E. Allowances Schedule:
 - 1. Refer to Bid Category sections for descriptions of Cash Allowances to be included in Bids.

1.3 CONTINGENCY ALLOWANCES

- A. A Contingency Allowance has been established by the Owner.

1.4 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout following format of specified AIA form will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of Construction Manager-Subcontractor Agreement.
- C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance, and General Requirements as separate line items.
- D. Include in each line item, amount of Allowances specified in this section.
- E. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.5 APPLICATIONS FOR PAYMENT

- A. Submit one copy of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702 or approved Contractor's electronic media driven form. Submit a pencil copy to the attention of the Construction Manager by the 20th of each month for approval. Once approved forward a final copy by mail to the office of the Construction Manager.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit with transmittal letter as specified for Submittals in Section 01 33 00 - Submittal Procedures.
- F. Submit a fully executed Sworn Statement indicating all monies owed as of the date of application.
- G. Submit waivers of lien for each subcontractor and supplier included on the sworn statement. Payment will not be released without verification of waivers for the full balance of the previous payment.
- H. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Partial release of liens from major subcontractors and vendors.
 - 2. Affidavits attesting to off-site stored products.
 - 3. Construction progress schedules.

1.6 CHANGE PROCEDURES

- A. The following procedures, as they apply, will flow from the Architect / Engineer, through the Construction Manager to the contractors and from the contractors to the Construction Manager.
- B. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- C. The Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions in writing to the Contractor.
- D. The Architect/Engineer may issue a Proposal Request or Bulletin including a detailed description of proposed change with supplementary or revised Drawings and specifications. Contractor will prepare and submit estimate of cost and any required change in Contract Time within 14 days.
- E. Contractor may propose changes by submitting a request for change to Architect/Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors.
- F. Stipulated Sum/Price Change Order: Based on Proposal Request (Bulletins) and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Architect/Engineer.
- G. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- H. Construction Change Directive: Architect/Engineer may issue directive, on AIA Form G713 Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- I. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- J. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- K. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- L. Change Order Forms: AIA G701 Change Order.

- M. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- N. Correlation Of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - 3. Promptly enter changes in Project Record Documents.

1.7 DEFECT ASSESSMENT

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

1.8 UNIT PRICES – Not Used

1.9 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work.
- C. Schedule of Alternates:
 - 1. Gaylord High School - Bid Alternate No. 1:
 - a. State the cost of materials and labor to remove existing fully adhered Shingle-print Roofing Membrane and install new membrane as specified.

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SF3.8 2024 SINKING FUND PROJECTS
BID PACKAGE NO. 1
Gaylord High School Roof and Locker Room Renovation; and
Gaylord Intermediate School Soffit Renovation
March 1, 2024

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Progress meetings.
- F. Periodic construction visits.
- G. Pre-installation meetings.
- H. Project Record Documents.
- I. Acceptance of Preceding Work.
- J. Cutting and patching.
- K. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Employ Land Surveyor registered in State of Michigan and acceptable to Architect/Engineer.
- B. Locate and protect survey control and reference points. Promptly notify Architect/Engineer of discrepancies discovered.
- C. Control datum for survey is that shown on Drawings.
- D. Confirm drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- F. Maintain complete and accurate log of control and survey work as Work progresses.
- G. On completion site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.
- H. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- I. Promptly report to Architect/Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect/Engineer.

1.4 PRECONSTRUCTION MEETING

- A. Construction Manager will schedule meeting after Notice of Award.
- B. Attendance Required: Owner, Architect/Engineer, Construction Manager, and Subcontractor's.
- C. Agenda:
 - 1. Execution of Contracts.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing parties in Contract, and Architect/Engineer.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
- D. The Construction Manager shall record minutes and distribute copies within two days after meeting to participants, with copies to Architect/Engineer, Owner, and those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. The Construction Manager will schedule and administer meetings throughout progress of the Work at maximum bi-weekly intervals.
- B. The Construction Manager will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Construction Manager's Project Manager and On-site Superintendent, Subcontractor's Project Manager and Job Superintendent, major suppliers, Owner, Architect/Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
 - 14. Coordination of work by Owner's Contractor with work of the General Contract.
 - 15. Project Record Documents.
- E. The Construction Manager shall record minutes and distribute copies within two days after meeting to participants, with copies to Architect/Engineer, Owner, and those affected by decisions made.

1.6 PERIODIC CONSTRUCTION VISITS

- A. The Architect and Owner will visit the project site at maximum weekly intervals. The purpose of the visits will be to monitor the progress and quality of the work.
- B. The Construction Manager's Site Superintendent shall be available for meetings with the Architect and Owner.
- C. Agenda:
 - 1. Review of Work in progress.
 - 2. Field observations, problems, and decisions.
 - 3. Identification of problems which impede planned progress.
 - 4. Maintenance of progress schedule.
 - 5. Corrective measures to regain projected schedules.
 - 6. Planned progress during succeeding work period.
 - 7. Maintenance of quality and work standards.
 - 8. Other business relating to Work.

1.7 PRE-INSTALLATION MEETINGS

- A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect/Engineer, Owner, and those affected by decisions made.

1.8 PROJECT RECORD DOCUMENTS

- A. The Construction Manager shall maintain and update Project Record Drawings (As-Built Drawings) on site during construction. Each Contractor shall be responsible to update the as built drawings on a weekly basis.
- B. Project Record Documents shall be available for review by the Architect.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 ACCEPTANCE OF PRECEDING WORK

- A. Before starting any operation, each Contractor(s) shall examine work performed by others to which their work adjoins or is applied and shall report to the Construction Manager any conditions that will prevent satisfactory accomplishment of their work.
- B. Failure to notify the Construction Manager of deficiencies or faults in preceding work will constitute acceptance thereof and waive of any claims to its usability.

3.2 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:

1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install or correct ill-timed Work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Where patching areas of masonry construction subject to wind loading, remove and replace unit. Where patching penetrations in masonry not subject to wind loading, remove face shell and replace with masonry soap matching existing masonry material. Where concealed from view, penetrations in masonry may be patched with mortar. Patching exposed to view masonry penetrations with mortar will not be accepted.
- J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of penetrated element.
- K. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- L. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

3.3 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products and salvaged products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.

- G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect/Engineer for review.
- L. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Erection drawings.

1.2 SUBMITTAL PROCEDURES

- A. Prepare all submittals as per subsequent instructions below. Scan and transmit electronically to the attention of the Construction Manager. (jerrybrown@sugarconstruction.com).
 - 1. Sequentially number submittals. Include the specification section in the submittal numbering system. Mark revised submittals with original number and sequential alphabetic suffix.
 - 2. Identify Project, Contractor, subcontractor and supplier; product designated by name indicated in specifications.
- B. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- C. Schedule submittals to expedite Project. Coordinate submission of related items.
- D. For each submittal for review, allow 15 days excluding delivery time to and from Construction Manager. Submittals for long lead time items shall be expedited by the Contractor in order to

allow for the Owner's completion schedule. Notify Construction Manager of long lead time items requiring expedited review.

- E. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- F. Allow space on submittals for Construction Manager and Architect/Engineer review stamps.
- G. When revised for resubmission, identify changes made since previous submission.
- H. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- I. After submittals are electronically returned stamped reviewed by the architect make (4) hard copies with any required corrections and mail to the attention of the Construction Manager.
 - 1. Provide record copies required by governing authorities which are in addition to copies specified for submittal to Construction Manager.
- J. Submittals not requested will not be recognized or processed.
- K. Where specified below, retain one copy of each submittal to be turned over to the Owner as record documentation in accordance with Section 01 70 00.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within 7 days after Notice to Proceed. After review, resubmit required revised data within ten days.
- B. Submit revised Progress Schedules with each Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Utilize Contractor's standard computer generated schedule format.
- F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- G. Indicate estimated percentage of completion for each item of Work at each submission.
- H. Submit separate schedule of submittal dates for shop drawings, product data, and samples, and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.
- I. Indicate delivery dates for Owner furnished products.
- J. Revisions To Schedules:

1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect [including effect of changes on schedules of separate contractors].

1.4 PROPOSED PRODUCTS LIST

- A. Within 7 days after Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Construction Manager for review by Architect/Engineer for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Construction Manager for review by Architect/Engineer for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.

- D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SAMPLES

- A. Samples: Submit to Construction Manager for review by Architect/Engineer for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples For Selection as Specified in Product Sections:
 - 1. Submit to Construction Manager for review by Architect/Engineer for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes from full range of manufacturers' standard colors, including premium and/or custom colors where specified, textures, and patterns for Architect/Engineer selection.
 - 3. Architect will issue a schedule indicating colors and finishes selected. Construction Manager shall reproduce and distribute.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Architect/Engineer will retain sample.
- F. Samples will not be used for testing purposes unless specifically stated in specification section.

1.8 DESIGN DATA

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

1.9 TEST REPORTS

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

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Construction Manager for transmittal to Architect/Engineer, in quantities specified for Product Data.

- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.

1.11 MANUFACTURER'S INSTRUCTIONS

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

1.12 MANUFACTURER'S FIELD REPORTS

- A. Submit reports to Construction Manager for Architect/Engineer's benefit as contract administrator and for Owner.
- B. Submit report in duplicate within 2 days of observation to Construction Manager for transmittal to Architect/Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.13 ERECTION DRAWINGS

- A. Submit drawings to Construction Manager for Architect/Engineer's benefit as contract administrator and for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Architect/Engineer or Owner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Mock-up requirements.
- F. Testing and inspection services.
- G. Manufacturers' field services.
- H. Examination.
- I. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

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

1.3 TOLERANCES

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

1.4 REFERENCES

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

1.5 LABELING

- A. Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.

1.6 MOCK-UP REQUIREMENTS - Not Used

1.7 TESTING AND INSPECTION SERVICES – Not Used

1.8 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

- B. Submit qualifications of observer to Architect/Engineer 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections and Drawings.
- D. Verify utility services are available, of correct characteristics, and in correct locations.
- E. Report any conditions which would negatively affect the quality, appearance, or performance of the finished Work to the Architect.

3.2 PREPARATION

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

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary cooling.
 - 4. Temporary ventilation.
 - 5. Telephone service.
 - 6. Temporary water service.
 - 7. Temporary sanitary facilities.

- B. Construction Facilities:
 - 1. Field offices and sheds.
 - 2. Vehicular access.
 - 3. Parking.
 - 4. Progress cleaning and waste removal.
 - 5. Fire prevention facilities.

- C. Temporary Controls:
 - 1. Barriers.
 - 2. Enclosures and fencing.
 - 3. Security.
 - 4. Dust control.
 - 5. Noise control.
 - 6. Pest control.

- D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

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

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

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

1.4 TEMPORARY COOLING

- A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations. Owner will pay for cost of energy used. Exercise measures to conserve energy.
- B. Enclose building prior to activating temporary cooling in accordance with Enclosures article in this section.
- C. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

1.5 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Owner will pay cost of energy used. Exercise measures to conserve energy.

1.6 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field office at time of project mobilization.

1.7 TEMPORARY WATER SERVICE

- A. Owner will pay cost of temporary water. Exercise measures to conserve energy. Utilize Owner's existing water system, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations.

1.8 TEMPORARY SANITARY FACILITIES

- A. Temporary sanitary facilities will be provided by the Construction Manager.
- B. Existing facility use is not permitted.

1.9 FIELD OFFICES AND SHEDS

- A. A field office will be provided by the Construction Manager.
- B. Contractors shall provide suitable storage sheds for the storage of materials and equipment.
- C. Field office and sheds shall be located on paved parking areas in location approved by Owner. Contractors are responsible for restoration of any damage to site resulting from field office or sheds.

1.10 VEHICULAR ACCESS

- A. Maintain unimpeded access for emergency vehicles.
- B. Maintain access to fire hydrants and control valves free of obstructions.

- C. Use existing on-site roads for construction traffic.
- D. Vehicle access on sidewalks and stoops is prohibited. Where access to building requires crossing of sidewalks, provide load distribution mats to prevent damage.

1.11 PARKING

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

1.12 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.
- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 FIRE PREVENTION FACILITIES

- A. Prohibit smoking in buildings or on site.
- B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.
- C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
 - 1. Provide one fire extinguisher at each stair on each floor of buildings under construction and demolition.

2. Provide minimum one fire extinguisher in every construction trailer and storage shed.
3. Provide minimum one fire extinguisher on roof during roofing operations using heat producing equipment.

1.14 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barriers to separate construction areas from adjacent occupied areas.
- C. Provide barricades and covered walkways required by authorities having jurisdiction for public access to existing building.
- D. Provide protection for plants designated to remain. Replace damaged plants.
- E. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.15 ENCLOSURES AND FENCING – Not used

1.16 SECURITY

- A. Security Program:
 1. Protect Work from theft, vandalism, and unauthorized entry.
 2. Initiate program in coordination with Owner's existing security system at project mobilization.
 3. Maintain program throughout construction period until Owner occupancy.

1.17 DUST CONTROL

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

1.18 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.
- B. Limit construction operations that disrupt Owner's operation to unoccupied time periods.

1.19 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from entering facility.

1.20 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to minimum depth of 2 feet. Grade site as indicated on Drawings.

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- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

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

1.2 PRODUCTS

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

1.3 PRODUCT DELIVERY REQUIREMENTS

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

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

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

- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with an "Or Equal" provision: Any Product meeting the quality standards or description. Pre-bid requests for approval of Products specified with an "or equal" provision will not be acknowledged. Acceptability of "or equal" Products will be determined by the Architect during the submittal process based upon the quality or suitability of the Product proposed.
- D. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.
- B. Post-Bid Substitutions will only be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.

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4. Waives claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse Owner and/or Architect/Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Starting of systems.
- D. Demonstration and instructions.
- E. Testing, adjusting and balancing.
- F. Protecting installed construction.
- G. Project record documents.
- H. Operation and maintenance data.
- I. Manual for materials and finishes.
- J. Manual for equipment and systems.
- K. Spare parts and maintenance products.
- L. Product warranties and product bonds.
- M. Maintenance service.

1.2 CLOSEOUT PROCEDURES

- A. Submit certification that the work is Substantially Complete and approved for occupancy by the Authority Having Jurisdiction.
- B. Submit to the Construction Manager a list of items remaining to be completed or corrected for final completion. Architect will utilize the Construction Manager's list as the basis for the final Punch List.
- C. Architect will inspect the work and will prepare a list of items to be corrected or completed for final acceptance of the work.

- D. Upon completion of all work and correction of items included on the Punch List prepared by the Architect, submit written certification that Contract Documents have been reviewed, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer's final review. Architect will visit the site and will verify that all items have been properly completed and/or corrected.
- E. Contractor shall reimburse the Owner for all re-inspection costs incurred as a result of Contractor's failure to complete and/or correct all items identified by the Architect. Charges to the Contractor shall be made at such times and in such amounts as the Architect invoices the Owner under the rate schedule in effect at the time of service. Such charges to the Contractor will be deducted from the Contractor's progress payment or final payment as applicable.
- F. Provide submittals to Architect/Engineer required by authorities having jurisdiction.
- G. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- H. Owner will occupy portions of buildings and sites as specified in Section 01 10 00 - Summary.

1.3 FINAL CLEANING

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

1.4 STARTING OF SYSTEMS – Not used

1.5 DEMONSTRATION AND INSTRUCTIONS – Not used

1.6 TESTING, ADJUSTING AND BALANCING – Not used

1.7 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.8 PROJECT RECORD DOCUMENTS

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

1.9 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, three D side ring binders with durable plastic covers.
- B. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy will be reviewed and returned, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.
- C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

- E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- F. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.

1.10 MANUAL FOR MATERIALS AND FINISHES

- A. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy will be reviewed and returned, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.
- B. Submit two sets of revised final volumes in final form with claim for Final Application for Payment.
- C. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom manufactured products.
- D. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- E. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- F. Additional Requirements: As specified in individual product specification sections.
- G. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.11 MANUAL FOR EQUIPMENT AND SYSTEMS – Not used

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS – Not used

1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

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

1.14 MAINTENANCE SERVICE – Not used

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolishing designated building equipment and fixtures.
 - 2. Demolishing designated construction.
 - 3. Cutting and alterations for completion of the Work.
 - 4. Removing designated items for reuse and Owner's retention.
 - 5. Protecting items designated to remain.
 - 6. Removing demolished materials.

1.2 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of capped utilities, concealed utilities discovered during demolition, and subsurface obstructions.

1.3 QUALITY ASSURANCE

- A. Conform to applicable code for demolition work, dust control, and products requiring electrical disconnection and re-connection.
- B. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.
- C. Obtain required permits from authorities having jurisdiction.

1.4 SCHEDULING

- A. Section 01 30 00 - Administrative Requirements: Requirements for scheduling.
- B. Schedule Work to coincide with new construction.
- C. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owners operation in adjoining spaces.
- D. Coordinate utility and building service interruptions with Owner.
 - 1. Do not disable or disrupt building fire or life safety systems without three days prior written notice to Owner.
 - 2. Schedule tie-ins to existing systems to minimize disruption.
 - 3. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

1.5 PROJECT CONDITIONS

- A. Conduct demolition to minimize interference with adjacent occupied building areas.
- B. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

PART 2 PRODUCTS - Not Used.

PART 3 EXECUTION

3.1 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
- B. Mark location and termination of utilities.
- C. Erect and maintain temporary barriers and security devices at locations required for protection of the public, Owner, and existing improvements indicated to remain.
- D. Erect and maintain weatherproof closures for exterior openings.
- E. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.
- F. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.
- G. Provide appropriate temporary signage including signage for exit or building egress.
- H. Do not close or obstruct building egress path.
- I. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to Owner.

3.2 SALVAGE REQUIREMENTS

- A. Owner reserves first right to materials and items of value removed from the work. Conduct review of items to be removed with Owner to identify any materials and/or items of value to be turned over to the Owner in addition to any specified in the Drawings.
- B. Tag components and equipment Owner designates for salvage.
- C. Protect designated salvage items from demolition operations until items can be removed.
- D. Carefully remove building components and equipment indicated to be salvaged.
- E. Disassemble as required to permit removal from building.

- F. Package small and loose parts to avoid loss.
- G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.
- H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.
- I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

3.3 DEMOLITION

- A. Conduct demolition to minimize interference with adjacent occupied building areas.
- B. Maintain protected egress from and access to adjacent existing buildings at all times.
- C. Cease operations immediately when structure appears to be in danger and notify Architect/Engineer.
- D. Disconnect and remove designated utilities within demolition areas.
- E. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.
- F. Demolish in orderly and careful manner. Protect existing improvements, supporting structural members and items designated to remain.
- G. Carefully remove building components indicated to be reused.
 - 1. Disassemble components as required to permit removal.
 - 2. Package small and loose parts to avoid loss.
 - 3. Mark components and packaged parts to permit reinstallation.
 - 4. Store components, protected from construction operations, until reinstalled.
- H. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- I. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- J. Remove temporary Work.

END OF SECTION

SECTION 04 05 03

MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes mortar and grout for masonry.
- B. Related Sections:
 - 1. Section 04 20 00 - Unit Masonry: Installation of mortar and grout.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 530 - Building Code Requirements for Masonry Structures.
 - 2. ACI 530.1 - Specifications for Masonry Structures.
- B. ASTM International:
 - 1. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
 - 2. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
 - 3. ASTM C150 - Standard Specification for Portland Cement.
 - 4. ASTM C206 - Standard Specification for Finishing Hydrated Lime.
 - 5. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
 - 6. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
 - 7. ASTM C404 - Standard Specification for Aggregates for Masonry Grout.
 - 8. ASTM C476 - Standard Specification for Grout for Masonry.
 - 9. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
 - 10. ASTM C1019 - Standard Test Method for Sampling and Testing Grout.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal requirements.
- B. Design Data: Submit design mix when Property specification of ASTM C270 is to be used, required environmental conditions, and admixture limitations.
- C. Test Reports:
 - 1. Submit reports on mortar indicating conformance of mortar to property requirements of ASTM C270 and test and evaluation reports to ASTM C780 for aggregate ratio and water content, air content, consistency and compressive strength.
 - 2. Submit reports on grout indicating conformance of grout to property requirements of ASTM C476 and test and evaluation reports to ASTM C1019.
- D. Manufacturer's Installation Instructions: Submit premix mortar manufacturer's installation instructions.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 530 and ACI 530.1.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Cold Weather Requirements: In accordance with ACI 530.1 when ambient temperature or temperature of masonry units is less than 40 degrees F.

C. Hot Weather Requirements: In accordance with ACI 530.1 when ambient temperature is greater than 100 degrees F or ambient temperature is greater than 90 degrees F with wind velocity greater than 8 mph.

PART 2 PRODUCTS

2.1 MORTAR AND MASONRY GROUT COMPONENTS

A. Portland Cement: ASTM C150, Type I, gray color.

B. Mortar Aggregate: ASTM C144, standard masonry type.

C. Hydrated Lime: ASTM C206, Type S.

D. Grout Aggregate: ASTM C404, fine and coarse.

E. Water: Clean and potable.

F. Calcium chloride is not permitted.

2.2 MIXES

A. Pre-packaged Mortar and Grout Mixes: ASTM C387/387M; At Contractor's option use pre-packaged Mortar and Grout Mixes meeting specified requirements as manufactured by Spec Mix or equal. Mix and install pre-packaged mortar and grout mixes in accordance with manufactures instructions.

B. Mortar Mixes:

1. Mortar For Structural Masonry and Masonry in contact with earth: ASTM C270, Type M using Property specification.
2. Mortar For Non-Structural Masonry: ASTM C270, Type S using Property specification.
3. Pointing Mortar: ASTM C270, Type N using Property specification.

C. Mortar Mixing:

1. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.
2. Achieve uniformly damp sand immediately before mixing process.

3. Add mortar color to achieve uniformity of mix and coloration.
 4. Re-temper only within two hours of mixing.
- D. Grout Mixes:
1. Grout for Bond Beams, Lintels, Structural Masonry, and Filled Masonry: 2,000 psi strength at 28 days; 8-11 inches slump; mixed in accordance with ASTM C476 for Fine and Coarse grout.
 2. Application:
 - a. Coarse Grout: For grouting spaces with minimum 4 inches dimension in every direction.
 - b. Fine Grout: For grouting other spaces.
- E. Grout Mixing:
1. Transit mix grout in accordance with ASTM C94/C94M, modified to use ingredients complying with ASTM C476.
 2. Site Mixed Grout: Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Request inspection of spaces to be grouted.

3.2 INSTALLATION

- A. Install mortar and grout in accordance with ACI 530.1 Specifications for Masonry Structures.

END OF SECTION

SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes concrete masonry units; reinforcement, anchorage, and accessories.
- B. Related Sections:
 - 1. Section 04 05 03 - Masonry Mortaring and Grouting: Mortar and grout.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 530 - Building Code Requirements for Masonry Structures.
 - 2. ACI 530.1 - Specifications for Masonry Structures.
- B. ASTM International:
 - 1. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 2. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.
 - 3. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.3 PERFORMANCE REQUIREMENTS

- A. Concrete Masonry Compressive Strength (f'm): 1,500 psi; determined by unit strength method.
 - 1. Concrete Masonry Units: 1,900 psi minimum net area compressive strength.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal requirements.
- B. Product Data:
 - 1. Submit data for masonry units.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 530 Building Code Requirements for Masonry Structures and ACI 530.1 Specification for Masonry Structures.

1.6 QUALIFICATIONS

- A. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.

- B. Cold Weather Requirements: In accordance with ACI 530.1 when ambient temperature or temperature of masonry units is less than 40 degrees F.
- C. Hot Weather Requirements: In accordance with ACI 530.1 when ambient temperature is greater than 100 degrees F or ambient temperature is greater than 90 degrees F with wind velocity greater than 8 mph.

1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate masonry work with installation of standard steel frames.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Hollow Concrete Masonry Units (CMU) for Above Grade Applications: ASTM C90; medium weight; nominal 8 inch high x 16 inch long x thickness indicated in Drawings.
- B. Concrete Masonry Unit Shape: Furnish special units for 90 degree corners, bullnosed jamb blocks, bond beams, and lintels.

2.2 ACCESSORIES

- A. Single Wythe Joint Reinforcement: ASTM A951/A951M; truss type; steel; 0.148 inch diameter side rods with 0.148 inch diameter cross ties; hot dip galvanized.
- B. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, uncoated finish.
- C. Cleaning Solution: Not harmful to masonry work or adjacent materials.
- D. Mortar and Grout: As specified in Section 04 05 03.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: coordination and project conditions.
- B. Verify field conditions are acceptable and are ready to receive work.
- C. Verify items provided by other sections of work are properly sized and located.
- D. Verify built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

- A. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.

3.3 INSTALLATION

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.
- C. Coursing of Concrete Masonry Units:
 - 1. Bond: Stack.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches (match existing).
 - 3. Mortar Joints: Concave.
- D. Placing And Bonding:
 - 1. Lay hollow masonry units with face shell bedding on head and bed joints.
 - 2. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
 - 3. Remove excess mortar as work progresses.
 - 4. Interlock intersections and external corners.
 - 5. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
 - 6. Perform job site cutting of masonry units with proper tools to assure straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- E. Joint Reinforcement And Anchorage - Single Wythe Masonry:
 - 1. Install horizontal joint reinforcement 16 inches oc.
 - 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 - 3. Place joint reinforcement continuous in first and second joint below top of walls.
 - 4. Lap joint reinforcement ends minimum 6 inches.
- F. Openings:
 - 1. Install reinforced unit masonry lintels over openings where indicated.
 - 2. Size reinforced unit masonry lintels as indicated in Plans. Where not shown, provide reinforced unit masonry lintels as follows:
 - a. Openings Up To 42 inches Wide: Place two, No. 4 reinforcing bars 1 inch from bottom web.
 - b. Openings From 42 inches Up To 78 inches Wide: Place two No. 5 reinforcing bars 1 inch from bottom web.
 - c. Openings Over 78 inches: Consult Architect/Engineer for lintel size and reinforcing requirements
 - 3. Do not splice reinforcing bars.
 - 4. Support and secure reinforcing bars from displacement.
 - 5. Place and consolidate grout fill without displacing reinforcing.
 - 6. Allow masonry lintels to attain specified strength before removing temporary supports.
 - 7. Maintain minimum 8 inch bearing on each side of opening.
- G. Grouted Components:
 - 1. Reinforce bond beam with 2, No. 4 bars, 1 inch from bottom web unless noted otherwise in Plans.

2. Lap splices bar diameters required by code.
3. Support and secure reinforcing bars from displacement.
4. Place and consolidate grout fill without displacing reinforcing.
5. At bearing locations, reinforce and fill masonry cores with grout both sides of opening as shown in Plans. Where not shown grout both sides of openings as follows:
 - a. 8 inches at bearing course;
 - b. 16 inches one course below bearing course;
 - c. 24 inches two courses below bearing course;
 - d. with grout for a minimum of 8 inches each side of opening.

H. Built-In Work:

1. Install built-in metal door frames, anchor bolts, and other items to be built-in the work and furnished by other sections.
2. Install built-in items plumb and level.
3. Do not build in materials subject to deterioration.

I. Cutting And Fitting:

1. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.
2. Obtain Architect/Engineer's approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.4 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.5 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Remove excess mortar and mortar smears as work progresses.
- C. Replace defective mortar. Match adjacent work.
- D. Clean soiled surfaces with cleaning solution.
- E. Use non-metallic tools in cleaning operations.

3.6 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Protect exposed external corners subject to damage.
- C. Protect base of walls and adjacent surfaces from mud and mortar splatter.
- D. Protect masonry and other items built into masonry walls from mortar droppings and staining caused by mortar.

END OF SECTION

SECTION 07 24 23

DIRECT-APPLIED FINISH SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes direct-applied exterior finish system applied over gypsum sheathing substrate.
- B. Related Sections:
 - 1. Section 09 21 16 – Gypsum Board Assemblies: Sheathing substrate.
 - 2. Section 07 90 00 - Joint Protection: Sealing EIFS joints.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- B. Exterior Insulation Manufacturers Association:
 - 1. EIMA - Guideline Specification for Exterior Insulation and Finish Systems, Class PB and Class PM.
- C. National Fire Protection Association:
 - 1. NFPA 259 - Standard Test Method for Potential Heat of Building Materials.
 - 2. NFPA 268 - Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
 - 3. NFPA 285 - Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate details of construction including attachments, joint patterns, penetrations, interface with flashings and adjacent materials.
- B. Product Data: Submit data on system materials, product characteristics, performance criteria, and limitations.
- C. Samples: Submit samples illustrating coating color and texture range for selection.

1.4 QUALIFICATIONS

- A. Manufacturer requirements
 - 1. Member in good standing of the EIFS Industry Members Association (EIMA).
 - 2. System manufacturer for a minimum of twenty-five (25) years.
 - 3. Manufacturer ISO 9001:2000 Quality System Certified.

B. Installer requirements

1. Engaged in the application of EIFS for a minimum of three (3) years.
2. Knowledgeable in the proper use and handling of specified materials.
3. Employ skilled mechanics who are experienced and knowledgeable in EIFS application, and familiar with the requirements of the specified work.
4. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.
5. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with manufacturers published specifications and details and the project plans and specifications.

1.5 WARRANTY

- A. Provide Manufacturer's standard limited warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives and finish materials from freezing by storing in environment recommended by manufacturer.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not install finish when ambient temperature is below 40 degrees F.
- B. Maintain this temperature during and 24 hours after installation of finish.

1.8 COLOR SELECTIONS

- A. At no additional cost, Owner reserves the right to select colors from those selections equal to STO Industries, Inc., "STO Color 800 System" (Minimal basic colors will not be acceptable.).
1. Other manufacturers shall provide a minimum of 300 color selections for Architect to choose from at no additional cost.
- B. The Architect will be guided by the manufacturer's recommendations concerning certain colors not recommended for specific exposures.

PART 2 PRODUCTS

2.1 DIRECT-APPLIED FINISH SYSTEMS

- A. Provide System and accessories from a single source manufacturer or approved supplier.
- B. Approved Manufacturers:
1. Sto Corp.
 2. Substitutions permitted.

2.2 SYSTEMS

- A. Direct Applied Soffit Finish System: StoQuik Gold Soffit System.

2.3 MATERIALS

- A. Reinforcing Mesh
 - 1. Sto Detail Mesh – nominal 4.2 oz/yd² glass fiber reinforcing mesh treated for compatibility with Sto materials
 - 2. StoGuard Mesh – nominal 4.2 oz/yd² self-adhesive glass fiber reinforcing mesh treated for compatibility with Sto materials
- B. Base Coat: Sto BTS Plus – one component polymer modified portland cement high build base coat.
- C. Finish Coat: Stolit - acrylic based textured wall coating with graded marble aggregate.
- D. Job Mixed Ingredients
 - 1. Water - clean and potable.
 - 2. Portland Cement - Type 1

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate and adjacent materials are dry.
- B. Verify substrate surface is flat, free of fins or irregularities.

3.2 PREPARATION

- A. Remove surface contaminants.
- B. Remove fasteners that are not anchored into supporting construction and seal holes with base coat material.
- C. Seal over-driven fasteners with base coat material and install additional fasteners as needed to comply with fastener spacing requirement.

3.3 MIXING

- A. Mix products in accordance with published literature. Refer to applicable Product Bulletins for specific information on use, handling, application, precautions, and limitations of specific products.

3.4 APPLICATION

- A. Install corrosion proof termination accessories per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at junctures with penetrations such as soffit vents, electrical fixtures, and with abutting walls and columns. Install corrosion proof control joints per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at intervals as required by the soffit board manufacturer. Refer to Sto Guide details.

- B. Reinforce perforated flanges of accessories with minimum 4 inch (102 mm) wide strips of Sto Detail Mesh or Sto Mesh embedded in base coat. Where cement board is used tape joints between boards with minimum 4 inch (102 mm) wide StoGuard Mesh and skim with base coat. Alternatively, tape joints with minimum 4 inch (1023 mm) wide Sto Mesh or Sto Detail mesh embedded in base coat. Allow base coat to dry.
- C. Install nominal 1/8-inch (3 mm) base coat by trowel to the soffit/ceiling board surface. Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the Sto Mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh installed at perforated accessory flanges by installing Sto Mesh up to the termination bead of the accessory. Overlap mesh not less than 2-½ inches (64 mm) at mesh seams and feather at seams. Double wrap all inside and outside corners with minimum 8-inch (203 mm) overlap in each direction (except where corner bead is used at outside corners lap mesh over perforated flange of accessory). Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible. Do not install base coat and mesh onto solid (unperforated) portions of accessories.
- D. When the base coat application is dry apply finish in a continuous application and work to a wet edge. Float the finish to achieve the desired texture.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
- C. Do not permit finish surface to become soiled or damaged.

END OF SECTION

SECTION 07 54 19

POLYVINYL-CHLORIDE ROOFING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Removal of designated existing roofing system components.
 2. Wood sheathing.
 3. Fully adhered roof systems and accessories.
 4. Asphalt shingles and accessories.
 5. Flashings and edge metal.

1.2 REFERENCES

- A. ASTM International:
1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
 2. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 3. ASTM D570 – Standard Test Method for Water Absorption of Plastics.
 4. ASTM D751 – Standard Test Methods for Coated Fabrics.
 5. ASTM D1204 – Standard Test Method for Linear Dimension Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature.
 6. ASTM D2136 – Standard Test Method for Coated Fabrics Low –Temperature Bend Test.
 7. ASTM D3045 – Standard Practice for Heat Aging of Plastics Without Load.
 8. ASTM D5602 – Standard Test Method for Static Puncture Resistance of Roofing Membrane Specimens.
 9. ASTM D5635 – Standard Test Method for Dynamic Puncture Resistance of Roofing Membrane Specimens.
 10. ASTM D7635 - Standard Test Method for Measurement of Thickness of Coatings Over Fabric Reinforcement.
 11. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
 12. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
 13. ASTM G21 – Standard Practice of Determining Resistance of Synthetic Polymeric Materials to Fungi.
 14. ASTM G154 – Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure on Nonmetallic Materials.
 15. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
- B. FM Global:
1. FM 4450 - Approval Standard for Class 1 Insulated Steel Deck Roofs.
 2. FM 4470 – Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR), and Liquid Applied Roof Assemblies for use in Class I and Noncombustible Roof Deck Construction.
- C. Underwriters Laboratories Inc.:
1. UL 790 - Tests for Fire Resistance of Roof Covering Materials.

1.3 SYSTEM DESCRIPTION

- A. Elastomeric Sheet Membrane Roofing System: Single-ply membrane roof system that includes membranes comprised of a polyvinyl chloride polymer blend, reinforced with a high strength, weft-inserted polyester scrim; insulation; accessories; flashings; and trim. Membranes shall contain a combination of UV stabilizers, UV absorbents, plasticizers, heat stabilizers, flame retardant, lubricants and biocides, and shall exhibit the minimum physical properties specified herein.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Submit written confirmation from membrane Manufacturer that installer is an approved applicator.
- C. Product Data: Provide characteristics on membrane materials, pre-manufactured membrane accessories, pre-fabricated edge trim, fasteners, and all other components being installed.
- D. Shop Drawings: Indicate layout for membrane, joint or termination detail conditions, and conditions of interface with other materials.
- E. Samples: Submit color samples of roof edge trim for selection.

1.5 SUBMITTALS AT CLOSEOUT

- A. Section 01 40 00 – Manufacturer’s Field Services and Section 01 70 00 – Execution and Contract Closeout: Manufacturer’s examination of installation.
- B. Manufacturer’s Field Inspection: Upon completion of the installation, an inspection shall be made by the manufacturer’s Quality Assurance Specialist to ascertain that the installation has been completed in accordance with the manufacturer’s instructions and recommendations. Any work not approved by the manufacturer’s Quality Assurance Specialist shall be corrected to the satisfaction of the manufacturer at no additional cost to the Owner.
- C. Manufacturer’s Field Reports: Submit Manufacturer’s Field Report. Indicate procedures followed and any corrective work required for manufacturer’s acceptance of installation.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with manufacturer's most recently published instructions, and any pre-approval recommendations or revisions.
- B. Manufacturer’s quality assurance specialist shall inspect roofing system for compliance with manufacturer’s specifications.
- C. All materials used in the installation of the roofing system shall be products of the system manufacturer, or accepted products as defined and described in the manufacturer’s specifications. Other materials shall be accepted by the system manufacturer in writing prior to being installed in the system.
- D. Contractor Qualifications:

1. The Contractor shall employ and use qualified workmen who are thoroughly trained and experienced in the techniques required to properly install the components necessary to provide a complete and warrantable roof assembly.
2. Contractor shall employ and provide an experienced, qualified, thoroughly trained project superintendent having experience installing the components of the specified roof system.

1.7 REGULATORY REQUIREMENTS

- A. Building Code: Michigan Rehabilitation Code for Existing Buildings and Michigan Building Code 2012 by reference.
- B. UL 790: Class B (minimum) Fire Hazard Classification.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
- C. Store products in weather protected environment, clear of ground and moisture. Protect foam insulation from direct sunlight exposure.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Do not remove existing roofing when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Maintain continuous temporary protection prior to and during installation of new roofing system.
- C. Do not install roofing during inclement weather or when the ambient air temperature, surface temperature, relative humidity, or wind velocity is outside the range acceptable to the material Manufacturer.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- F. Protect all existing construction and new work. Prior to commencing work, protect existing construction in an approved manner to prevent damage resulting from installation, or from up-loading materials to the roof.
- G. Stage materials on the ground until ready for installation. Staging of bulk roofing materials on the roof will not be permitted. Load materials needed for installation as the work progress using fork truck or other ground mounted lifting device. Roof mounted hoists will not be permitted. Protect site surfaces from damage during loading operations.

1.10 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Schedule removal of existing roofing to coincide with commencement of installation of new roofing.
- C. Remove only existing roofing materials that can be replaced with new materials as the weather will permit.

1.11 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.
- B. Membrane manufacturer shall warrant the complete installation as a complete roof assembly, for a period of fifteen (15) years commencing on the date of acceptance of the installation by the manufacturer. The warranty shall be a no-dollar limit warranty providing repair and/or replacement of the roofing system at the then current material and labor prices throughout the life of the warranty period. The warranty shall contain no exclusions for ponded water, or biological growth.
- C. Repairs to roof system shall be made within seventy-two (72) hours of notification to the contractor or manufacturer and to the satisfaction of the owner and manufacturer at no cost to the owner.
- D. Roof shall be warranted as a complete roofing system, edge to edge including all flashings, terminations and trims.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Manufacturers:
 - 1. Duro-Last Roofing, Inc.
 - 2. Substitutions: Not Permitted.

2.2 MEMBRANE AND ASSOCIATED PRODUCTS

- A. Membrane for adhered installation as follows:
 - 1. For sloped roof surfaces: DuroTuff 50-mil Membrane; Brown color.
 - 2. For flat roof surfaces extensions: DuroTuff 50-mil Membrane; White color.
- B. All membrane components shall be furnished by the roof manufacturer, factory prefabricated from the same fabric reinforced material as the membrane.
- C. Separator membrane at shingle tie-in: Duro-Last A.R.P. Membrane.
- D. Fasteners: Provide Factory Mutual approved fasteners suitable for deck conditions furnished by the roof manufacturer.
 - 1. Provide HD Screws for all metal and wood deck applications.

- 2. Nails: Nails: ASTM F1667; standard round wire roofing nails hot dipped galvanized steel type, minimum 0.105 inch diameter shank, minimum 0.375 inch diameter head; of sufficient length to penetrate through roof sheathing.
- E. Distribution Plates: Provide Factory Mutual approved stress distribution plates suitable for substrate conditions, and furnished by the roof Manufacturer.
- F. Metal Drip Edge: Exceptional Metals T-Edge Plus consisting of a double folded drip edge with matching splice plates, concealing a vinyl coated hook edge.
- G. Two Piece Metal Fascia: Roof manufacturer's 4 inch wide metal compression edge system fabricated of 24 gauge galvanized steel with Kynar 500 coating.
- H. Termination Sealant: Compatible with materials to which sealant is to be applied, conforming to Federal Specifications TT-S-00230C, Type II, Class A and ASTM C920-87, and as furnished by the roof manufacturer.
- I. Adhesive: Adhesive for fully-adhered systems shall be solvent based adhesive designed for use with fully-adhered systems, suitable for adhering membrane to substrate, and as furnished by the roof Manufacturer.

2.3 LUMBER AND SHEATHING MATERIALS

- A. Wood Blocking and Nailers: SPF species, No. 2 or better.
- B. Wood Structural Panel Roof Sheathing: EWA Rated Sheathing; Plywood; Exposure Durability 1; unsanded; ½" thick.

2.4 SHINGLE MATERIALS

- A. Manufacturer:
 - 1. Certain Teed Corporation; Model Northgate Climate Flex Polymer Modified Asphalt Shingle.
 - 2. Substitutions: Not permitted.
- B. Description: ASTM D3018 Type 1 – Self-Sealing; ASTM D3462; ASTM D3161-99/UL997 Wind Resistance Class F; UL Class A Fire Resistance; glass fiber mat base, ceramically colored / UV resistant mineral surface granules across entire face of shingle; algae-resistant 249 lb/100 sq ft weight (minimum); self-sealing; laminated overlay type; color as selected.

2.5 SHEET MATERIALS

- A. Detail Membrane: ASTM D1970; self adhering polymer modified bituminous sheet material, with strippable release paper to expose adhesive surface. Grace Roof Detail Membrane or equal approved by membrane manufacturer.
- B. Bituthane Sheet Membrane: ASTM D1970; self adhering polymer modified bituminous sheet material, with strippable release paper to expose adhesive surface. Grace Ice & Water Shield HT or equal approved by membrane manufacturer.

2.6 ACCESSORIES

- A. Temporary Protection: Provide sheet materials capable of preventing the passage of water to the interior of the building during construction.

PART 3 EXECUTION

3.1 PRECAUTIONS

- A. Do not tear-off any more roofing than can be covered with temporary protective covering until ready for re-roofing.
- B. In making field heat welds, make sure that all edges are clean and free of materials which could affect the performance of the weld.
- C. Do not expose membrane or other accessories to constant temperatures in excess of 100 degrees F.
- D. Protection of Roofing Surfaces: Storing, wheeling, or trucking directly on roof insulation or roofing surface will not be permitted. Provide temporary plywood walkways, runways and platforms as necessary to protect insulation and roofing from damage.

3.2 MATERIAL REMOVAL

- A. Remove existing shingles, drip edge from designated roof areas. Remove shingles and pull back underlayment along upper tie-in area.
- B. Saw-cut and remove existing roof sheathing along roof eave extending 10 feet up slope. At ends of area being removed, cut shall taper to eave edge at 1:2 slope (refer to plans).

3.3 TEMPORARY PROTECTION

- A. Provide temporary protective sheeting over exposed substrate surfaces.
- B. Retain sheeting in position with weights or temporary fasteners as required.
- C. Provide for surface drainage from protective sheeting to existing drainage facilities. Do not allow water to build-up or stand on protective sheeting.
- D. Do not permit traffic over unprotected or repaired deck surface except as required for installation of new roofing.
- E. Any damage sustained to the facility or contents resulting from improper scheduling of the work, or improper temporary protection shall be Contractor's responsibility.

3.4 INSTALLATION

- A. Wood Sheathing:
 - 1. Install wood sheathing parallel to eave edge.

2. Anchor wood sheathing to existing insulation covered metal deck using screws and distribution plates in same pattern as existing (approximately 15 fasteners per sheet).

B. Membrane Application – Fully Adhered:

1. Fully adhere and heat weld membrane to substrate in accordance with manufacturer's instructions.
2. At overlapping sheets, lower edge of upper sheet shall be overlapped to the first shadow line on the upper edge of the lower sheet.
3. Perimeter Attachment: the membrane shall be mechanically fastened at all roof perimeters, in strict accordance with the Manufacturer's specifications and details.
4. At upper edge, terminate membrane in a bed of sealant, and pinned to the wood deck with nails. Heat weld Apply a 6" strip of Duro-Last A.R.P Membrane along the upper edge of the termination as a separator strip for the bituminous detail membrane.
5. Terminate at roof eave using T-edge plus installed in accordance with manufacturers standard details.

C. Shingle-tie

1. Install self-adhered detail membrane over PVC membrane to wood deck termination. Extend detail membrane only to edge of Duro-Last A.R.P. membrane and pressure set to wood deck and membrane.
2. Weatherlap existing felt underlayment (2 layers) over detail membrane.
3. Install shingle starter over detail membrane and nail in place. Locate nails above sealant bed at membrane termination.
4. Install shingles over starter shingles and continue up slope to existing shingles. Shingle coursing and exposure shall match existing shingle coursing and exposure.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and 01 70 00 - Execution and Closeout Requirements: Manufacturer's Field Inspection.
- B. Require site attendance of roofing manufacturer's representative as required by manufacturer during installation of the Work.
- C. Correct identified defects or irregularities.

3.6 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. In areas where finished surfaces are soiled by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Protect building surfaces against damage from roofing work.

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- C. Where traffic must continue over finished roofing, protect surfaces.

END OF SECTION

SECTION 07 90 00

JOINT PROTECTION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes sealants and joint backing and accessories.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C834 - Standard Specification for Latex Sealants.
 - 2. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
 - 3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
 - 4. ASTM C1193 - Standard Guide for Use of Joint Sealants.
 - 5. ASTM D1056 - Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Products Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.
- C. Samples: Submit two samples illustrating sealant colors for selection.
- D. Manufacturer's Installation Instructions: Submit special procedures, surface preparation, and perimeter conditions requiring special attention.
- E. Warranty: Include coverage for installed sealants and accessories failing to achieve watertight seal, exhibit loss of adhesion or cohesion, and sealants which do not cure.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing Work of this section with minimum three years documented experience.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

1.6 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with sections referencing this section.

PART 2 PRODUCTS

2.1 JOINT SEALERS

- A. Manufacturers:
 - 1. Dow Corning Corp.
 - 2. Pecora Corp..
 - 3. Sika Corp..
 - 4. Tremco Sealants & Waterproofing.
 - 5. Substitutions: Or equal.
- B. High Performance General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; multi-component.
 - 1. Acceptable Products:
 - a. Dymeric 240FC manufactured by Tremco.
 - b. Sikaflex-2c NS manufactured by Sika Corp.
 - c. Dynatrol II by Pecora Corporation.
 - 2. Color: Standard colors matching finished surfaces.
 - 3. Applications: Use for:
 - a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Other exterior nontraffic joints for which no other sealant is indicated.
- C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
 - 1. Acceptable Products:
 - a. TremFlex 834 manufactured by Tremco.
 - b. Pecora AC-20 + Silicone manufactured by Pecora Corp.
 - 2. Color: Standard colors matching finished surfaces.
 - 3. Applications: Interior non-moving joints including joints between door and window frames and wall surfaces, interior corners of masonry walls subject to cracking, and other interior joints for which no other type of sealant is indicated.

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber; oversized 30 to 50 percent larger than joint width.

- 1. Type: Everlastic manufactured by Williams Products, Inc. or equal.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate surfaces and joint openings are ready to receive work.
- C. Verify joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter impairing adhesion of sealant.
- B. Clean and prime joints.
- C. Perform preparation in accordance with ASTM C1193.
- D. Protect elements surrounding Work of this section from damage or disfiguration.

3.3 INSTALLATION

- A. Perform installation in accordance with ASTM C1193.
- B. Perform acoustical sealant application work in accordance with ASTM C919.
- C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
 - 1. Width/depth ratio of 2: 1.
 - 2. Neck dimension no greater than 1/3 of joint width.
 - 3. Surface bond area on each side not less than 75 percent of joint width.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.

3.4 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean adjacent soiled surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Protect sealants until cured.

END OF SECTION

SECTION 08 12 13

HOLLOW METAL FRAMES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes non-rated steel frames.
- B. Related Sections:
 - 1. Section 07 90 00 – Joint Protection: Joint sealers.
 - 2. Section 08 71 00 - Door Hardware: Hardware.
 - 3. Section 09 90 00 – Painting: Field painting of frames.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
- B. ASTM International:
 - 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacing, location of cut-outs for hardware, and finish.
- C. Product Data: Submit frame configuration and finishes.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Conform to requirements of ANSI A250.8.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Accept frames on site in manufacturer's packaging. Inspect for damage.

- C. Break seal on-site to permit ventilation.

1.7 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with frame opening construction, door, and hardware installation.
- C. Sequence installation to accommodate required door hardware electric wire connections.

PART 2 PRODUCTS

2.1 STANDARD STEEL FRAMES

- A. Manufacturers:
 - 1. Amweld Building Products, Inc.
 - 2. Ceco Door Products
 - 3. Kewanee Corp.
 - 4. Republic Builders Products
 - 5. Steelcraft
 - 6. Or equal
- B. Product Description: Standard shop fabricated steel frames, non-rated type.
 - 1. Interior Frames:
 - a. 16 gage/0.053 inch thick material, base metal thickness, galvanized.

2.2 ACCESSORIES

- A. Primer: ANSI A250.10 rust inhibitive type.
- B. Weatherstripping and/or smoke seals: Specified in Section 08 71 00.

2.3 FABRICATION

- A. Fabricate frames as welded unit.
- B. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes for frames set in masonry.
- C. Fabricate frames to match frame elevations depicted in plans.

2.4 SHOP FINISHING

- A. Steel Sheet: Galvanized to ASTM A653/A653M G60.
- B. Primer: Baked.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install frames in accordance with ANSI A250.8.
- B. Coordinate with masonry wall construction for anchor placement.
- C. Coordinate installation of frames with installation of hardware specified in Section 08 71 00 and doors in Section 08 13 15.

3.3 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 14 16

FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Flush wood doors.
- B. Related Requirements:
 - 1. Section 08 71 00 - Door Hardware.

1.2 REFERENCE STANDARDS

- A. Architectural Woodwork Institute:
 - 1. AWI AWS - Architectural Woodwork Standards.
- B. Hardwood Plywood and Veneer Association:
 - 1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.
- C. National Fire Protection Association:
 - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
 - 2. NFPA 105 - Standard for the Installation of Smoke Door Assemblies and other Opening Protectives.
 - 3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
- D. Underwriters Laboratories Inc.:
 - 1. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
 - 2. UL 1784 - Air Leakage Tests of Door Assemblies.
- E. Wood Window and Door Manufacturers Association:
 - 1. WDMA I.S 1A - Architectural Wood Flush Doors.

1.3 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with door hardware installation.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data:
 - 1. Submit data for door core materials and construction.
 - 2. Submit data for veneer species, type and characteristics.
 - 3. Submit data for factory finishes.

- C. Shop Drawings:
 - 1. Indicate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, and factory machining criteria.
 - 2. Indicate cutouts for glazing.
- D. Samples:
 - 1. Submit samples of door veneer, illustrating wood grain, stain color, and sheen.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with AWI AWS Section 9, Premium Grade.
- B. Finish doors in accordance with AWI AWS Section 5 Premium Grade.
- C. Fire Rated Door [and Transom] Construction: Conform to one of the following:
 - 1. NFPA 252; with neutral pressure level at 40 inches maximum above sill at 5 minutes into test.
 - 2. UL 10C.
 - 3. 20-Minute Fire Rated Corridor Doors: Fire tested without hose stream test.
- D. Installed Fire Rated Door Assembly: Conform to NFPA 80 for fire rated class as indicated on Drawings.
- E. Attach label from agency approved by authority having jurisdiction to identify each fire rated door.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Package, deliver and store doors in accordance with AWI AWS Section 2.
- C. Accept doors on site in manufacturer's packaging. Inspect for damage.
 - 1. Break seal on site to permit ventilation.

1.8 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.
- C. Interior Doors:
 - 1. Factory Finished Doors: Furnish manufacturer's life of installation warranty.

PART 2 PRODUCTS

2.1 FLUSH WOOD DOORS

- A. Manufacturer List:
 - 1. Algoma Hardwoods Inc.
 - 2. Eggers Industries.
 - 3. Graham Manufacturing Corp.
 - 4. Marshfield Door Systems
 - 5. Mohawk Flush Doors, Inc.
 - 6. Oshkosh Architectural Door Company
 - 7. Or equal

- B. Flush Interior Doors: Solid core.
 - 1. Thickness: 1-3/4 inches
 - 2. Core: PC
 - 3. Face Construction: Five ply.
 - 4. Performance Duty Level: Heavy duty.

- C. Performance / Design Criteria:
 - 1. Performance Duty Level: WDMA I.S. 1A.
 - 2. Fire Resistance: As indicated on Drawings.

2.2 MATERIALS

- A. Door Cores: AWI AWS Section 9.
 - 1. Solid Core, Non-Fire Rated:
 - a. Type: PC; particleboard.

- B. Interior Door Faces:
 - 1. Transparent Finished Faces: Wood veneer.
 - a. Species: Red oak.
 - b. Veneer Cut: Plain sliced.
 - c. Veneer Matching: Book matched.
 - d. Face Matching: Running. Pair match multiple door leaves in single opening.

- C. Facing Adhesive: Type I - waterproof.

2.3 FABRICATION

- A. Fabricate doors in accordance with AWI AWS Section 9 requirements.

- B. Furnish closer and lock blocks at lock edge and top of door for closer for hardware reinforcement.

- C. Vertical Exposed Edge of Stiles: Wood veneer matching door facing.

- D. Fit door edge trim to edge of stiles after applying veneer facing.

- E. Bond edge banding to cores.

- F. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Furnish solid blocking for through bolted hardware.
- G. Factory fit doors for frame opening dimensions identified on shop drawings.
- H. Provide edge clearances in accordance with AWI AWS Section 9.

2.4 FINISHES

- A. Transparent Finish System: Stained, color and sheen as selected.
 - 1. System 9; UV curable epoxy, polyester, urethane.
- B. Seal door top edge with color sealer to match door facing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

- A. Install doors in accordance with AWI AWS Section 9 and manufacturer's instructions.
- B. Field Fitting and Trimming:
 - 1. Trim door height by cutting bottom edges to maximum of 3/4 inch.
- C. Coordinate installation of doors with installation of hardware specified in Section 08 71 00.

3.3 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Diagonal Distortion (Warp): 1/8 inch measured with straight edge or taut string, corner to corner, over imaginary 36 x 84 inches surface area.
- C. Maximum Vertical Distortion (Bow): 1/8 inch measured with straight edge or taut string, top to bottom, over imaginary 36 x 84 inches surface area.
- D. Maximum Width Distortion (Cup): 1/8 inch measured with straight edge or taut string, edge to edge, over imaginary 36 x 84 inches surface area.

3.4 ADJUSTING

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.
- B. Adjust door for smooth and balanced door movement.
- C. Adjust door closer for full closure.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Furnish hardware required to complete the work as shown on the drawings and as specified herein;
 - 2. Furnish trim attachments and fastenings, specified or otherwise required, for proper and complete installation.
 - 3. Furnish all items of Finish Hardware specified, scheduled, shown or required herein except those items specifically excluded from this section of the specification.

- B. Related Sections:
 - 1. Section 08 12 13 – Hollow Metal Frames.
 - 2. Section 08 14 16 – Flush Wood Doors.

1.2 DEFINITIONS

- A. "Finish Hardware": Items required for swinging doors, except special types of unique and non-matching hardware specified under door and frame Sections of these Specifications.

1.3 DESIGN REQUIREMENTS

- A. Thoroughly review finish hardware schedule, comparing it with the floor plan, door schedule, and door details to verify hardware requirements, quantities, door swings, finishes, and sizes.

- B. If an inconsistency or error in the proposed construction documents is suspected, the hardware supplier is to bring it immediately to the attention of the Architect. If the quantity of items is questioned, for bidding purposes, assume the higher quantity is required and price accordingly.

- C. Architect's review of Submittals is for design concept only, and does not relieve the Contractor of the responsibility to furnish sufficient material and functions required for a complete, and code-worthy installation. Determination of all quantities is the responsibility of the Contractor.

1.4 PERFORMANCE REQUIREMENTS

- A. Furnish finish hardware complying with the requirements of laws, codes, ordinances and guidelines of governmental authorities having jurisdiction:

- B. NFPA 101, "Life Safety Code", 2000 edition.

- C. International Building Code - 2009 Edition

- D. ANSI A117.1-2003 Accessible and Usable Buildings and Facilities

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Hardware Schedule:
 - 1. Submit "Finish Hardware Schedule" in the following format:
 - a. Vertically-typed, double-spaced;
 - b. Organized into "hardware sets", indicating complete designations of every item required for each door or opening. Include the following information for each item of finish hardware:
 - 1) Manufacturer
 - 2) Type
 - 3) Style
 - 4) Function
 - 5) Size
 - 6) Degree and direction of opening swing ("hand")
 - 7) Finish
 - 8) Fasteners
 - 9) Location of hardware set cross-referenced to indications on floor plans, door, schedule, and frame schedule.
 - 10) Explanation of all abbreviations, symbols, codes, etc. contained in schedule.
 - 11) Mounting heights and locations for hardware.
 - 12) Door and frame sizes and materials.
 - 13) Keying information.
 - c. Electrified Hardware system operation description.
- C. Product Data:
 - 1. Submit, in booklet form Manufacturers Catalog cut sheets of scheduled hardware.
 - 2. Submit product data with hardware schedule.
- D. Electrified Hardware Drawings:
 - 1. Submit Riser & Wire Diagram RPIJB0217 drawings showing relationship of all electrical hardware components to door and frame. Indicate number and gage of wires required. RPIJB0217 shall be included with the submittals.
 - a. Include wiring drawing showing point to point wire hook up for all components.
 - b. Include system operations descriptions for each type of opening; describe each possible condition

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the following requirements:
 - 1. ANSI A156 series.
 - 2. NFPA 80.
 - 3. UL 305.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

- B. Source limitations: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.
 - 1. Include instructions, templates, and fasteners needed for installation.

1.9 COORDINATION

- A. Section 01 31 00 - Project Management and Coordination: Coordination and project conditions.
- B. Coordinate Owner's keying requirements during course of Work.

PART 2 PRODUCTS

2.1 GENERAL

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each finish hardware item is indicated in the Drawings.
- B. Product designations:
 - 1. Provide the product designated or the comparable product by the Manufacturers listed under this Section.
- C. ANSI/BHMA designations:
 - 1. Used to describe hardware items, or to define quality or function. Provide products complying with these standards in addition to additional requirements of this Section.
- D. Hand of door: Drawings show direction of slide, swing ("hand") of door leaves.
- E. Hardware: Use hardware manufactured to conform to published templates and, generally, prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.

2.2 MATERIALS

- A. Base metals:
 - 1. Manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser (commercially-recognized) quality than that specified for applicable hardware units by applicable ANSI A156 series standard for each type hardware item and with ANSI A156.18 for finish designations indicated.
 - 2. Do not furnish "optional" materials for those indicated, except as otherwise specified.
- B. Fasteners:

1. Furnish Phillips flat-head screws with each hardware item, unless otherwise indicated.
 2. Exposed screws: Match finish of hardware (even where noted to be "prepared for paint").
 3. Use concealed fasteners for hardware units which are exposed when door is closed, except where no standard units of type specified are available with concealed fasteners.
 4. Do not use thru-bolts where bolt head or nut on opposite face would be exposed.
 5. Where adequate reinforcement is not feasible, thru-bolting would only be acceptable if through sleeves, or if sex-screw fasteners are used.
- C. Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

2.3 MANUFACTURED UNITS

- A. Reference standards:
1. Comply with BHMA/ANSI A156 current series for each product type.
- B. Hardware finishes:
1. Materials and Finishes Standard: Comply with ANSI A156.18 (BHMA 1301). Finish designations used in schedules are listed, therein.
 2. Provide matching finishes for hardware units at each door, unless otherwise indicated.
 3. Match the color and texture of hardware items to manufacturer's standard finish for the latchset, lockset, or push-pull unit.
 4. Provide quality of finish, including thickness of plating or coating, composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than that specified or described by referenced standards.
- C. Hardware for fire-rated openings:
1. Comply with NFPA 80.
 2. Tested and listed by Underwriters Laboratory (UL), or Factory Mutual (FM) for type, size and use of door, and complying with requirements of door and door frame label.
 3. Provide UL or FM label on door indicating "Fire door to be equipped with fire-exit hardware".
 4. Provide UL or FM label on exit device indicating "Fire Exit Hardware".

2.4 PRODUCTS

- A. Hinges:
1. Butt Hinges:
 - a. ANSI A156.1 - for commercial quality.
 - b. Provide only template-produced units.
 - c. All butt hinges to be ball bearing-5 knuckle type Standard or Heavy Weight as specified.
 - d. Hinges at exterior doors shall be of non-ferrous material.
 - e. All hinges shall be provided Non-removable (NRP)
 - f. Size and number of hinges as specified; otherwise according to hinge manufacturer's recommendation for door size and weight.
 - g. Acceptable products: PDQ, PBB, Bommer.
- B. Locksets:
1. Mortise Locks as required to match existing preps:
 - a. Comply with ANSI A156.13 - 1987, Grade 1 criteria for mortise locks.
 - b. Provide functions as listed in the hardware schedule.
 - c. Lockset case shall to be non-handed.
 - d. Provide sized lip of strike based on frame conditions.

- e. Provide appropriate fasteners for lock and strike.
- f. Trim: Stainless Steel, 03 lever-type equal to Schlage.
- g. Acceptable products: Schlag L9000, PDQ MR

C. Stops:

- 1. General:
 - a. ANSI A156.16 - 1989 Grade 1 criteria.
 - b. Provide stops where scheduled, wall or floor, as opening conditions dictate, utilizing wall stops wherever possible.
- 2. Description:
 - a. Wall stops: Cast brass, bronze or stainless steel. Concave wall stop to have stainless steel washer imbedded in rubber stop.
 - b. Floor stops: Cast Stainless, brass or bronze, and plated as required.
 - c. Make selection of floor stop height based upon floor conditions and door undercut.
 - d. Overhead Stops: Stainless steel body sized for width of door.
- 3. Acceptable products: Don Jo, PDQ, Hiawatha

D. Miscellaneous Hardware Equipment and Material:

- 1. General:
 - a. Provide items and types as specified.

2.5 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

2.6 HARDWARE FINISHES

A. General:

- 1. Provide matching finishes for hardware units at each door or opening, to the greatest extent possible and except as otherwise indicated.
- 2. Reduce differences in color and textures as much as commercially possible where the base metal or metal forming process is different for individual units of hardware exposed at the same door or opening.
- 3. In general, match items to the manufacturer's standard finish for the latch and lock set (or push/pull units if no latch/lock sets) for color and texture.
- 4. Provide finishes matching those established by BHMA or, if none established, match the Architect's sample.
- 5. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness and other qualities complying with manufacturer's standards, but in no case less than that specified for the applicable units of hardware by referenced standards.
- 6. Finish designations used in schedules and elsewhere listed in ANSI A156.18 "Materials and Finishes Standard", including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.

- B. Provide the following hardware finishes, unless otherwise scheduled: Dull Chrome, Stainless Steel, and Aluminum color pallet.

- C. Base material: Manufacturer's standard high-carbon steel, brass, or bronze.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify doors and frames are ready to receive door hardware and dimensions are as indicated on shop drawings.
- B. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. General:
 - 1. Install each item in its proper location firmly anchored into position, level and plumb, and in accordance with the manufacturer's recommendations.
 - 2. Handing, hardware heights, locations, and degree of opening swing are indicated in the Drawings and Finish Hardware Schedule.
 - 3. Mount finish hardware units:
 - a. At recommended heights and locations as shown in approved finish hardware schedule, complying with requirements of the A.D.A., and pertinent provisions of the Building Code.
 - b. To function at proper degree of opening of doors as indicated on approved finish hardware schedule.
 - c. By manufacturer's template.
 - d. Prior to final finishing of the door. Remove hardware to allow finishing of door, and permanently reinstall hardware upon completion of finishing operation.
 - 4. Reinforce, where necessary, the substrate to assure proper attachment.
 - 5. Drill and countersink units which are not factory-prepared for anchorage fasteners.
 - 6. Space fasteners and anchors in accordance with industry standards.
- C. Installing closers:
 - 1. Mount closers per manufacturer's template, and secure the Architect's approval of the closer installation.
 - 2. The Contractor will be required to replace doors onto which closers are improperly mounted at no additional cost to the Owner. Repair or patching of such doors will not be acceptable.
- D. Installing Stops: Install all wall stops into reinforced wall or stud. Projection type wall stops (115) should be mounted 80" from finish floor, with sloped portion of the stop facing up / flat side down. Install floor stops out of the way foot traffic at a height high enough to accommodate any ramp or uneven floor condition.

3.3 ADJUSTING AND CLEANING

- A. Check and adjust each item of hardware and each door upon completion of final installation. Verify proper function, and replace units which cannot be made to operate freely and smoothly, as intended for the application.

B. Clean adjacent surfaces soiled by hardware installation.

3.4 PROTECTION OF INSTALLED CONSTRUCTION

A. Do not permit adjacent work to damage hardware or hardware finish.

3.5 HARDWARE SETS

Hardware Set 1 – Reuse Existing Hardware

Hardware Set 2 – Privacy Set w/ Visual Indicator

3 ea.	Butt Hinges 35STBB 4545 NRP	26D
1 ea.	Privacy Set w/ Indicator MR279 DJEW	32D
1 ea.	Wall Stop 1407	26D

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal framing.
 - 2. Gypsum sheathing.
 - 3. Cement board.

1.2 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel.
 - 2. Products.
 - 3. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
 - 4. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - 5. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
 - 6. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel.
 - 7. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
 - 8. ASTM C1288 - Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets.
 - 9. ASTM C1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cement Substrate Sheets.
 - 10. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 11. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 12. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data on metal framing, gypsum board, joint tape; decorative finish, acoustic and accessories.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM C840, GA-214, GA-216 and GA-600 as applicable.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Manufacturer List:
 - 1. Georgia-Pacific Corporation.
 - 2. National Gypsum Co.
 - 3. United States Gypsum Co.
 - 4. Gold Bond Building Products
 - 5. Or equal
- B. Performance / Design Criteria:
 - 1. Select stud thickness to resist minimum 5 psf uniform load and maximum 1/240 deflection.
 - 2. Acoustic Attenuation for Identified Interior Partitions: 54 STC in accordance with ASTM E90.

2.2 COMPONENTS

- A. Framing Materials:
 - 1. Studs and Tracks: ASTM C645; galvanized sheet steel, minimum 0.018 inch thick, C shape, with knurled faces.
 - 2. Furring, Framing, and Accessories: ASTM C645.
 - 3. Fasteners: ASTM C1002; length to suit application.
 - 4. Anchorage to Substrate: Screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
- B. Gypsum Sheathing Materials: Fiberglass-Mat Faced Gypsum Sheathing: 5/8 inch thick, maximum available length in place; ends square cut, tapered edges. Equal to DensGlass Sheathing as manufactured by Georgia-Pacific Gypsum LLC.
- C. Cement Board Materials: Cementitious Backer Units: ANSI A118.9, ASTM A108.11 and ASTM C 1325 provide with manufacturer's standard edges, 1/4 inch thick.

2.3 ACCESSORIES

- A. Gypsum Board Screws: ASTM C1002; length to suit application.
 - 1. Screws for Steel Framing: Type S.
 - 2. Screws for Wood Framing: Type W.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify site conditions are ready to receive work and opening dimensions are as indicated on shop drawings.

3.2 DEMOLITION

- A. Extend existing gypsum board installations using materials and methods as specified.
- B. Repair and remodel existing gypsum board assemblies which remain or are to be altered.

3.3 INSTALLATION

- A. Metal Framing Installation:
 - 1. Install studs in accordance with ASTM C754, GA-216 and GA-600.
- B. Gypsum and Cement Sheathing Installation:
 - 1. Install gypsum board in accordance with ASTM C840, GA-216, and GA-600.
 - 2. Erect with ends and edges occurring over firm bearing. Stagger end joints.
 - 3. Use screws when fastening gypsum board to framing.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

END OF SECTION

SECTION 09 67 23

RESINOUS FLOORING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes fluid-applied resin based flooring and cove base.

1.2 REFERENCES

- A. American Concrete Institute
1. ACI 308R — Guide to Curing Concrete; 2008
- B. ASTM International (American Society for Testing and Materials)
1. ASTM C307 - Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing; 2012.
 2. ASTM C579 — Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes; 2012.
 3. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2012.
 4. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers Tension; 2006.
 5. ASTM D624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers; 2012.
 6. ASTM D4258 — Standard Practice for Surface Cleaning Concrete for Coating; 2012.
 7. ASTM D4259 - Standard Practice for Abrading Concrete; 2012.
 8. ASTM D4263 — Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method; 2012.
 9. ASTM D4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers; 2009.
 10. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2011.
 11. ASTM F1869 — Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2011.
 12. ASTM F2170 — Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2011.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product literature including physical data, chemical resistance, surface preparation, and application instructions.
- B. Samples:
1. Submit samples illustrating color and pattern for each floor material for selection.
 2. A hard sample of the selected colors shall be submitted to represent the finished floor.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.5 QUALITY ASSURANCE

- A. Section 01 40 00 – Quality Requirements: Requirements for compliance with reference standards.
- B. Perform work in accordance with specified reference standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Installer: Installation shall be performed by an applicator approved by the manufacturer of the floor surfacing materials. The Contractor shall furnish a certified installer certificate.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 – Material and Equipment: Storage and handling requirements.
- B. All materials are to be delivered to the job site in the manufacturer's original packaging. The product code and other identification marks should be clearly marked and visible.
- C. Store resin materials in dry, secure area.
- D. Store materials for three days prior to installation in area of installation to achieve temperature stability.
- E. Storage Temperature: Store between 60 degrees F and 95 degrees F.
- F. Protect separated A and B components of Hybrid XT resinous flooring from contact with moisture, such as dew, high humidity, and liquid water until fully cured.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Follow Manufacture's recommended safety procedures during installation.
- B. Application Range:
 - 1. Ideal: Maintain material, substrate surface, and ambient temperature range of 40 to 90 degrees F and humidity between 25 and 50 percent.
 - 2. Maximum: Maintain maximum material, substrate surface, and ambient temperature of 100 degrees F, and humidity of 0 percent.
 - 3. Minimum: Maintain minimum material, substrate surface, and ambient temperature of 0 degrees F and humidity of 85 percent.

- C. Ventilate area where flooring is being installed. Post and enforce NO OPEN FLAME signs until flooring has cured.
- D. Restrict traffic from area where flooring is being installed or is curing.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Xtreme Engineered Floor Systems; Product V-8 Hybrid XT Decorative Floor Coating.
 - 1. Address: 3303 Hudson Trails Drive, Hudsonville, MI 49426.
 - 2. Phone: (800) 234-8208; Fax: (616) 896-8332; Website: www.V8FloorCoatings.com.
- B. Substitutions: Permitted.

2.2 MATERIALS

- A. Two-Part Hybrid XT Resin: Part A - clear odorless liquid, with chemical name of aliphatic polyisocyanate; Part B - light yellow colored liquid, mild odor, with chemical name of polyaspartic.
- B. Flooring System:
 - 1. Full Chip Vinyl Broadcast System: Provide color for floor system based on the following.
 - a. Primer Coat Color: As selected by Owner from manufacturer's full color line.
 - b. Base Coat Color: As selected by Owner from manufacturer's full color line.
 - c. Vinyl Flakes: As selected by Owner from manufacturer's full color line.
 - d. Size: Matching Owners existing.
 - e. Grout Coat: Clear, non-pigmented coating over broadcast color chips.
 - f. Finish Coat: Clear, non-pigmented top coating.

2.3 ACCESSORIES

- A. Non-Skid Floor Treatment: Crushed polypropylene beads broadcast directly onto surface of final coat.
 - 1. Acceptable Product: V Grip, distributed by Xtreme Engineered Floor Systems.
- B. Base Cove: Flexible vinyl base molding with 1 inch radius, approved by flooring manufacturer.
 - 1. Length: 4 feet.
- C. Concrete Patch/Adhesive: 100 percent solids by volume, two part epoxy with resin binder and hardener.
 - 1. Application: Used for filling holes, voids, or air pockets in concrete, and as an adhesive for bonding wall base to concrete.
 - 2. Bond Strength: Failure in concrete, ASTM D4541.
 - 3. Compressive Strength: 9,000 psi; ASTM C579.
 - 4. Tensile Strength: 2,000 psi; ASTM C307.
 - 5. Work Time: Approximately 10 minutes at 75 degrees F.
 - 6. Recoat Time: After 3 to 5 hours, depending on ambient temperatures.
 - 7. Acceptable Product: Fast Patch, distributed by Xtreme Engineered Floor Systems, Inc.

- D. Cleaner: Highly concentrated non-toxic cleaner, non-corrosive with neutral pH, dye free, and biodegradable.
 - 1. Acceptable Product: Xtreme Clean, distributed by Xtreme Engineered Floor Systems.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify floor surfaces are smooth and flat with maximum variation as specified in Section and are ready to receive work.
- B. Verify that new concrete surfaces have cured for at least 30 days at 75 degrees F with 50 percent or less humidity; ACI 308R.
- C. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions and submit report of test results.
 - 1. Perform calcium chloride test in compliance with ASTM F1869.
 - a. Proceed with application of resinous flooring only after substrates have maximum moisture-vapor emission rate of 3 lb of water per 1,000 sq ft of slab area in 24 hours.
 - 2. Perform plastic sheet test in compliance with ASTM D4263.
 - a. Proceed with application only after testing indicates absence of moisture in substrates.
 - 3. Perform relative humidity test using in position probes in compliance with ASTM F2170.
 - a. Proceed with application only after substrates have a 75 percent or less relative humidity level measurement.
- D. Alkalinity Testing: Verify that concrete substrate has pH within acceptable range of 7 to 9 as recommended by manufacturer.
 - 1. Proceed with application only after substrates pass testing.
- E. Verify floor and wall surfaces are free of substances capable of impairing adhesion of adhesive and finish materials.
- F. Verify that floor drains and floor sinks and recessed floor covers are set to height recommended by flooring manufacturer.

3.2 PREPARATION

- A. Prepare and clean concrete substrates in accordance with resinous flooring manufacturer's written instructions.
 - 1. Provide clean, dry substrate for resinous flooring application.
 - a. Use manufacturer's recommended cleaning solution for cleaning existing concrete, unless noted otherwise.
 - b. Mix cleaning solution with water at dilution ratio recommended for this work; standard ratio is 1:128 or 1 ounce per gallon of water.
 - 2. Vacuum floor surface to leave the flooring substrate free from loose debris.
 - 3. Use degreaser on oil or grease saturated areas as necessary before grinding.

- B. Concrete Substrates: Provide solid and substantial concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants and debris incompatible with resinous flooring.
 - 1. Acid etching of concrete substrate is not recommended.
- C. Clean concrete surface in preparation for resinous coating application in accordance with ASTM D4258.
 - 1. Procedures include broom cleaning, vacuum cleaning, air blast cleaning, water cleaning, detergent water cleaning, and steam cleaning to remove loose materials on substrate surface.
 - 2. Clean surface using procedure as recommended by resinous flooring manufacturer in compliance with project requirements.
- D. Prepare concrete surface for resinous coating application in accordance with ASTM D4259.
 - 1. Prepare concrete surface using diamond grinder and mechanically grind the concrete surface to remove existing contaminants and debris in compliance with project requirements.
- E. Joints: Prepare control and expansion joints by filling with properly prepared Hybrid XT flooring mixture as recommended by manufacturer.
- F. Concrete Repair: Repair holes or spalling in concrete and/or other areas that require patching by filling damaged areas with properly prepared Hybrid XT flooring mixture or concrete patching compound as recommended by manufacturer's installation guidelines.
 - 1. Use of dry clean sand may be added to Hybrid XT flooring mixture to fill larger surface areas.
 - 2. Concrete Patch:
 - a. Ensure that substrate, resin, and hardener are within range of 60 to 90 degrees F prior to application.
 - b. Mix resin and hardener together for at least one minute until thoroughly blended.
 - c. Apply onto plaster's hawk or trowel board immediately after mixing and use trowel to apply concrete patch to repair area and remove excess material.
 - d. Do not apply more concrete repair material than can be top coated within 24 hours.
- G. When field quality control report indicates portions of concrete substrate are unsatisfactory, repeat process until field quality control report indicates there are no unsatisfactory portions remaining.

3.3 APPLICATION

- A. Apply flooring in accordance with manufacturer's instructions.
- B. Apply components of resinous flooring system in accordance with manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness and characteristics indicated.
 - 1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and to optimize adhesion between coats.
 - 2. Cure resinous flooring components in accordance with manufacturer's written instructions.
 - 3. Ensure the prevention of contamination during application and curing processes.
 - 4. Comply with resinous flooring manufacturer's written instructions for application at substrate expansion and control joints.

- C. Mixing: Pour equal parts of PART A and PART B into separate container, mixing with squirrel cage-type drill mixer attachment.
 - 1. Product sets up rapidly; mix in manageable batches in accordance with project requirements.
 - 2. Mixing colored pigments; adhere to the following maximum quantities of one gallon PART A, plus one gallon PART B, plus one quart of colored pigment in accordance with project requirements.

- D. Full Chip Vinyl Broadcast System: Provide color for floor system based on the following:
 - 1. Primer Coat: Apply colored primer coat at coverage rate of 350 to 400 sq ft per gallon.
 - 2. Base Coat: After 20 minutes, or when tacky to touch, apply colored base coat at 350 sq ft per gallon, and broadcast colored vinyl chips onto wet base coat.
 - a. After 30 minutes or when vinyl chips are set within curing base coat, remove excess chips from surface with tile scraper saving excess chips for future use.
 - b. Vacuum clean coated floor area.
 - 3. Grout Coat: Apply clear grout coat over floor area at coverage rate of 225 sq ft per gallon.
 - a. To ensure even coverage, broadcast additional colored vinyl chips within grout coat to fill-in light areas as necessary.
 - 4. Top Coats: After 30 minutes, when dry to touch, apply two clear top coats at coverage rate of 500 to 550 sq ft per gallon.

- E. Provide base and cove at vertical surfaces.
 - 1. Apply resin mix to cove base, and extend up walls 4".

- F. Apply finish glaze and anti-skid.

3.4 CLEANING

- A. Wait at least 3 days after completion of installation before initial cleaning.

- B. Sweep and/or mop daily to remove dust and debris.
 - 1. Use a damp mop as necessary, using warm water and manufacturer's recommended cleaner, rinse thoroughly.
 - 2. Use a machine to scrub floor as necessary, using warm water and a gentle detergent. Use nonabrasive scrubbing pads and scrub at low machine speed.
 - 3. Use caution when using new cleaners; test a patch of floor in an inconspicuous location to ensure cleaner will not harm the surface.

- C. Use caution when using new cleaners; test a patch of floor in an inconspicuous location to ensure cleaner will not harm the surface.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Prohibit traffic on floor finish until flooring is fully cured.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints, and other coatings.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
 - 2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
 - 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. Painting and Decorating Contractors of America:
 - 1. PDCA - Architectural Painting Specification Manual.
- C. SSPC: The Society for Protective Coatings:
 - 1. SSPC - Steel Structures Painting Manual.

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on finishing products.
- C. Samples:
 - 1. Submit paper chip samples illustrating range of colors available for each surface finishing product scheduled.
- D. Manufacturer's Installation Instructions: Submit special surface preparation procedures, and substrate conditions requiring special attention.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.6 QUALIFICATIONS

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

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- F. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.9 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish five year manufacturer warranty for paints and coatings.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
 - 1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
 - 2. For good flow and brushing properties.
 - 3. Capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.
- C. Patching Materials: Latex filler.
- D. Fastener Head Cover Materials: Latex filler.

2.2 FINISHES

- A. Interior Paint Systems IPS-1:
 - 1. Latex:
 - a. 1st Coat; (Primer):
 - 1) Gypsum Drywall: Latex Primer.
 - 2) Concrete Masonry Units: Surface Filler.
 - 3) Concrete: Latex Primer.
 - b. 2nd Coat and 3rd Coat: Latex base emulsion, Satin Finish. Color as selected by Architect.
 - 2. Apply to the surfaces as indicated in Drawings
- B. Interior Paint System IPS-2:
 - 1. Enamel:
 - a. 1st Coat; (Primer)
 - 1) Ferrous metal: Red oxide primer.
 - 2) Galvanized metal: Galvanized primer.
 - b. 2nd Coat: Ferrous Metal and Galvanized Metal: Enamel Undercoater.
 - c. 3rd Coat: Odorless Alkyd Enamel, Semi-Gloss.
 - 2. Apply to the following interior surfaces:
 - a. Hollow metal frames with no exterior exposure on either side.
 - b. Miscellaneous steel and metal items exposed to view except as noted otherwise.
 - c. Other surfaces and rooms as indicated on the Room Finish Schedule.
 - d. Exposed to view mechanical and electrical items specified to be field finished.
- C. Interior Paint System IPS-3:
 - 1. Water-based: Equal to Sherwin Williams – Pro Industrial Water Based Catalyzed Epoxy.
 - a. 1st Coat; (primer):
 - 1) Concrete Masonry Units: Heavy Duty Block Filler.
 - 2) Cement Plaster: None.
 - b. 2nd and 3rd Coats: Epoxy Paint (7 mills total), Gloss finish; color as selected by Architect.
 - 2. Apply to the following interior surfaces as scheduled:

- a. Walls and ceiling surfaces scheduled to receive IPS-3.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify surfaces and substrate conditions are ready to receive Work as instructed by product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.
- D. Test shop applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

- A. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects.

3.3 APPLICATION

- A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- C. Sand metal surfaces lightly between coats to achieve required finish.
- D. Use tack cloth to remove dust and particles just prior to applying next coat.

3.4 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

END OF SECTION

SECTION 10 21 13

TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes solid plastic toilet compartments, and urinal screens.
- B. Related Sections:

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall and floor supports, and door swings.
- C. Product Data: Submit data on panel construction, hardware, and accessories.
- D. Samples: Submit samples illustrating panel finish, color, and sheen.

1.3 WARRANTY

- A. The Toilet Partition manufacturer shall guarantee all Solid Plastic Toilet Partitions by written certification, for a period of 25 years against breakage, delamination, and corrosion of solid plastic parts. Warranty is for manufacturer's material only and does not include installation errors, improper usage or vandalism.

PART 2 PRODUCTS

2.1 PLASTIC TOILET COMPARTMENTS

- A. Manufacturers:
 - 1. Accurate Partitions Corp.
 - 2. Ampco Products, Inc.
 - 3. Flush Metal Partition Corp.
 - 4. Global Partitions Corp.
 - 5. Hadrian Manufacturing, Inc.
 - 6. Sanymetal.
 - 7. Or equal
- B. Product Description: Floor mounted and overhead braced.

2.2 COMPONENTS

- A. Construction: Doors, panels and pilasters shall be certified CLASS B polyethylene solid plastic. The material shall contain no foaming agents, which can cause the formation of air pockets. The self-lubricating surface is resistant to marking and can be maintained effectively with ordinary household cleaners. Material is ideal for toilet partition installations, especially in high abuse and high moisture environments.
- B. Doors: Shall be 1 inch thick by 55 inches high straight cut with fine radius edges.
- C. Panels: Shall be 1 inch thick by 55 inches high straight cut with fine radius edges.
- D. Pilasters: Shall be 1 inch thick by 82 inches high straight cut with fine radius edges.
- E. Headrail: Shall be 1.25 inches by 1.75 inch extruded anodized aluminum with anti-grip design. Wall thickness to be 0.060" inches and shall be securely attached to wall and pilasters with manufacturer's fittings in such a way as to make a rigid installation. All joints in headrails shall be made at a pilaster.
- F. Hardware and Fittings: Doors are installed with heavy duty 14-gauge stainless steel continuous hinges that feature a stainless steel hinge pin. Hinges shall be fastened to door and pilaster with tamper-proof 6-lobe security head stainless steel through-bolts. Strike-keeper and throw latch shall be of cast stainless steel. Full height stainless steel channels are used at the panel to wall, panel to pilaster, and pilaster to wall connections. Inswing doors shall be fitted with a zinc die cast, #4 brushed combined coat hook and bumper. Outswing doors shall be fitted with a #4 brushed stainless steel flat coat hook. Fasteners are theft-proof 6-lobe security head stainless steel screws. Pilasters shall be securely and rigidly fastened to the floor with 3 inch high stainless steel anchor shoes.
- G. Toilet Compartments: Floor-mounted headrail-braced.
- H. Urinal Screen Mounting: Wall mount with continuous panel brackets.

2.3 FACTORY FINISHING

- A. Doors, panels, and pilasters shall be certified CLASS B polyethylene solid plastic with uniform color throughout. Color shall be as selected from Hadrian's color card.
- B. Color: Single color as selected.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify field measurements are as indicated on shop drawings.
- C. Verify correct spacing of and between plumbing fixtures.
- D. Verify correct location of built-in framing, anchorage, and bracing.

3.2 INSTALLATION

- A. All Toilet Partitions must be mounted according Manufacturers standard locations and those specified on the drawings.
- B. Attach panel brackets securely to walls using anchor devices.
- C. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

3.3 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation From Indicated Position: 1/4 inch.
- C. Maximum Variation From Plumb: 1/8 inch.

3.4 ADJUSTING

- A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.
- B. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- C. Adjust hinges to position doors in [partial opened] [fully] position when unlatched. Return out swinging doors to closed position.
- D. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 10 51 53

LOCKER ROOM BENCHES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes locker room bench tops and pedestal mounts.

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittals: Requirements for submittals.
- B. Shop Drawings: Submit Shop Drawing indicating bench layout, pedestal location, and mounting details.
- C. Product Data: Submit .Manufacturer's Product Data demonstrating conformance with specified requirements.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 – Material and Equipment: Requirements for transporting, handling, storing, and protecting products.
- B. Protect bench and pedestal finish and adjacent surfaces from damage.
- C. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- D. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- E. Handling: Protect materials and finish during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 BENCHES AND PEDISTALS

- A. Manufacturers:
 - 1. Lyon Workspace Products, Inc
 - 2. Art Metal Products
 - 3. List Industries, Inc.
 - 4. Penco Products, Inc..
 - 5. Republic Storage Systems Co., Inc.

2.2 COMPONENTS

- A. Locker Bench Tops: Laminated Hardwood 11-1/4 x 1-1/4 inches x length indicated on Drawings. Finished with two coats of clear acrylic.
- B. Pedestals: 16-1/2 inches high x 8-1/4 inch diameter top and base fabricated from 14 gauge steel with 1-5/8 inch tubing uprights. Finish to match Lockers specified in Section 10 51 13. Space pedestals at 6'-0" o.c. maximum.

2.3 ACCESSORIES

- A. Anchors: Type recommended by manufacturer for installation in concrete substrate.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify flooring finish is complete and cured, and ready for installation of pedestal bases.

3.2 INSTALLATION

- A. Install in accordance with Manufacturers printed instruction and approved Shop Drawings.
- B. Locate pedestal bases 6'-0" o.c. maximum.
- C. Anchor pedestal bases solidly to concrete floor using anchors as recommended by Manufacturer.

3.3 CLEANING

- A. Clean dust and debris resulting for installation.
- B. Remove protective coverings.

END OF SECTION

SECTION 21 0001

GENERAL FIRE PROTECTION / SUPPRESSION REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. This Division includes all labor, materials, equipment, tools, supervision, start-up services, Owner training, etc., including all incidental and related items, necessary to complete installation and successfully test and start up and operate the Fire Protection systems indicated on the drawings, AND as described in each Section of Division 21 0000 Specifications.
- B. All drawings and General Provisions of the Contract, including the General Conditions, Supplementary General Conditions, and Division 1 specification sections, apply to work of all Division 21 sections. The items in this section are not intended to supersede, but are supplementary to, the requirements set forth in other Divisions of the specifications.
- C. The Contractor, and his Subcontractors and Suppliers, shall include in their bid all materials, labor, and equipment involved, in accordance with all local customs, codes, rules, regulations; and secure compliance of all parts of the Specifications and Drawings regardless of Sectional inclusion in these Specifications.
- D. The Contractor shall be held responsible for the complete and satisfactory accomplishment of all Work inclusive of whatever miscellaneous material and/or appurtenances are required to perfect the installation, and demonstrate that all fire protection systems will operate satisfactorily under normal operating conditions.

1.02 DRAWINGS & SPECIFICATIONS

- A. The drawings are diagrammatic and show the general location and arrangement of equipment, piping and related items. They shall be followed as closely as elements of the construction will permit. The Contractor shall provide/install all fire protection systems, and associated equipment, complete and include all necessary offsets, fittings, and other components required due to interferences, space constraints, code requirements, etc. as required to provide a complete/functional system.
- B. The general fire protection requirements are intended to augment the drawings and specifications. Should conflicts occur between the drawings and the specifications, the strictest provision shall govern. Where there are conflicts or differences between the drawings for the various trades, report such conflicts or differences to the Architect and/or Engineer for resolution.
- C. The Contractor shall examine the drawings of all other trades in order to verify the conditions governing the work on the job site. Arrange work accordingly, providing all piping, fittings, valves and accessories as may be required to meet such conditions.
- D. Deviations from the drawings, with the exception of minor changes in routing and other such incidental changes that do not affect the functioning or serviceability of the systems, shall not be made without the written approval of the Architect and/or Engineer.
- E. The architectural and structural drawings take precedence in all matters pertaining to the building structure, plumbing drawings in all matters pertaining to plumbing trades and electrical drawings in all matters pertaining to electrical trades. Where there are conflicts or differences between the drawings for the various trades, report such conflicts or differences to the Architect and/or Engineer for resolution.

1.03 COORDINATION OF WORK

- A. The Contractor and his Subcontractors shall be responsible for all tasks applicable to their work in accordance with the Specifications, Drawings, and code requirements, and shall be responsible for coordinating locations and arrangements of their work to give best results with all other relevant trades.
 - 1. Coordinate their work to obtain symmetry in ceiling layouts, so that sprinkler heads, lights, diffusers, etc. are coordinated and are installed per the Architectural reflected ceiling plan.
 - 2. Coordinate all wall, roof, floor penetrations, equipment pads, etc. with architectural and structural trades.
 - 3. Refer to architectural floor plans for locations/heights/types of ceilings, structural elements, etc. Coordinate with architectural plans for details on where fire protection piping will be routed, sprinkler head locations, etc.
 - 4. Verify requirements of all equipment with shop drawing submittals prior to installation - notify Architect/Engineer of any conflicts between shop drawings and plans.
 - 5. Verify clearance requirements of all mechanical, electrical and plumbing equipment/systems prior to the installation of any new work. Fire protection equipment, piping, systems, etc. shall not interfere with mechanical, electrical, and plumbing equipment spaces.

1.04 INSPECTION OF SITE AND PROJECT DOCUMENTATION

- A. The Contractor shall visit the site and examine/verify the conditions under which the work must be conducted before submitting proposal. The Contractor shall examine the drawings and specifications of all other trades including Mechanical, Architectural, Structural and Electrical.
- B. The submitting of a proposal implies that the Contractor has visited the site, examined all contract documents, and understands the conditions under which the work must be conducted.
- C. The Contractor shall notify the Architect and/or Engineer, prior to submitting his bid via Request For Information (RFI), of any potential problems that he has identified during his inspection of the site or from the review of plans/specifications. RFIs must be submitted at least 4 working days prior to bid opening.

1.05 GENERAL SUPPORT REQUIREMENTS

- A. Provide all necessary angle/brackets, hangers, or supplementary supporting steel as required for adequate support for all piping, and equipment. Secure approval from Architect and/or Structural Engineer, in writing, before welding or bolting to steel framing or anchoring to concrete structure, or cutting/coring thru structural systems.
- B. Where piping or equipment is supported or suspended from concrete construction, provide approved concrete inserts in formwork to receive hanger rods, such as Unistrut or Powerstrut, and where installed in metal deck, use Ramset or Welds as required.

1.06 GUARANTEE

- A. Contractor shall guarantee that all labor, materials, and equipment are free from defects and agrees to replace or repair any part of this installation which becomes defective within a period of one year from the date of substantial completion following final acceptance. Acceptance date of substantial completion shall be as determined by the Architect and/or Engineer.
- B. The Contractor shall file with the Owner any and all guarantees from the equipment manufacturers including the operating conditions and performance capacities they are based on.

1.07 CODES, PERMITS AND FEES

- A. Refer to Division 1, General Conditions and Supplementary Conditions.
- B. Unless otherwise indicated, all required permits, licenses, inspections, approvals and fees for mechanical work shall be secured and paid for by the Contractor.
- C. All work shall be executed in accordance with the latest enforceable rules and regulations set forth in local and state codes.
 - 1. Fire Protection systems shall be installed per current jurisdictional codes (i.e. Michigan Mechanical Code, Michigan Plumbing Code, etc.), per current NFPA life safety codes (i.e. NFPA 13, NFPA 101, NPFA 90, etc.), and applicable sections of the Michigan Building Code.
- D. In the event that the plans and specifications conflict with any rules, regulations, or codes applying, said rules, regulations and codes shall govern.
- E. Where the drawings and/or specifications indicate materials or construction in excess of code requirements, the drawings and/or specifications shall govern.
- F. Design/Build Fire Suppression SubContractor (F.S.) shall prepare any detailed shop drawings and diagrams that are required by the governing authorities (i.e. fire protection plans, fire protection calculations, etc.) which shall be signed/sealed by a Professional Engineer who is licensed in the State of the project location.

1.08 OPERATION AND MAINTENANCE INSTRUCTIONAL MANUALS

- A. Provide complete maintenance and operating instructional manuals covering all fire protection equipment as specified herein, Division 1 requirements, and individual equipment specification sections.
- B. The O&M data shall be bound in a suitable number of 3" or 4", 3-ring, hard cover binders. Permanently imprinted on the cover shall be the words, "Manufacturer's Operation and Maintenance Data", project title, location of project, and the date. A table of contents shall be provided in the front of each binder.
- C. Maintenance and operating instructional manuals shall be job specific to this project. Generic manuals are not acceptable. Each piece of equipment in the O&M manual shall be identified as identified on the project drawings (i.e. Sprinkler Heads, Backflow Preventers, etc.).
- D. Internally subdivide the binder contents with permanent page dividers, organized by specification section and/or major equipment/systems (i.e. Fire Protection Riser Equipment, Fire Protection Sprinklers, etc.)
- E. Contents: Each volume of O&M manual shall have three parts:
 - 1. Part 1: A directory listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: O&M data, arranged and subdivided by major equipment/systems. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers:
 - a. List of equipment.
 - b. Copies of Shop drawings and product data, approved by Architect/Engineer.
 - c. Installation and operational procedures.
 - d. Routine maintenance procedures.
 - e. Trouble shooting procedures.

- f. Complete parts lists by nomenclature, manufacturer's part number and use.
 - g. Recommended spare parts lists.
 - h. Elevations and/or sections cut through all of the major equipment and sub-assemblies.
3. Part 3: Project documents and certificates, including the following: Shop drawings.
- a. Warranty Certificates.
 - b. Contractor's and equipment manufacturer's telephone numbers for warranty repair services.
 - c. Copies of approved construction permits.
- F. Maintenance and Operating manuals shall be provided to the Architect and/or Engineer for review when construction is 75% complete.
- G. A minimum of two (2) copies of all approved Operation and Maintenance literature shall be furnished to the Owner within 10 days after final inspection. O&M manuals must be completed prior to start of Owner training as the manuals shall be used as the basis of the training.

1.09 SHOP DRAWINGS/SUBMITTALS

- A. Refer to General Conditions and Supplementary General Conditions.
- B. All shop drawings shall be submitted in groupings of similar and/or related items. Incomplete submittal groupings will be returned unchecked.
- C. Submit fire protection system shop drawings, product data and hydraulic calculations to local Authorities Having Jurisdiction, the Owner's insuring agency, and the Architect and/or Engineer for approval prior to fabrication or installation. Submit proof of approval from the Authority Having Jurisdiction to Architect and/or Engineer.
- D. Unless noted otherwise, submit digital (.pdf format) copies of complete manufacturer's shop drawings for all equipment, valves, specialties, pipe hangers, wiring diagrams and control diagrams including, but not limited to the items listed below. Where items are referred to by symbolic designation on the drawings and specifications, all submittals shall bear the same designation. Refer to other Sections of the fire protection specifications for additional requirements.
 - 1. 21 1300 Fire-Suppression Sprinkler Systems.
 - a. Fire Protection-Suppression Sprinklers.
 - b. Fire Protection-Suppression Piping Layouts.
 - c. Fire Protection-Suppression Calculations.

1.10 RECORD DRAWINGS

- A. Contractor shall submit to the Architect and/or Engineer, record drawings which have been neatly marked to represent as-built conditions for all new fire protection work.
- B. The Contractor shall keep accurate note of all deviations from the construction documents and discrepancies in the underground concealed conditions and other items of construction on field drawings as they occur. The marked up field documents shall be available for review by the Architect and/or Engineer, and Owner at their request.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. Install equipment in strict accordance with all directions and recommendations furnished by the manufacturer. Where such directions are in conflict with the drawings and specifications, report such conflicts to the Architect and/or Engineer for resolution.

3.02 WORK INVOLVING OTHER TRADES

- A. Certain items of equipment or materials specified in the Fire Protection Division may have to be installed by other trades due to code requirements or union jurisdictional requirements. In such instances, the Contractor shall complete the work through an approved, qualified subcontractor and shall include the full cost for same in his bid.

3.03 COORDINATION

- A. Install work to avoid interference with work of other trades including, but not limited to, architectural and electrical trades. Remove and relocate any work that causes an interference at Contractor's expense. Disputes regarding the cause of an interference shall be resolved by the Architect and/or Engineer.

3.04 CHASE, SHAFTS AND RECESSES

- A. Coordinate with structural, architectural and other trades to ensure accurate location and size of chases, shafts and recesses required for fire protection systems/piping.

3.05 SLEEVES

- A. Provide and install Schedule 40 black steel pipe sleeves, cut to length, wherever pipes pass through above grade walls and floors. Provide and install galvanized steel pipe sleeves, cut to length, wherever pipes pass through below grade foundation walls and slab on grade floors. Sleeves shall terminate flush with walls in finished areas. All sleeves through the floor are to extend two (2) inches above finish floor.
- B. Provide escutcheons at each penetration through walls, floors, and ceilings in exposed areas.
- C. Patch sleeves to match building material.

3.06 SEALING OF FIRE PROTECTION OPENINGS

- A. Seal the space around pipes and sleeves through walls, floors and ceilings.
- B. Refer to specification 078400-Firestopping.
- C. Provide adequate clearance to allow for proper pipe movement and sealing.
- D. Provide/install fireproof wall and floor sleeves as required by applicable building codes at all applicable wall, ceiling, and floor penetrations. Refer to Architectural plans for wall assembly ratings.
- E. Sleeves placed in floors shall be flush with the underside of the floor construction and shall have planed, square ends, extending 2 inches above the finished floor, unless otherwise noted or detailed.
- F. Where sleeves pass through reinforced concrete floors, they shall be properly set in position prior to concrete pouring in such a way that they will be maintained in position until the concrete is set.
- G. Pipes passing through below grade perimeter walls or slabs on grade shall have the space between the pipe and sleeve sealed watertight with a mechanically expandable elastomer seal

device.

- H. Penetrations through fire rated floors and walls shall be firestopped per applicable building code requirements with UL and FMRC approved materials and shall have a fire rating equal to or greater than the fire partition rating. Refer to architectural plans for locations and assembly ratings.
1. Packing: Refractory fiber or ceramic fiber.
 - a. Manufacturers:
 - 1) Carborundum Fiberfrax.
 - 2) Johns-Manville - Cerafelt.
 - 3) Eagle Picher Epitherm 1200.
 - 4) Babcock and Wilcox Kaowool.
 2. Fire stop sealant.
 - a. Manufacturers:
 - 1) Hilti
 - 2) Tremco
 - 3) Mameco
 - 4) Pecora

3.07 CUTTING, CORING AND PATCHING

- A. Refer to General Conditions
- B. The Contractor shall perform all cutting, coring, and patching that may be necessary for the installation of their Work. All cutting, coring, patching and repair work shall be performed by the Contractor through qualified Subcontractors. Contractor shall include full cost of same in his bid.
- C. Secure approval from Architect and/or Structural Engineer, in writing, before cutting, welding/bolting to, or anchoring from any structural building components (i.e. structural steel, load bearing walls, footings/foundations, concrete floors/ceilings, etc.).

3.08 EQUIPMENT CONNECTIONS

- A. All piping connections to equipment shall be flanged or shall be made with unions to facilitate equipment removal.
- B. All piping connections to pumps other equipment shall be installed without strain at the pipe connection of this equipment.
- C. Brass unions for connections of 2 inch and less and flanged union with dielectric gasket and bolt sleeves for 2-1/2 inch and greater shall be used for equipment connections of dissimilar metals.

3.09 ACCESSIBILITY

- A. All equipment shall be installed so as to be readily accessible for operation, maintenance, and repair, as required by the equipment manufacturer and as subject to the approval of the Engineer.

3.10 CLEANING

- A. Each trade shall be responsible for removing all debris daily as required to maintain the work area in a neat, orderly condition.

- B. After equipment and systems have been completed and tested, each entire system shall be cleaned and flushed.
- C. Prior to connection of new piping to existing piping systems, all new piping shall be subject to initial flushing, cleaning and final flushing. Provide temporary bypass piping and fittings, temporary valves and strainers, temporary water make-up piping with approved means of backflow prevention, and temporary pumps as needed to perform specified flushing and cleaning requirements.

3.11 PAINTING

- A. All fire protection systems, equipment, piping, etc. exposed in finished areas shall be painted to match the surrounding finishes. Refer to specification section 09900 - Coordinate color with Architect.

3.12 PROTECTION AND HANDLING OF EQUIPMENT AND MATERIALS

- A. Electrical equipment furnished by Fire Protection Trades and installed by Electrical Trades shall be turned over to Electrical Trades in good condition.
- B. Equipment and materials shall be protected from theft, injury or damage.
- C. Coat polished or plated metal parts with white petroleum jelly immediately after installation.
- D. Protect equipment outlets, pipe openings with temporary plugs or caps.
- E. Provide adequate storage for all equipment and materials delivered to the job site. Equipment set in place in unprotected areas must be provided with temporary protection.

3.13 GENERAL SUPPORT REQUIREMENTS

- A. Each trade shall provide all required supporting components to properly support their work. Supporting components/systems shall be in accordance with Code and as specified.
- B. Provide all necessary angle/brackets or supplementary steel as required for adequate support for all piping, valves, specialties, and equipment. Secure approval from Architect and/or Structural Engineer, in writing, before welding or bolting to steel framing or anchoring to concrete structure.
- C. Where piping, specialties, or equipment is supported or suspended from concrete construction, provide approved concrete inserts in formwork to receive hanger rods, such as Unistrut or Powerstrut, and where installed in metal deck, use Ramset or Welds as required.

3.14 PIPING SYSTEMS TESTING

- A. Test backflow prevention at connections between potable water and nonpotable water for proper functioning under normal operating conditions. Provide Owner with one (1) copy of the potable water backflow prevention test report.
- B. Test drainage piping systems in accordance with their respective and applicable governing codes. Test drainage and waste piping hydraulically by filling the system to its highest point or at a static head of 10 feet, whichever is higher.
- C. Pressure test fire protection piping in accordance with governing and applicable codes. At minimum, test with water at 200 PSIG - permissible pressure drop shall be 0 PSIG over 2 hour period.

3.15 DRAWINGS AND MEASUREMENTS

- A. These specifications and accompanying drawings are intended to describe and provide for finished work. They are intended to be cooperative, and what is called for by either the drawings or specifications shall be as binding as if call for by both. The work herein described shall be

complete in every detail.

- B. The Drawings are not intended to be scaled for rough-in measurements, nor to serve as Shop Drawings. Field measurements necessary for ordering materials and fitting the installation to the building construction and arrangement shall be taken by the Contractor. The Contractor shall check latest architectural drawings to locate equipment/fixtures/etc., check latest structural drawings for interferences, etc..

3.16 EXTRA WORK

- A. For any extra work which may be proposed, the Contractor shall furnish to the General Contractor/Construction Manager, an itemized breakdown of the estimated cost of all materials and labor required to complete this work. The estimate cost breakdown shall include unit prices (same prices for increase/decrease of work) for all materials (i.e. duct, piping, valves, equipment, equipment rental, etc.) and all labor (i.e. manhours, overtime, etc.) which may be required for any proposed extra work. The Contractor shall not proceed until receiving a written order from the General Contractor establishing the agreed price and describing the work to be done.

3.17 DEMOLITION WORK

- A. All demolition of existing fire protection equipment and materials shall be done by the Contractor unless otherwise indicated. Included are all items such as, but not limited to, existing piping, pumps, supports and equipment where such items are not required for the proper operation of the modified system.
- B. In general, demolition work is indicated on the drawings. However, the Contractor shall visit the job to determine the full extent and character of this work.
- C. Unless specifically noted to the contrary, removed materials shall not be reused in the work. Salvaged materials that are to be reused shall be stored safe against damage and turned over to the appropriate trade for reuse. Salvaged materials of value that are not to be reused shall remain the property of the Owner unless such ownership is waived. Remove items from the systems and turn over to the Owner in their condition prior to removal. The Owner shall move and store these materials. Items on which the Owner waives ownership shall become the property of the Contractor, who shall remove and legally dispose of, away from the premises.
- D. Work that has been cut or partially removed shall be protected against damage until covered by permanent construction.
- E. Clean and flush the interior and exterior of all existing relocated equipment and its related piping, valves, and accessories that are to be reused of all mud, debris, pipe dope, oils, welding slag, loose mill scale, rust and other extraneous material so that the existing equipment and all accessories can be repainted and repaired as required to place in first-class working condition.
- F. Where existing equipment is to be removed, cap piping under floor, behind face of wall, above ceiling or at mains.

3.18 WORK IN EXISTING BUILDINGS

- A. The Owner will provide access to existing buildings as required. Access requirements to occupied buildings shall be identified on the project schedule. The Contractor, once work is started in the existing building, shall complete same without interruption so as to return work areas as soon as possible to Owner.
- B. Adequately protect and preserve all existing and newly installed work. Promptly repair any damage to same at Contractor's expense.
- C. Consult with the Architect and/or Engineer as to the methods of carrying on the work so as not to interfere with the Owner's operation any more than absolutely necessary. Accordingly, all service lines shall be kept in operation as long as possible and the services shall only be interrupted at

such time as will be designated by the Architect and/or Owner's Representative.

END OF SECTION

SECTION 21 0500

COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe, fittings, valves, and connections for sprinkler systems.

1.02 REFERENCE STANDARDS

- A. ASME (BPV IX) - Boiler and Pressure Vessel Code, Section IX - Welding and Brazing Qualifications; The American Society of Mechanical Engineers.
- B. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250; The American Society of Mechanical Engineers.
- C. ASME B16.4 - Gray Iron Threaded Fittings; The American Society of Mechanical Engineers.
- D. ASME B16.5 - Pipe Flanges and Flanged Fittings; The American Society of Mechanical Engineers (ANSI/ASME B16.5).
- E. ASME B16.9 - Factory-made Wrought Steel Buttwelding Fittings; The American Society of Mechanical Engineers.
- F. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- G. ASTM A 135/A 135M - Standard Specification for Electric-Resistance Welded Steel Pipe.
- H. AWS D1.1/D1.1M - Structural Welding Code - Steel.
- I. NFPA 13 - Standard for the Installation of Sprinkler Systems; National Fire Protection Association.
- J. UL (FPED) - Fire Protection Equipment Directory; Underwriters Laboratories Inc..

1.03 SUBMITTALS

- A. Project Record Documents: Record actual locations of components and tag numbering.
- B. Operation and Maintenance Data: Include installation instructions and spare parts lists.
- C. Grooved joint couplings and fittings shall be shown on drawings and product submittals, and shall be specifically identified with the applicable style or series designation.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum 10 years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 10 years experience.
- C. Conform to UL and FM requirements.
- D. Valves: Bear UL and FM label or marking. Provide manufacturer's name and pressure rating marked on valve body.
- E. Products Requiring Electrical Connection: Listed and classified as suitable for the purpose specified and indicated.

- F. All grooved joint couplings, fittings, valves, and specialties shall be the products of a single ISO-9001 certified manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.
- G. All castings used for coupling housings, fittings, valve bodies, etc., shall be date stamped for quality assurance and traceability.
- H. The Design/Build Fire Protection/Suppression Subcontractor (F.S.) shall design and install the fire protection system under direct supervision of a Professional Fire Protection Engineer experienced in design of this type of work and licensed in the State of the Project Location. The fire protection design drawings shall bear the seal/signature/date of the licensed Professional Engineer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers, with labeling in place.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

PART 2 PRODUCTS

2.01 FIRE PROTECTION SYSTEMS

- A. Sprinkler Systems: Conform work to NFPA 13.
- B. Welding Materials and Procedures: Conform to ASME Code.

2.02 ABOVE GROUND SPRINKLER AND STANDPIPE PIPING (F)

- A. Steel Pipe: ASTM A 53 Schedule 40 or ASTM A 135 Schedule 10, black.
 - 1. Steel Fittings: ASME B16.9, wrought steel, buttwelded or ASME B16.5, steel flanges and fittings.
 - 2. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings and ASME B16.4, threaded fittings.
 - 3. Mechanical Grooved Couplings: Ductile iron housing clamps to engage and lock, "C" shaped elastomeric sealing gasket, electroplated steel bolts, nuts, and washers; galvanized for galvanized pipe.
 - a. Rigid Type: Housings shall be cast with offsetting angle-pattern bolt pads to provide rigidity and system support and hanging in accordance with NFPA-13. (Couplings shall be fully installed at visual pad-to-pad offset contact. Tongue and recess type couplings, or any coupling that requires exact gapping of bolt pads on each side of the coupling at specific torque ratings, are not allowed).
 - 1) 1-1/4" through 4": Installation ready couplings, for direct stab installation without field disassembly. Victaulic Style 009-EZ (or approved equal).
 - 2) 5" through 8": Victaulic FireLock Style 005 (or approved equal).
 - 3) 10" and larger: Victaulic Zero-Flex Style 07 (or approved equal).
 - b. Flexible Type: For use in locations where vibration attenuation and stress relief are required, and for seismic applications in accordance with the manufacturer's written instructions. Victaulic Style 77.
 - c. Gasket Guide:

- 1) Water/Wet Systems (Ambient Temperature Range) - Use Grade EPDM, Type A gasket.
 4. Mechanical Formed Fittings: Carbon steel housing (zinc electroplated exterior) with integral pipe stop and O-ring pocked and O-ring, uniformly compressed into permanent mechanical engagement onto pipe. UL listed and FMG approved to 175 psig CWP. Victaulic Pressfit® (or approved equal).
- B. Minimum System Pressure Rating: 175 psig.
- C. Isolation valves:
1. Outside stem and yoke gate valves (OS&Y). Victaulic Series 771 (or approved equal).
 2. Grooved end butterfly valves with weatherproof actuator. Victaulic Series 705W (or approved equal).

2.03 PIPE HANGERS AND SUPPORTS

- A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.
- B. Hangers for Pipe Sizes 2 inches and Over: Carbon steel, adjustable, clevis.
- C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- D. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.
- E. Wall Support for Pipe Sizes 4 inches and Over: Welded steel bracket and wrought steel clamp.
- F. Vertical Support: Steel riser clamp.
- G. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
- H. In grooved installations, use Victaulic Style 009, 005, or 07 (or approved equal) rigid couplings with offsetting angle-pattern bolt pads, which permit support and hanging in accordance with NFPA-13.

2.04 BALL VALVES

- A. Up to and including 2 inches:
1. Bronze two piece body, brass, chrome plated bronze, or stainless steel ball, teflon seats and stuffing box ring, lever handle and balancing stops, threaded or soldered ends with union.
 2. Bronze two piece body, brass, chrome plated brass ball, teflon seats and stuffing box ring, weatherproof actuator with handwheel and two single-pole double-throw supervisory switches, threaded or grooved ends. Victaulic Series 728 (or approved equal).
- B. Over 2 inches:
1. Cast steel body, chrome plated steel ball, teflon seat and stuffing box seals, lever handle or gear drive handwheel for sizes 10 inches and over, flanged.
 2. Ductile iron body, chrome plated steel ball, TFE seat, fluoroelastomer seals, lever handle or gear operated, with grooved ends. (unlisted) Victaulic Series 726 (or approved equal).

2.05 DRAIN VALVES

- A. Compression Stop:
1. Bronze with hose thread nipple and cap.
- B. Ball Valve:

1. Brass with cap and chain, 3/4 inch hose thread.

PART 3 EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and foreign material, from inside and outside, before assembly.
- C. Prepare piping connections to equipment with Mechanical Grooved Couplings (Victaulic or approved equal), flanges or unions.

3.02 INSTALLATION

- A. Install sprinkler system and service main piping, hangers, and supports in accordance with NFPA 13, Owner's Insuring Agency requirements, and requirements of local authorities having local jurisdiction.
- B. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
- C. Install piping to conserve building space, to not interfere with use of space and other work.
- D. Group piping whenever practical at common elevations.
- E. Sleeve pipes passing through partitions, walls, and floors.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
 1. For water systems, use adequate numbers of Victaulic Style 75 or 77 (or approved equal) flexible couplings in header piping to accommodate thermal growth and contraction, and for the elimination of expansion loops. (In accordance with manufacturer's instructions) Where expansion loops are required, use flexible couplings on the loops.
- G. Inserts:
 1. Provide inserts for placement in concrete formwork.
 2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
 3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
 4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
 5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.
- H. Pipe Hangers and Supports:
 1. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
 2. Place hangers within 12 inches of each horizontal elbow.
 3. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
 4. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
 5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

6. Prime coat exposed steel hangers and supports. Refer to Section 09 9000. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
 - I. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.
 - J. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding. Refer to Section 09 9000.
 - K. Do not penetrate building structural members without coordination with/approval from Structural Engineer.
 - L. Provide sleeves when penetrating footings, floors, and walls. Seal pipe and sleeve penetrations to achieve fire resistance equivalent to fire separation required.
 - M. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.
 - N. Die cut threaded joints with full cut standard taper pipe threads with red lead and linseed oil or other non-toxic joint compound applied to male threads only.
 - O. Install valves with stems upright or horizontal, not inverted. Remove protective coatings prior to installation.
 - P. Provide drain valves at main shut-off valves, low points of piping and apparatus. Drain to floor drains via air gap, refer to plumbing plans for floor drain locations (coordinate with plumbing trades).
 - Q. Grooved joints shall be installed in accordance with the manufacturer's latest published installation instructions. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove. Gaskets shall be of an elastomer grade suitable for the intended service, and shall be molded and produced by the coupling manufacturer. The grooved coupling manufacturer's factory trained representative shall provide on-site training for contractor's field personnel in the use of grooving tools and installation of grooved joint products. The representative shall periodically visit the jobsite and review contractor is following best recommended practices in grooved product installation. Note: A distributor's representative is not considered qualified to conduct the training or jobsite visit(s).
 - R. Install Victaulic Pressfit® (or approved equal) in accordance with manufacturer's recommendations. Pipe shall be square cut (+/-0.030", properly deburred, and cleaned. Pipe ends shall be marked with a gauge supplied by the manufacturer. Use a Victaulic 'PFT' series (or approved equal) tool with the proper sized jaw for pressing.
 - S. Provide vents, with manual vent valves, at all high points in the system. Purge all air from the system during start-up.

END OF SECTION

SECTION 21 1300

FIRE-SUPPRESSION SPRINKLER SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fire Protection / Suppression System design, installation, and certification.

1.02 REFERENCE STANDARDS

- A. ICC-ES AC01 - Acceptance Criteria for Expansion Anchors in Masonry Elements.
- B. ICC-ES AC106 - Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry Elements.
- C. ICC-ES AC193 - Acceptance Criteria for Mechanical Anchors in Concrete Elements.
- D. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.
- E. UL (FPED) - Fire Protection Equipment Directory; Underwriters Laboratories Inc..

1.03 SUBMITTALS

- A. Product Data: Provide data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.
- B. Shop Drawings for wet pipe sprinkler systems, standpipe and fire hose systems, and sprinkler systems:
 - 1. Submit preliminary layout of finished ceiling areas indicating only sprinkler locations coordinated with ceiling installation.
 - 2. Indicate hydraulic calculations, detailed pipe layout, hangers and supports, sprinklers, components and accessories. Indicate system controls.
 - 3. Submit shop drawings, product data, and hydraulic calculations to authority having jurisdiction, and Fire Marshall for approval. Submit proof of approval to Architect/Engineer.
 - 4. All shop drawings and calculations shall be prepared by a licensed Professional Engineer, licensed in the State of the project local (Michigan), and experienced in design of this type of work and bear the Professional Engineer's seal/signature.
 - 5. All drawings shall be prepared as .dxf or .dwg CAD drawings, and be presented in .pdf format.
 - 6. Note that Owner has existing shop drawings of existing wet pipe suppression system that may be provided in .pdf format if requested.
- C. Project Record Documents: Record actual locations of sprinklers and deviations of piping from drawings. Indicate drain and test locations.
- D. Manufacturer's Certificate: Certify that system has been tested and meets or exceeds specified requirements and code requirements.
- E. Operation and Maintenance Data: Include components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

1.04 QUALITY ASSURANCE

- A. Maintain one copy of referenced design and installation standard on site.
- B. Conform to UL requirements.
- C. The Fire Protection/Suppression Contractor (F.S.) shall design and install the fire protection system under direct supervision of a Professional Fire Protection Engineer experienced in design of this type of work and licensed in PROJECT LOCATION. All shop drawings and calculations shall be prepared by a licensed Professional Engineer experienced in design of this type of work and bear the Professional Engineer's seal/signature.
- D. All equipment and components shall be FMRC approved and shall bear FMRC labels or markings.
- E. Perform design and work in accordance with NFPA 13, FMRC data sheets, and other applicable NFPA requirements, and Owner's insurance requirements (if applicable).
- F. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum 10 years documented experience.
- G. Installer Qualifications: Company specializing in performing the work of this section with minimum 10 years experience.
- H. Equipment and Components: Provide products that bear UL label or marking.

1.05 HYDRAULIC DESIGN CRITERIA

- A. Hydraulic calculations shall begin at outlet connection of the city water meter or connection into the distribution system with pipe friction based upon Hazen-Williams coefficients.
- B. Perform design and work in accordance with NFPA 13, FMRC data sheets, and other applicable NFPA requirements, and Owner's insurance requirements (if applicable).
- C. Fire Protection Contractor shall verify existing pressure/flow parameters with local water supply utility, and make pressure and flow tests to determine the available water supply parameters.
- D. Base hydraulic calculations on maximum density for each sprinklered area, plus hose allowances required, plus 15% unbalance for each area, starting from the outlet connection through the loop of each zone.

1.06 REGULATORY REQUIREMENTS

- A. Hydraulic calculations, product data and shop drawings shall bear stamp of approval of local Authorities having jurisdiction and the Owner's Insurance Underwriter.
- B. Conform to NFPA 13 for installation and testing of sprinkler systems.
- C. The provisions and requirements of the NFPA and/or the Owner's insurance underwriter constitute mandatory minimum requirements for work specified herein.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products in shipping containers and maintain in place until installation. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

PART 2 PRODUCTS

2.01 SPRINKLER MANUFACTURERS

- A. Star Sprinkler Products.
- B. Grinnel Corp.

- C. Viking.
- D. Reliable.

2.02 SPRINKLER SYSTEM

- A. Sprinkler System Scope of Work: Provide renovations to the existing wet pipe fire suppression system as required to cover/protect the new Changing Areas, being built with 8 foot tall partitions within the Gaylord High School (GHS) Locker Rooms as shown on the Drawings.
- B. Occupancy Use type: Per the Architectural Plans and as required by the authority having jurisdiction.
- C. Water Supply: Fire Protection Contractor shall determine volume and pressure available from existing water flow test data (check with water utility) and/or perform their own flow/pressure testing as required to determine water supply pipe sizing required for the project.
- D. Interface fire protection sprinkler system with building fire and smoke alarm system.
- E. Provide fire department connections where required, coordinate with local fire authority.
- F. Pipe Hanger Fasteners: Attach hangers to structure using appropriate fasteners, as follows:
 - 1. Concrete Wedge Expansion Anchors: Complying with ICC-ES AC193.
 - 2. Masonry Wedge Expansion Anchors: Complying with ICC-ES AC01.
 - 3. Concrete Screw Type Anchors: Complying with ICC-ES AC193.
 - 4. Masonry Screw Type Anchors: Complying with ICC-ES AC106.
 - 5. Concrete Adhesive Type Anchors: Complying with ICC-ES AC308.
- G. Note that drawings provided are schematic in nature. Contractor shall provide design and installation of all piping, offsets, fittings, valves, drains, sprinkler heads, etc. as required for a complete and operable system in accordance with NFPA and code requirements.

2.03 SPRINKLERS

- A. Provide standard low velocity sprinkler heads with wide angle spray except as otherwise specified.
- B. Suspended Ceiling Type: Concealed pendant type with matching push on escutcheon plate.
 - 1. Finish: Enamel, color white (coordinate with Architect).
 - 2. Escutcheon Plate Finish: Enamel, color white (coordinate with Architect).
 - 3. Fusible Link: Glass bulb type temperature rated for specific area hazard.
- C. Exposed Area Type: Standard upright or pendant type with guard as required or as noted on the drawings.
 - 1. Finish: Enamel, color white (coordinate with Architect).
 - 2. Fusible Link: Glass bulb type temperature rated for specific area hazard.
- D. Temperature ratings of heads shall be ordinary temperature, 135 to 170 deg. F, unless noted otherwise.
- E. Furnish sprinkler head guards in high abuse areas where damage may occur on all exposed sprinklers (e.g. storage rooms, janitor's closets, mechanical rooms, gymnasiums, typical, etc.). Guard finish/color to match sprinkler finish/color.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with referenced NFPA design and installation standard.
- B. Install equipment in accordance with manufacturer's instructions.
- C. Place pipe runs to minimize obstruction to other work.
- D. Place piping in concealed spaces above finished ceilings.
- E. Center sprinklers in two directions in ceiling tile and provide piping offsets as required.
- F. Apply masking tape or paper cover to ensure concealed sprinklers, cover plates, and sprinkler escutcheons do not receive field paint finish. Remove after painting. Replace painted sprinklers.
- G. Flush entire piping system of foreign matter.
- H. Install guards on sprinklers where damage may occur on all exposed sprinklers (e.g. storage rooms, janitor's closets, mechanical rooms, gymnasiums, etc.).
- I. Hydrostatically test system.
- J. Install piping & sprinklers per NFPA 13, the Owner's Insuring Agency, and in accordance with the requirements of local authorities having jurisdiction.
- K. Individual sprinkler head branch pipes/armover shall connect to the top of the branch or main pipe.
- L. Minimum run-out to sprinkler heads shall be 1 inch.
- M. Locate and secure valve or hose cabinet plumb and level.
- N. Drawings provided are schematic in nature. Contractor shall provide all piping, offsets, fittings, valves, drains, sprinkler heads, etc. as required for a complete and operable system in accordance with NFPA and FMRC.

END OF SECTION

SECTION 26 0001

GENERAL ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. This Division includes all labor, materials, equipment, tools, supervision, start-up services, Owner's Instructions, including all incidental and related items necessary to complete installation and successfully test and start up and operate the Electrical Systems indicated on Drawings and described in each Section of Division 26 Specifications, AND applicable Division 28 (Fire Alarm) Specifications, and conforming with ALL other Contract Documents.
- B. The Drawings and General Provisions of the Contract, including the General Conditions, Supplementary General Conditions, and Division 1 specification sections, apply to work of Division 26/28 sections. The items in this section are not intended to supersede, but are supplementary to, the requirements set forth in other Divisions of the specifications.
- C. The Contractor, and his Subcontractors and Suppliers, shall include in their bid all materials, labor, and equipment involved, in accordance with all local customs, codes, rules, regulations; and secure compliance of all parts of the Specifications and Drawings regardless of Sectional inclusion in these Specifications.
- D. The Contractor shall be held responsible for the complete and satisfactory accomplishment of all Work inclusive of whatever miscellaneous material and/or appurtenances are required to perfect the installation, and demonstrate that all electrical systems will operate satisfactorily under normal operating conditions.

1.02 DRAWINGS & SPECIFICATIONS

- A. The drawings are diagrammatic and show the general location and arrangement of equipment, outlets, lights and related electrical items. They shall be followed as closely as elements of the construction will permit. The Contractor shall provide/install all electrical systems, and associated equipment, complete and include all necessary wire/conduit, pull boxes, and other components required due to interferences, space constraints, code requirements, etc. as required to provide a complete/functional system.
- B. These General Electrical Requirements are intended to augment the drawings and specifications. Should conflicts occur between the drawings and the specifications, the strictest provision shall govern. Where there are conflicts or differences between the drawings for the various trades, report such conflicts or differences to the Architect and/or Engineer for resolution prior to rough-in.
- C. The Contractor shall examine the drawings of all other trades in order to verify the conditions governing the work on the job site. Arrange work accordingly, providing all wiring, conduit, fittings, boxes, etc. as may be required to meet such conditions.
- D. Deviations from the drawings, with the exception of minor changes in routing and other such incidental changes that do not affect the functioning or serviceability of the systems, shall not be made without the written approval of the Architect and/or Engineer.
- E. The architectural and structural drawings take precedence in all matters pertaining to the building structure, mechanical drawings in all matters pertaining to mechanical trades and electrical drawings in all matters pertaining to electrical trades. Where there are conflicts or differences between the drawings for the various trades, report such conflicts or differences to the Architect

and/or Engineer for resolution.

1.03 COORDINATION OF WORK

- A. The Contractor shall verify clearance requirements of all electrical and fire-suppression/plumbing/mechanical equipment & systems prior to the installation of any new work. Electrical equipment, wiring, systems, etc. shall not interfere with fire-suppression/plumbing/mechanical equipment spaces. The Contractor shall coordinate his work to obtain symmetry in ceiling layouts, so that sprinkler heads, lights, diffusers, etc. are coordinated and are installed per the Architectural reflected ceiling plan.
- B. The Contractor, and his Subcontractors, shall be responsible for all tasks applicable to their work in accordance with the Specifications, Drawings, and code requirements, and shall be responsible for coordinating locations and arrangements of their work to give best results with all other relevant trades.
 - 1. Coordinate his work to obtain symmetry in ceiling layouts, so that sprinkler heads, lights, diffusers, etc. are coordinated and are installed per the Architectural reflected ceiling plan.
 - 2. Coordinate all wall, roof, floor penetrations, equipment locations, system routings, etc. with architectural and structural trades.
 - 3. Verify requirements of all equipment with shop drawing submittals prior to installation - notify Architect/Engineer of any conflicts between shop drawings and plans prior to rough-in.
 - 4. Coordinate rough-in locations and mounting heights of all devices with locations/heights of countertops/sinks/furniture/cabinets/etc. with Architectural Elevations and other trades prior to rough-in.
 - 5. Coordinate rough-in locations of mechanical control devices (i.e. thermostats, sensors, etc.) with mechanical trades. E.C shall provide rough-in of box for T-stat/Sensor and conduit pathway from box to mechanical unit's control box, for wiring by M.C and/or T.C.. T-stats/sensors shall be located @ 48" AFF unless noted otherwise.
 - 6. Coordinate locations of electrical items that require access (i.e. panelboards, starters, pull boxes, etc.) with reflected ceiling plan. Items located above hard non-accessible ceilings shall be provided with access doors as required.
 - 7. Verify clearance requirements of all mechanical, electrical, plumbing equipment/systems prior to the installation of any new work. Electrical equipment, lighting, conduit, systems, etc. shall not interfere with mechanical equipment spaces. Mechanical/plumbing equipment, piping, ductwork, systems, etc. shall not interfere with electrical equipment spaces.

1.04 INSPECTION OF SITE AND PROJECT DOCUMENTATION

- A. The Contractor shall visit the site and examine/verify the conditions under which the work must be conducted before submitting proposal. The Contractor shall examine the drawings and specifications of all other trades including Mechanical, Architectural, Structural, Plumbing, and Electrical.
- B. The submitting of a proposal implies that the Contractor has visited the site, examined all contract documents, and understands the conditions under which the work must be conducted.
- C. The Contractor shall notify the Architect and/or Engineer, via written RFI prior to submitting his bid, of any potential conflicts/problems with the plans that he has identified during his inspection of the site and/or from the review of plans/specifications. RFIs must be submitted at least 5 working days prior to bid opening.

1.05 GENERAL SUPPORT REQUIREMENTS

- A. Provide all necessary angle/brackets or supplementary steel as required for adequate support for all conduit, lighting, specialties, and equipment. Secure approval from Architect and/or Structural Engineer, in writing, before welding or bolting to steel framing or anchoring to concrete structure, or cutting/coring thru structural systems.
- B. Where conduit or equipment is supported or suspended from concrete construction, provide approved concrete inserts in formwork to receive hanger rods, such as Unistrut or Powerstrut, and where installed in metal deck, use Ramset or Welds as required.

1.06 GUARANTEE

- A. Contractor shall guarantee that all labor, materials, and equipment are free from defects and agrees to replace or repair any part of this installation which becomes defective within a period of one year from the date of substantial completion following final acceptance, provided that such failure is due to defects in the equipment, material or installation. Acceptance date of substantial completion shall be Owner occupancy as determined by the Architect and/or Engineer.
- B. The Contractor shall file with the Owner one set of guarantees from the equipment manufacturers including the operating conditions and performance capacities they are based on.

1.07 CODES, PERMITS AND FEES

- A. Refer to Division 1, General Requirements and Supplementary Conditions.
- B. Unless otherwise indicated, all required permits, plan reviews, licenses, inspections, approvals and fees for electrical work shall be secured and paid for by the Contractor.
- C. All work shall be executed in accordance with the latest enforceable rules and regulations set forth in local and state codes.
 - 1. Electrical systems shall be installed per current jurisdictional codes (Michigan Electrical Code, Michigan Energy Code, etc.), current NFPA codes (NFPA 101, NFPA 90, NFPA 72, etc.), and applicable sections of the Michigan Building Code.
- D. In the event that the plans and specifications conflict with any rules, regulations, or codes applying, said rules, regulations and codes shall govern.
- E. Where the drawings and/or specifications indicate materials or construction in excess of code requirements, the drawings and/or specifications shall govern.
- F. Contractor shall prepare/submit any detailed drawings or diagrams which may be required by the governing authorities (i.e. Fire Alarm Shops/Plans/Calcs, etc.) and submit for plan review/permit approval.

1.08 SUBSTITUTION ITEMS REQUIRING PRIOR APPROVAL

- A. All items that the Contractor proposes to use in the work, that are not specifically named in the contract documents, must be submitted for review/approval. Such items must be submitted in .pdf format to the Architect and/or Engineer for approval a minimum of seven (7) days prior to bid opening. Requests for prior approval must be accompanied by complete catalog information, including but not limited to, model, size, accessories, complete electrical information and performance data in the form given in the equipment schedule on the drawings at stated design conditions. Where items are referred to by symbolic designations on the drawings, all requests for prior approval shall bear the same designations. The Contractor shall call out/illustrate to the Engineer any/all differences between the basis of design and the Contractor's proposed substitution items.
- B. Lighting Substitutions:
 - 1. Furnish lighting fixtures as scheduled on drawings.

2. Lighting fixture substitutions may be considered for approval by the Architect and/or Engineer only if all of the following criteria are met:
 - a. Provide specification cut sheets marked-up to clearly identify the proposed luminaire including features, options, accessories, etc. required to match products indicated in the schedules.
 - b. Submit all cut sheets, calculations, etc. to the Architect and/or Engineer no less than 7 days prior to bid date. Substitutions submitted after this date will not be considered.

1.09 MATERIAL AND EQUIPMENT MANUFACTURERS

- A. All items of equipment shall be furnished complete with all accessories normally supplied with the catalog items listed and all other accessories necessary for a complete and satisfactory operating system. All equipment and materials shall be new and shall be standard products of manufacturers regularly engaged in the production of electrical equipment and shall be the manufacturer's latest design.
- B. If equipment by an approved manufacture is other than the equipment specified as the basis of design the substituted equipment shall be equal in quality, durability, appearance, capacity and efficiency through all ranges of operation, shall conform with arrangements and space limitations of the equipment shown on the plans and/or specified, shall be compatible with the other components of the system and shall comply with the requirements for Substitution Items Requiring Prior Approval specified in this Section of the Specifications. All costs to make these items of equipment comply with original requirements including, but not limited to, conduit, wiring, bus work, enclosures, and building alterations shall be included in the original bid.

1.10 SHOP DRAWINGS

- A. Refer to Division 1, General Requirements.
- B. All shop drawings shall be submitted in groupings by specification section (i.e. 262416-Panelboards, 262726-Wiring Devices, etc.) and of similar and/or related items. Incomplete submittal groupings will be returned unchecked.
- C. Unless noted otherwise, submit electronically in digital .pdf form, copies of complete manufacturer's shop drawings for all electrical equipment, or systems, including but not limited to, the items listed below. Where items are referred to by symbolic designation on the drawings and specifications, all submittals shall bear the same designation. Refer to other Sections of the electrical specifications for additional requirements.
 1. 26 5100 Interior Lighting.
 2. 28 3100 Fire Detection and Alarm.

1.11 OPERATION AND MAINTENANCE INSTRUCTIONAL MANUALS

- A. Refer to Division 1, General Requirements.
- B. Provide complete maintenance and operating instructional manuals covering all electrical equipment as specified herein, and individual equipment specification sections.
- C. The O&M data shall be bound in a suitable number of 3" or 4", 3-ring, hard cover binders. Permanently imprinted on the cover shall be the words, "Manufacturer's Operation and Maintenance Data", project title, location of project, and the date. A table of contents shall be provided in the front of each binder.
- D. Maintenance and operating instructional manuals shall be job specific to this project. Generic manuals are not acceptable. Each piece of equipment in the O&M manual shall be identified as identified on the project drawings (i.e. Transformer T-1, Distribution Panel DP-1, etc.).

- E. Internally subdivide the binder contents with permanent page dividers, organized by specification section and/or major equipment/systems (i.e. 265100-INTERIOR LIGHTING, 283100-FIRE DETECTION AND ALARM, etc.).
- F. Contents: Each volume of O&M manual shall have three parts:
 - 1. Part 1: A directory listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: O&M data, arranged and subdivided by major equipment/systems. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers:
 - a. List of equipment.
 - b. Copies of Shop drawings and product data, approved by Architect/Engineer.
 - c. Installation and operational procedures.
 - d. Routine maintenance procedures.
 - e. Trouble shooting procedures.
 - f. Complete parts lists by nomenclature, manufacturer's part number and use.
 - g. Recommended spare parts lists.
 - h. Lubrication chart listing all types of lubricants to be used for each piece of equipment and the recommended frequency of lubrication.
 - i. Complete wiring and schematic diagrams.
 - j. Elevations and/or sections cut through all of the major equipment and sub-assemblies.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Warranty certificates.
 - b. Copies of approved construction permits.
 - c. Contractor's and equipment manufacturer's telephone numbers for warranty repair services.
- G. Two (2) Maintenance and Operating manuals shall be provided, in digital .pdf format, to the Architect and/or Engineer for review when construction is 75% complete.
- H. A minimum of two (2) hard copies, as well as digital .pdf format, of all approved Operation and Maintenance literature shall be furnished to the Owner within 10 days after final inspection. O&M manuals must be completed prior to start of Owner training as the manuals shall be used as the basis of the training.

1.12 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection the Contractor shall instruct Owner's designated personnel in operation, adjustment and maintenance of electrical equipment and systems at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.
- C. Use Operation and Maintenance Manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.13 RECORD DRAWINGS

- A. Contractor shall submit to the Architect and/or Engineer, record drawings which have been neatly marked to represent as-built conditions for all new electrical work.
- B. The Contractor shall keep accurate note of all deviations from the construction documents and discrepancies in the concealed conditions and other items of construction on field drawings as they occur. Proper circuiting, conduit runs, location and number of electrical devices shall be indicated on the "as-built" drawings. The marked up field documents shall be available for review by the Architect, Engineer and Owner at their request.

PART 2 PRODUCTS

2.01 MATERIALS

- A. All material and equipment furnished and installed by the Contractor for the permanent Work shall be new, unused, of the best quality of make specified, shall be free from defects of any character, and shall be listed as approved by the UL and/or FM.
- B. Outdoor electrical equipment shall be weatherproof, NEMA 3R or NEMA 4X (stainless steel), unless otherwise indicated.
- C. Unless otherwise specified in other Division 26 sections, the sheet metal surfaces of equipment enclosures shall be coated with a rust resisting primer. Over the primer, a corrosion resistant baked enamel finish shall be applied. The color shall be ASA No. 49, medium light gray.

PART 3 EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. Install equipment in strict accordance with all directions and recommendations furnished by the manufacturer. Where such directions are in conflict with the drawings and specifications, report such conflicts to the Architect and/or Engineer for resolution.

3.02 CHASE, SHAFTS AND RECESSES

- A. Coordinate with architectural and other trades to ensure accurate location and size of chases, shafts and recesses.

3.03 CUTTING, CORING AND PATCHING

- A. Refer to General Conditions.
- B. The Contractor shall perform all cutting, coring, and patching that may be necessary for the installation of their Work. All cutting, coring, patching and repair work shall be performed by the Contractor through qualified Subcontractors. Contractor shall include full cost of same in his bid.
- C. Secure approval from Architect and/or Structural Engineer, in writing, before cutting, welding/bolting to, or anchoring from any structural building components (i.e. structural steel, load bearing walls, footings/foundations, concrete floors/ceilings, etc.).

3.05 EQUIPMENT SUPPORTS

- A. Shall be as required for equipment mounting or as shown on plans.
- B. For equipment suspended from ceiling or walls, furnish and install all inserts, rods, structural steel frames, brackets and platforms required. Obtain approval of Architect and/or Structural Engineer for same including loads, locations, and methods of attachment.

3.06 SLEEVES

- A. Provide and install Schedule 40 black steel pipe sleeves, cut to length, wherever conduits pass through above grade walls and floors. Provide and install galvanized steel pipe sleeves, cut to

length, wherever conduits pass through below grade foundation walls and slab on grade floors. Sleeves shall terminate flush with walls in finished areas. All sleeves through the floor are to extend two (2) inches above finish floor.

- B. Provide escutcheons at each penetration through walls, floors, and ceilings in exposed areas.
- C. Patch sleeves to match building material.

3.07 SEALING OF ELECTRICAL OPENINGS

- A. Seal the space around conduits in sleeves through walls, floors and ceilings.
- B. Refer to specification 078400-Firestopping.
- C. Provide adequate clearance to allow for proper sealing.
- D. Provide/install fireproof wall and floor sleeves as required at all applicable wall, ceiling, and floor penetrations. Refer to Architectural plans for wall assembly ratings.
- E. Sleeves placed in floors shall be flush with the underside of the floor construction and shall have planned, square ends, extending 2 inches above the finished floor, unless otherwise noted or detailed.
- F. Where sleeves pass through reinforced concrete floors, they shall be properly set in position prior to concrete pouring in such a way that they will be maintained in position until the concrete is set.
- G. Conduits passing through below grade perimeter walls or slabs on grade shall have the space between the pipe and sleeve sealed watertight with a mechanically expandable elastomer seal device.

3.08 FIRESTOP MATERIALS

- A. Refer to specification 078400-Firestopping.
- B. Use only firestop products that have been tested according to ASTM E-814 and UL 1479 for the conditions set forth regarding construction assembly type, penetrating item type, annular space requirements and fire rating.
- C. Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods specified in other related specification sections.
 - 1. For non-combustible penetrations including conduit not passing through a sleeve, the following materials are acceptable:
 - a. Hilti FS 601 Elastmeric Firestop Sealant.
 - b. 3 M.
 - c. CSD Sealing Systems.
 - d. Firestop Systems.
 - 2. For non-combustible penetrations including sleeved conduits, the following materials are acceptable:
 - a. Hilti FS 601 Elastmeric Firestop Sealant.
 - b. 3 M.
 - c. CSD Sealing Systems.
 - d. Firestop Systems.
 - 3. For combustible penetrations including cables and cable bundles, the following materials are

acceptable:

- a. Hilti FS 611A Intumescent Firestop Sealant.
- b. 3 M.
- c. CSD Sealing Systems.
- d. Firestop Systems.

3.09 EQUIPMENT CONNECTIONS

- A. Make connections to equipment, fixtures and other items included in the work in accordance with the approved shop drawings and rough-in measurements furnished by the manufactures of the particular equipment furnished. All additional connections not shown on the drawings, but called out by the equipment manufacturer's shop drawings, shall be provided at no additional cost.

3.10 CLEANING

- A. Each Trade shall be responsible for removing all debris daily as required to maintain the work area in a neat, orderly condition.
- B. Final cleanup shall include, but not be limited to, washing of fixture lenses or louvers, switchboards, substations, motor control centers, panels, etc. Fixture reflectors and lenses or louvers shall be left with no water marks or cleaning streaks.

3.11 PAINTING

- A. All electrical systems, equipment, conduit, etc. exposed in finished areas shall be painted to match the surrounding finishes. Refer to specification section 09900 - Coordinate color with Architect

3.12 PROTECTION AND HANDLING OF EQUIPMENT AND MATERIALS

- A. Equipment and materials shall be protected from theft, injury or damage.
- B. Protect equipment outlets, pipe and duct openings with temporary plugs or caps.
- C. Provide adequate storage for all equipment and materials delivered to the job site. Equipment set in place in unprotected areas must be provided with temporary protection.

3.13 ACCESSIBILITY

- A. All equipment shall be installed so as to be readily accessible for operation, maintenance, and repair, as required by the equipment manufacturer and as subject to the approval of the Engineer.

3.14 ACCESS DOORS

- A. The Contractor, and/or his Subcontractors, shall provide access doors for access to any of their respective electrical equipment that is installed in inaccessible areas. Provide access doors in the walls, as required to make all electrical boxes, controls and other equipment installed by the Contractor accessible. In the walls, provide Milcor No. "DW" or "M" as required to make all equipment installed by the Contractor accessible. Minimum size 12 inches x 12 inches. In the ceiling, provide Milcor N. 3210, 3105 or 3206 for accessibility as mentioned above, 24 inches x 24 inches minimum size. The plaster or acoustical tile insert shall be by the architectural trades. Areas with accessible ceilings (ceilings where tiles are not fastened in place and can be individually removed without removal of adjacent tiles) will not require access doors.
- B. Refer to Architectural specifications for manufacturer's and model numbers and additional information.

- C. The Contractor, and/or his Subcontractors, shall be responsible for quantities of access doors and shall receive approval for locations from the Architect and/or Engineer prior to installation.
- D. The Contractor, and/or his Subcontractors, shall purchase appropriate access doors, coordinate locations, and shall pay for installation by a qualified architectural subcontractor.
- E. When access doors are in fire resistant walls or ceilings, they must bear the Underwriters' Laboratories, Inc., Label, with time design rating equal to or exceeding that of the wall or ceiling unless they were a part of the tested assembly.

3.15 NAMEPLATES AND DIRECTORIES

- A. Identify panelboards, safety switches, etc., with manufacturer's nameplate, shop order, where applicable on composite assemblies, and designations used on the Drawings. Nameplates shall be laminated phenolic plastic, beveled edged white with engraved black letters. Except where impractical, letter and numerals shall be a minimum of 1/2 inch high. Nameplates shall be mechanically secured. Pressure sensitive nameplates are not acceptable. Panel directories shall be neatly typed, showing equipment served and location for each breaker or switch with a clear plastic protective cover.

3.16 EXTRA WORK

- A. Refer to Division 1, General Requirements.
- B. For any extra electrical work which may be proposed, the Electrical Contractor shall furnish to the General Contractor/Construction Manager, an itemized breakdown of the estimated cost of all materials and labor required to complete this work. The estimate cost breakdown shall include unit prices (same prices for increase/decrease of work) for all materials (i.e. wire, conduit, devices, equipment, equipment rental, etc.) and all labor (i.e. manhours, overtime, etc.) which may be required for any proposed extra work. The Contractor shall not proceed until receiving a written order from the General Contractor establishing the agreed price and describing the work to be done.

3.17 DRAWINGS AND MEASUREMENTS

- A. These specifications and accompanying drawings are intended to describe and provide for finished work. They are intended to be cooperative, and what is called for by either the drawings or specifications shall be as binding as if call for by both. The work herein described shall be complete in every detail.
- B. The Drawings are not intended to be scaled for rough-in measurements, nor to serve as Shop Drawings. Field measurements necessary for ordering materials and fitting the installation to the building construction and arrangement shall be taken by the Contractor. The Contractor shall check latest architectural drawings to locate light switches, check latest structural drawings for interferences, etc.

3.18 DEMOLITION AND REMOVAL WORK

- A. All demolition of existing electrical equipment and materials shall be done by the Contractor unless otherwise indicated.
- B. In general, demolition work is indicated on the drawings. However, the Contractor shall visit the job to determine the full extent and character of this work.
- C. The Contractor shall review all other contract documents (i.e. architectural plans, mechanical plans, etc.) to review the extent of demolition and remodeling work.
- D. Unless specifically noted, removed materials shall not be reused in the work. Salvaged materials that are to be reused shall be stored safe against damage and turned over to the appropriate trade for reuse. Salvaged materials of value that are not to be reused shall remain

the property of the Owner unless such ownership is waived. Remove items from the systems and turn over to the Owner unless such ownership is waived. Items on which the Owner waives ownership shall become the property of the Contractor, who shall remove and legally dispose of same, away from the premises. Properly dispose of lighting fixture lamps and ballasts.

- E. Work that has been cut or partially removed shall be protected against damage until covered by permanent construction.
- F. Where equipment or fixtures are removed, wire shall be removed, outlets shall be properly blanked off, and conduits capped. After alterations are done, the entire installation shall present a "finished" look, as approved by the Architect and/or Engineer. The original function of the existing electrical work to be modified shall not be changed unless required by the specific revisions shown on the drawings.
- G. The Contractor is required to maintain service by rerouting wiring for power and lights as necessary. Where walls and ceilings are to be removed as shown on the drawings, the conduit is to be cut off by the Electrical Trades so that the abandoned conduit in these walls and ceilings may be removed with the walls and ceilings by the Architectural Trades. All dead-end conduit runs shall be plugged at the remaining line outlet boxes or the panels.
- H. Where new walls, ceilings, and/or floors are installed which interfere with existing outlets, devices, etc., which are to remain, the Electrical Trades shall adjust, extend and reconnect such items as required to maintain continuity of same.
- I. Where devices on existing walls are no longer active, but wires feeding outlets are active, provide blank cover plates and box extensions are required to meet new finishes. Where devices and wires feeding them are no longer active, fill outlet boxes with plaster for finishing by others.
- J. Where circuits, conduit, boxes, etc. are no longer used/in service they shall be entirely removed back to the panel (source of power).
- K. Where shown as to use existing circuits and equipment in remodeled areas, the Contractor shall verify circuit identification, circuit loads, and as-build methods of installation to complete the demolition and new work in accordance with current codes.
- L. Conceal all electrical work wherever possible. Use of surface raceway ("Wiremold") or exposed conduits will be permitted only where approved by the Architect and/or Engineer.
- M. Existing lighting shall be reused where indicated on plans. Reused fixtures shall be cleaned with detergent, re-lamped and reconditioned for satisfactory operation and appearance.

3.19 WORK IN EXISTING BUILDINGS

- A. The Owner will provide access to existing buildings as required. Access requirements to occupied buildings shall be identified on the project schedule. The Contractor, once work is started in the existing building, shall complete same work without interruption so as to return work areas as soon as possible to Owner.
- B. Adequately protect and preserve all existing and newly installed work. The Contractor shall repair any damages that they are responsible for at their expense.
- C. Consult with the Architect and/or Engineer as to the methods of carrying on the work so as not to interfere with the Owner's operation any more than absolutely necessary. Accordingly, all service lines shall be kept in operation as long as possible and the services shall only be interrupted at such time as will be designated by the Architect, Engineer, and/or Owner's Representative.

END OF SECTION

SECTION 26 0519

LOW-VOLTAGE ELECTRICAL POWER CABLES (600 V AND LESS)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wire and cable for 600 volts and less.
- B. Wiring connectors and connections.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- B. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.03 SUBMITTALS

- A. Project Record Documents: Record actual locations of components and circuits.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.05 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on the Drawings.
- B. Conductor sizes are based upon copper unless indicated as aluminum "AL" on the Drawings.
- C. Wire and cable routing shown on the Drawings are approximate unless dimensioned. Route wire and cable as required to meet project conditions.
- D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.
 - 1. Contractor shall coordinate all proposed routings through occupied areas with the Architect/Owner as required to determine acceptable appearance of new routings prior to rough-in.

PART 2 PRODUCTS

2.01 WIRING REQUIREMENTS

- A. Concealed Dry Interior Locations: Use only building wire in conduit.
 - 1. Or building wire in raceway where approved by Architect/Owner.
- B. Exposed Dry Interior Locations: Use only building wire in conduit building wire with Type THHN, THWN, XHHW insulation in conduit.
- C. Above Accessible Ceilings: Use only building wire in conduit or metal clad cable.
- D. Wet or Damp Interior Locations: Use only building wire with Type THWN, XHHW insulation in conduit.
- E. Exterior Locations: Use only building wire with Type THWN or XHHW insulation in conduit.

- F. Underground Installations: Use only building wire with Type THWN or XHHW insulation in conduit.
- G. Use stranded conductors for control circuits.
- H. Use conductor not smaller than 10 AWG for power and lighting circuits.
- I. Use conductor not smaller than 14 AWG for control circuits.
- J. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
- K. Use 8 AWG conductors for 30 ampere, 120 volt branch circuits longer than 75 feet.
- L. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 125 feet.
- M. Use 8 AWG conductors for 30 ampere, 277 volt branch circuits longer than 125 feet.
- N. Conductor sizes are based on copper unless indicated as aluminum or "AL".
- O. Cables for fire/smoke detection systems or for use in plenums without conduit shall be UL listed for plenum application, UL Style 1330, meeting ASTM D-2116 and ICEA color codes.
- P. All feeders not sized on the plans shall be sized by the CONTRACTOR for a maximum of 2% voltage drop. All branch circuits shall be sized for a maximum of 3% voltage drop.

2.02 WIRE MANUFACTURERS

- A. Cerro Wire Inc.: www.cerrowire.com.
- B. Industrial Wire & Cable, Inc.: www.iewc.com.
- C. Southwire Company: www.southwire.com.
- D. Royal.
- E. Rome.
- F. General Cable.
- G. Triangle.

2.03 BUILDING WIRE

- A. Description: Single conductor insulated wire.
- B. Conductor: Copper. Class B strand per ICEA S-61-402.
- C. Insulation Voltage Rating: 600 volts.
- D. Insulation: NFPA 70.
 - 1. For Feeders and Branch Circuits Equal to and Smaller Than 4/0 AWG (Dry and Damp locations): Type THHN rated 90 degrees C.
 - 2. For Feeders and Branch Circuits Equal to and Smaller Than 4/0 AWG (Wet locations): Type THWN rated 90 degrees C.
 - 3. For Feeders and Branch Circuits Larger Than 4/0 AWG (Dry and Damp locations): Type XHHW rated 90 degrees C.
- E. Color Coding:
 - 1. Branch circuits shall have their insulation color coded the entire length as noted below.
 - 2. Feeder conductors shall have their ends taped, when entering junction boxes or panels, as noted below.

3. Color coding shall be as follows:
 - a. 208/120 volt, 3 phase, 4 wire:
 - 1) grounded neutral - white
 - 2) phase A hot leg - black
 - 3) phase B hot leg - red
 - 4) phase C hot leg - blue
 - 5) ground - green
 - b. 480/277 volt, 3 phase, 4 wire:
 - 1) grounded neutral - white with a color tracer
 - 2) phase A hot leg - brown
 - 3) phase B hot leg - orange
 - 4) phase C hot leg - yellow
 - 5) ground - green with a color tracer
 - c. 480 volt, 3 phase, 3 wire:
 - 1) phase A hot leg - brown
 - 2) phase B hot leg - orange
 - 3) phase C hot leg - yellow
 - 4) ground - green with a color tracer

2.04 CONTROL WIRING

- A. Control circuit, single conductor field wire shall be No. 14 AWG, stranded copper with 30 mil thick wall of cross linked polyethylene or polyvinyl chloride insulation rated to withstand a copper temperature of 90 degrees C. at 600 volts without deterioration. It shall meet applicable ICEA Standards.
- B. Multi conductor control cable shall consist of individual conductors, No. 14 AWG, stranded copper with 30 mil thick wall of insulation rated to withstand a copper temperature of 75 degrees C without deterioration. The insulation shall be a 20 mil wall of polyethylene with a 10 mil thick polyvinyl chloride jacket. The individual conductors shall be identified per Paragraph 5.6.3. of ICEA Publication No. S 61402 and shall be cabled together with suitable fillers and binder tape to give the completed cable a substantially circular cross section.

2.05 METAL CLAD CABLE (TYPE MC CABLE)

- A. Description: NFPA 70, Type MC.
- B. Conductor: Copper.
- C. Insulation Voltage Rating: 600 volts.
- D. Insulation Temperature Rating: 75 degrees C.
- E. Insulation Material: Thermoplastic.
- F. Armor Material: Steel.
- G. Armor Design: Interlocked metal tape.
- H. Fittings: Shall be specifically designed for use with type MC cable.

2.06 WIRING CONNECTORS

- A. Split Bolt Connectors:
 - 1. Manufacturers:
 - a. Black Burn.
 - b. T & B.
 - c. Burndy.
- B. Solderless Pressure Connectors:
 - 1. Manufacturers:
 - a. AMP.
 - b. T & B.
 - c. 3 M.
- C. Spring Wire Connectors:
 - 1. Manufacturers:
 - a. Buchanah Model B-Cap.
 - b. 3 M Model Scotchlok or Hyflex.
 - c. Panduit Model P-Conn.
- D. Compression Connectors:
 - 1. Manufacturers:
 - a. Neer.
 - b. T & B.
 - c. Appleton.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that mechanical work likely to damage wire and cable has been completed.
- C. Verify that raceway installation is complete and supported.
- D. Verify that field measurements are as indicated.

3.02 PREPARATION

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

3.03 INSTALLATION

- A. Install wire and cable securely, in a neat and workmanlike manner, as specified in NECA 1.
- B. Route wire and cable as required to meet project conditions.
 - 1. Wire and cable routing indicated is approximate unless dimensioned.
 - 2. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.

- C. Use wiring methods indicated.
- D. All wiring shall be installed in conduit or approved raceway. All raceways shall be provided with a ground conductor unless noted otherwise.
- E. Use stranded conductors for control circuits.
- F. Pull all conductors into raceway at same time.
- G. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- H. Protect exposed cable from damage.
- I. Support cables above accessible ceiling, using spring metal clips or metal cable ties to support cables from structure. Do not rest cable on ceiling panels.
- J. Use suitable cable fittings and connectors.
- K. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- L. Clean conductor surfaces before installing lugs and connectors.
- M. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
- N. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- O. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
- P. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
- Q. Identify and color code wire and cable under provisions of Section 26 0553. Identify each conductor with its circuit number or other designation indicated.
- R. Branch circuits may be combined up to 8 conductors (A-phase, B-phase, C-phase, neutral and A-phase, B-phase, C-phase, neutral) and 2 ground conductors in conduit. Contractor shall be responsible for derating conductors as required by N.E.C Article 310, Note 8.
- S. Branch circuit neutral conductors: The use of multi-wire branch circuits with a common neutral is not permitted. Each branch circuit shall be furnished and installed with an accompanying neutral conductor sized the same as the phase conductor.

END OF SECTION

SECTION 26 0526

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Grounding and bonding components.
- B. Provide all components necessary to complete the grounding system(s) consisting of:
 - 1. New grounding for new circuits connected to the existing grounding system.

1.02 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; National Fire Protection Association.
- B. NFPA 99 - Standard for Health Care Facilities; National Fire Protection Association.

1.03 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 25 ohms or less.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 10 years documented experience with service facilities within 100 miles of Project.
- C. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. The Contractor shall be responsible for providing all grounding required in accordance with NEC and local code requirements.

PART 2 PRODUCTS

2.02 GENERAL

- A. The contractor shall install a grounding system in accordance with the drawings, specifications, and with the National Electrical Code, NEMA, USASI, and IEEE Standards, latest editions. The ground bar at the main service disconnect shall be bonded to the water mains, structural steel, driven ground rods, etc. by grounding electric code conductors as required for a code compliant grounding system. Maximum grounding resistance shall be achieved per NEC requirements.

2.03 CONNECTORS AND ACCESSORIES

- A. Mechanical Connectors: Bronze.
 - 1. Manufacturers: Chance, Burndy, American Electric - Blackburn.
- B. Exothermic Connections:
 - 1. Product: Cadweld.
- C. Wire: Stranded copper.
- D. Grounding Electrode Conductor: Size to meet NFPA 70 N.E.C. code requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.

3.02 INSTALLATION

- A. Extend building's existing grounding system to serve the renovation/addition work areas.
- B. Provide bonding to meet requirements described in Quality Assurance.
- C. Provide isolated grounding conductor for circuits supplying personal computers, Audio/Video systems, and any other Isolated Ground circuits as indicated on the drawings.
- D. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- E. Ground cables shall be protected by sleeves where the cables extend through a concrete surface. Ground inserts shall be used where ground cables extending through the surface would be exposed to damage during or after construction.
- F. Where ground cables are installed in metallic conduit, the cables shall be bonded to the conduit at both ends of the run.
- G. Welds on ground cables shall be cleaned and painted with an asphalt base paint where buried underground or imbedded in concrete.
- H. Install a minimum #12 AWG green grounding wire for each branch circuit. The grounding wire shall be connected to the grounding terminal bus bars in panelboards, and these bars shall be grounded to the building's grounding system.

END OF SECTION

SECTION 26 0529

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Conduit and equipment supports.
- B. Anchors and fasteners.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- B. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.03 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Hangers, Supports, Anchors, and Fasteners - General: Corrosion-resistant materials of size and type adequate to carry the loads of equipment and conduit, including weight of wire in conduit.
- B. Supports: Fabricated of structural steel or formed steel members; galvanized. All structural supports and channels shall be manufactured from a minimum of #16 gauge ASTM A570 grade 33 steel.
- C. Anchors and Fasteners:
 - 1. Do not use spring clips.
 - 2. Obtain permission from ENGINEER before using powder-actuated anchors.
 - 3. Concrete Structural Elements: Use precast inserts, expansion anchors, or preset inserts.
 - 4. Steel Structural Elements: Use beam clamps or welded fasteners.
 - 5. Concrete Surfaces: Use expansion anchors.
 - 6. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use hollow wall fasteners.
 - 7. Solid Masonry Walls: Use expansion anchors or preset inserts.
 - 8. Sheet Metal: Use sheet metal screws.
 - 9. Wood Elements: Use wood screws.
- D. Formed Steel Channel:
 - 1. Product: B-Line Strut.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install hangers and supports as required to adequately and securely support electrical system components, in a neat and workmanlike manner, as specified in NECA 1.
 - 1. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
 - 2. Obtain permission from Engineer before drilling or cutting structural members.
- B. Rigidly weld support members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- C. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- D. In wet and damp locations use steel channel supports to stand cabinets and panelboards 1 inch off wall.
- E. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

END OF SECTION

SECTION 26 0534

CONDUIT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Conduit, fittings and conduit bodies.

1.02 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC).
- B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT).
- C. ANSI C80.5 - American National Standard for Electrical Rigid Aluminum Conduit (ERAC).
- D. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- E. NECA 101 - Standard for Installing Steel Conduit (Rigid, IMC, EMT); National Electrical Contractors Association.
- F. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association.
- G. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.03 SUBMITTALS

- A. Project Record Documents: Accurately record actual routing of conduits larger than 2 inches (51 mm) in diameter.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Accept conduit on site. Inspect for damage.
- B. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

1.06 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on the drawings.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.
- D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.
 - 1. Contractor shall coordinate all proposed routings through occupied areas with the Architect/Owner as required to determine acceptable appearance of new routings prior to rough-in

- E. Coordinate painting requirements of exposed conduit in finished areas with specification section 09900 and color with Architect.

PART 2 PRODUCTS

2.01 CONDUIT REQUIREMENTS

- A. Conduit Size: Comply with NFPA 70.
 - 1. Minimum Size: 3/4 inch (19 mm) where concealed within inaccessible construction (i.e. within walls, above drywall ceilings, etc.), 1/2" minimum elsewhere.
- B. Underground Installations:
 - 1. More than 5 Feet (1.5 Meters) from Foundation Wall: Use galvanized rigid steel conduit.
 - 2. Within 5 Feet (1.5 Meters) from Foundation Wall: Use galvanized rigid steel conduit.
 - 3. In or Under Slab on Grade: Use galvanized rigid steel conduit.
 - 4. Minimum Size: 1 inch (25 mm).
- C. Outdoor Locations Above Grade: Use galvanized rigid steel conduit.
- D. In Slab Above Grade:
 - 1. Use galvanized rigid steel conduit.
 - 2. Maximum Size Conduit in Slab: 3/4 inch (19 mm); 1/2 inch (13 mm) for conduits crossing each other.
- E. Wet and Damp Locations: Use galvanized rigid steel conduit or rigid aluminum conduit
- F. Dry Locations:
 - 1. Concealed: Use galvanized rigid steel conduit or electrical metallic tubing.
 - 2. Exposed: Use galvanized rigid steel conduit or electrical metallic tubing.
- G. Transformer and Motor Connections:
 - 1. Liquidtight flexible metal conduit (maximum length shall be 3'-0").
- H. Lighting fixtures:
 - 1. Interior: From junction box to lighting fixture shall be flexible metal conduit (maximum length shall be 6'-0").
 - 2. Exterior: From junction box to lighting fixture shall be liquidtight flexible metal conduit (maximum length shall be 3'-0").
- I. AC/MC Cable:
 - 1. Use for concealed branch circuit drops to devices or light fixtures. Do not use AC/MC cable for homeruns to panelboards.
- J. Control Wiring (fire alarm, clock systems, bell systems, paging systems, sound systems, security systems, temperature controls systems):
 - 1. Use electrical metallic tubing, except when making final connection to moving equipment where flexible conduit or sealtite should be used.

2.02 METAL CONDUIT

- A. Manufacturers:
 - 1. Allied Tube & Conduit: www.alliedtube.com.

2. Beck Manufacturing, Inc.: www.beckmfg.com.
 3. Wheatland Tube Company: www.wheatland.com.
 4. Century.
- B. Rigid Steel Conduit: ANSI C80.1. Galvanized Rigid Steel (GRS).
- C. Rigid Aluminum Conduit: ANSI C80.5.
- D. Fittings and Conduit Bodies: NEMA FB 1; material to match conduit.
1. Connectors and couplings shall be threaded, set-screw, or compression type, and concrete tight and/or rain tight where required.
 2. Locknuts shall be malleable iron or steel. Bushings shall be malleable iron, steel, or plastic. Malleable iron or steel bushings shall be zinc or cadmium plated and shall have insulating insert of thermostatic plastic molded and locked into bushing ring. Plastic bushings shall be thermostatic phenolic insulating type. Use of non-rigid plastic bushings is prohibited.

2.03 FLEXIBLE METAL CONDUIT

- A. Manufacturers:
1. AFC Cable Systems, Inc.: www.afcweb.com.
 2. Electri-Flex Company: www.electriflex.com.
 3. International Metal Hose: www.metalhose.com.
- B. Description: Interlocked steel construction.
- C. Fittings: NEMA FB 1. cast fittings.
- D. Flexible metal conduit shall have a separate grounding conductor.

2.04 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Manufacturers:
1. AFC Cable Systems, Inc.: www.afcweb.com.
 2. Electri-Flex Company: www.electriflex.com.
 3. International Metal Hose: www.metalhose.com.
 4. Anaconda Type "UA" for less than 1-1/4" and Type "EF" for larger than 1-1/2".
- B. Description: Interlocked steel construction with PVC jacket.
- C. Fittings: NEMA FB 1. cast fittings.
- D. Flexible metal conduit shall have a separate grounding conductor.

2.05 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
1. Allied Tube & Conduit: www.alliedtube.com.
 2. Beck Manufacturing, Inc.: www.beckmfg.com.
 3. Wheatland Tube Company: www.wheatland.com.
- B. Description: ANSI C80.3; galvanized tubing.
- C. Fittings and Conduit Bodies: NEMA FB 1; steel or malleable iron set screw type.

1. Connectors and couplings shall be threaded, set-screw, or compression type, and concrete tight and/or rain tight where required.
2. Locknuts shall be malleable iron or steel. Bushings shall be malleable iron, steel, or plastic. Malleable iron or steel bushings shall be zinc or cadmium plated and shall have insulating insert of thermostatic plastic molded and locked into bushing ring. Plastic bushings shall be thermostatic phenolic insulating type. Use of non-rigid plastic bushings is prohibited.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify routing and termination locations of conduit prior to rough-in.
- B. Conduit routing is shown on drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

3.02 INSTALLATION

- A. Install conduit securely, in a neat and workmanlike manner, as specified in NECA 1.
- B. Install steel conduit as specified in NECA 101.
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- E. Group related conduits; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional conduits.
- F. Fasten conduit supports to building structure and surfaces under provisions of Section 26 0529.
- G. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
- H. Do not attach conduit to ceiling support wires.
- I. Arrange conduit to maintain headroom and present neat appearance.
- J. Route exposed conduit parallel and perpendicular to walls.
- K. Route conduit installed above accessible ceilings parallel and perpendicular to walls.
- L. Route conduit in and under slab from point-to-point.
- M. Do not cross conduits in slab.
- N. Maintain adequate clearance between conduit and piping.
- O. Maintain 12 inch (300 mm) clearance between conduit and surfaces with temperatures exceeding 104 degrees F (40 degrees C).
- P. Cut conduit square using saw or pipecutter; de-burr cut ends.
- Q. Bring conduit to shoulder of fittings; fasten securely.
- R. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations, and to cast boxes.
- S. Install no more than equivalent of three 90 degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2 inch (50 mm) size. Elbows larger than 3" dia. shall be long radius elbows.
- T. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.

- U. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control, and expansion joints.
- V. Provide suitable pull string in each empty conduit except sleeves and nipples.
- W. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- X. Ground and bond conduit under provisions of Section 26 0526.
- Y. Identify conduit under provisions of Section 26 0553.
- Z. Install insulating bushings at open ends of telephone, data, video, security, etc. conduits.
- AA. Drawstrings shall be provided for all new empty conduits. Drawstring shall be wax impregnated, nylon, or other synthetic material resistant to moisture and mildew to prevent deterioration.

3.03 FIRESTOPPING

- A. Use only firestop products that have been tested according to ASTM E-814 and UL 1479 for the conditions set forth regarding construction assembly type, penetrating item type, annular space requirements and fire rating.
- B. Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
 - 1. For non-combustible penetrations including conduit not passing through a sleeve, the following materials are acceptable:
 - a. Hilti FS 601 Elastmeric Firestop Sealant.
 - b. 3 M.
 - c. CSD Sealing Systems.
 - d. Firestop Systems.
 - 2. For non-combustible penetrations including sleeved conduits, the following materials are acceptable:
 - a. Hilti FS 601 Elastmeric Firestop Sealant.
 - b. 3 M.
 - c. CSD Sealing Systems.
 - d. Firestop Systems.

3.04 PAINTING

- A. All conduit exposed in finished areas shall be painted to match the surrounding finishes. Refer to specification section 09900 - Coordinate color with Architect.

END OF SECTION

SECTION 26 0537

BOXES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wall and ceiling outlet boxes.
- B. Pull and junction boxes.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- B. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association.
- C. NEMA OS 1 - Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association.
- D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); National Electrical Manufacturers Association.
- E. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Provide products listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.
- C. Pull boxes, junction boxes, and cable support boxes of proper size and design shall be provided in accordance with the N.E.C. and as required to facilitate installation of wires. All boxes shall be sized in accordance with the N.E.C. Covers shall be gasketed and held in place with corrosion resistant machine screws. Cable supports for vertical runs shall be provided at code required locations, within pull or junction boxes. Boxes shall be NEMA 12 for inside and NEMA 4 for outside use where exposed to the weather or where otherwise called for on the drawings.

PART 2 PRODUCTS

2.01 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 1/2 inch (13 mm) male fixture studs where required.
 - 2. Concrete Ceiling Boxes: Concrete type.
- B. Cast Boxes: NEMA FB 1, Type FD, cast ferrous alloy. Provide gasketed cover by box manufacturer. Provide threaded hubs.
- C. Wall Plates for Finished Areas: As specified in Section 26 2726.
- D. Outlet and switch boxes shall be minimum of 2-1/8" deep. When installed in a poured wall a 2-1/2" minimum deep box shall be used. When installed in masonry a 3-1/2" minimum deep box shall be used.
- E. Use 2-gang 4" square boxes with single plaster rings for single device outlets.

2.02 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Install at location required for box to serve intended purpose.

3.02 INSTALLATION

- A. Install boxes securely, in a neat and workmanlike manner, as specified in NECA 1.
- B. Install in locations as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and as required by NFPA 70.
- C. Orient boxes to accommodate wiring devices oriented as specified in Section 26 2726.
- D. Maintain headroom and present neat mechanical appearance.
- E. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- F. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150 mm) from ceiling access panel or from removable recessed luminaire.
- G. Provide identification labels on all junction boxes indicating what systems/equipment circuits are feeding (i.e. Lights in Room #102) and where they are being fed from (i.e. Panel LP-1)
- H. Install boxes to preserve fire resistance rating of partitions and other elements.
- I. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- J. Locate outlet boxes to allow luminaires positioned as shown on reflected ceiling plan.
- K. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.
- L. Use flush mounting outlet box in finished areas.
- M. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- N. Use adjustable steel channel fasteners for hung ceiling outlet box.
- O. Do not fasten boxes to ceiling support wires.
- P. Support boxes independently of conduit, except cast box that is connected to two rigid metal conduits both supported within 12 inches (305 mm) of box.
- Q. Use 2-gang 4" square boxes with single plaster rings for single device outlets.

3.03 ADJUSTING

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

3.04 CLEANING

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

END OF SECTION

SECTION 26 0553

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nameplates and labels.
- B. Wire and cable markers.
- C. Conduit markers.
- D. Panel schedules.

1.02 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.03 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Brady Corporation: www.bradycorp.com.
- B. Seton Identification Products: www.seton.com/aec.
- C. Thomas & Betts.
- D. Panduit.

2.02 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- B. Locations:
 - 1. Each electrical distribution and control equipment enclosure (including starters, disconnects, panelboards, breakers at distribution panels, etc.).
 - 2. Communication cabinets.
- C. Letter Size:
 - 1. Use 1/2 inch letters for identifying equipment and loads. Identification shall indicate where the load is fed from.

2.03 WIRE MARKERS

- A. Description: Vinyl cloth type self-adhesive wire markers.
- B. Description: tape or split sleeve type wire markers.
- C. Locations: Each conductor at panelboard gutters, pull boxes, and junction boxes each load connection.
 - 1. Identify circuit feeder numbers at all wiring devices (receptacle, light switches, dimmers, etc.)

with a self-adhesive wire marker taped to the back of the device cover plate.

D. Legend:

1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.
2. Control Circuits: Control wire number indicated on shop drawings.

2.04 CONDUIT MARKERS

- A. Description: Size: 1-1/8"x4-1/2" minimum. Color: Background color as specified below with black lettering.
- B. Location: Furnish markers for each conduit longer than 6 feet (2 m).
- C. Spacing: 20 feet (6 m) on center.
- D. Color:
 1. Fire Alarm System: Red.
 2. Telephone System: Blue.

E. Legend:

1. 480 Volt System: 480 Volt.
2. 277 Volt System: 277 Volt.
3. 240 Volt System: 240 Volt.
4. 208 Volt System: 208 Volt.
5. Fire Alarm System: Fire Alarm.
6. Telephone System: Telephone.

2.05 PANEL SCHEDULES

- A. Each panel shall have a typewritten panel schedule indicating loads. A clear plastic cover over the schedule shall be provided to protect it.
- B. Existing panel schedules shall be improved to indicate all existing loads and/or updated to indicate all changes that have occurred during renovation. Typing over writing over existing entries on existing schedules is not acceptable. A new schedule shall be provided. Entries must be in type written form.

PART 3 EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.02 INSTALLATION

- A. Install nameplates and labels parallel to equipment lines.
- B. Secure nameplates to equipment front using screws or rivets.
- C. Secure nameplates to inside surface of door on panelboard that is recessed in finished locations.
- D. Identify all boxes for fire alarm circuits by painting cover plates red.

END OF SECTION

SECTION 26 0923

LIGHTING CONTROL DEVICES - WIRED

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Occupancy/Vacancy sensors.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Contracting.
- B. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- C. NFPA 70 - National Electrical Code; National Fire Protection Association.
- D. UL 916 - Energy Management Equipment; Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the placement of lighting control devices with millwork, furniture, equipment, etc. installed under other sections or by others.
 - 2. Coordinate the placement of wall switch occupancy sensors with actual installed door swings.
 - 3. Coordinate the placement of occupancy sensors with millwork, furniture, equipment or other potential obstructions to motion detection coverage installed under other sections or by others.
- B. Sequencing:
 - 1. Do not install lighting control devices until final surface finishes and painting are complete.

1.04 SUBMITTALS

- A. Product Data: Include ratings, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.
 - 1. Occupancy / Vacancy Sensors: Include detailed motion detection coverage range diagrams.
- B. Shop Drawings:
 - 1. Occupancy / Vacancy Sensors: Provide lighting plan indicating location, model number, and orientation of each occupancy sensor and associated system component.
- C. Operation and Maintenance Data: Include detailed information on device programming and setup.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND PROTECTION

- A. Store products in a clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.07 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

PART 2 PRODUCTS

2.01 ALL LIGHTING CONTROL DEVICES

- A. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- B. Unless specifically indicated to be excluded, provide all required conduit, wiring, connectors, hardware, components, accessories, etc. as required for a complete operating system.
- C. Products for Switching of Electronic Fluorescent Ballasts: Tested and rated to be suitable for peak inrush currents specified in NEMA 410.

2.02 OCCUPANCY / VACANCY SENSORS

- A. Manufacturers:
 - 1. Hubbell Building Automation, Inc.: www.hubbellautomation.com
 - 2. WattStopper: www.wattstopper.com.
 - 3. Leviton.
 - 4. Cooper.
 - 5. Source Limitations: Furnish products produced by a single manufacturer and obtained from a single supplier.
- B. All Occupancy / Vacancy Sensors:
 - 1. Description: Factory-assembled commercial specification grade devices for indoor use capable of sensing both major motion, such as walking, and minor motion, such as small desktop level movements, according to published coverage areas, for automatic control of load indicated.
 - 2. Sensor Technology:
 - a. Passive Infrared (PIR) Occupancy Sensors: Designed to detect occupancy by sensing movement of thermal energy between zones.
 - b. Ultrasonic Occupancy Sensors: Designed to detect occupancy by sensing frequency shifts in emitted and reflected inaudible sound waves.
 - c. Passive Infrared/Ultrasonic Dual Technology Occupancy Sensors: Designed to detect occupancy using a combination of both passive infrared and ultrasonic technologies.
 - d. Passive Infrared/Acoustic Dual Technology Occupancy Sensors: Designed to detect occupancy using a combination of both passive infrared and audible sound sensing technologies.
 - 3. Provide LED to visually indicate motion detection with separate color LEDs for each sensor type in dual technology units.
 - 4. Operation: Unless otherwise indicated, occupancy sensor to turn load on when occupant

presence is detected and to turn load off when no occupant presence is detected during an adjustable turn-off delay time interval.

5. Dual Technology Occupancy Sensors: Field configurable turn-on and hold-on activation with settings for activation by either or both sensing technologies.
 6. Passive Infrared Lens Field of View: Field customizable by addition of factory masking material, adjustment of integral blinders, or similar means to block motion detection in selected areas.
 7. Turn-Off Delay: Field adjustable, up to a maximum time delay setting of not less than 15 minutes and not more than 30 minutes.
 8. Sensitivity: Field adjustable.
 9. Adaptive Technology: Field selectable; capable of self-adjusting sensitivity and time delay according to conditions.
 10. Compatibility: Suitable for controlling LED lighting, incandescent lighting, low-voltage lighting with electronic and magnetic transformers, fluorescent lighting with electronic and magnetic ballasts, and fractional motor loads, with no minimum load requirements.
 11. Load Rating for Line Voltage Occupancy Sensors: As required to control the load indicated on the drawings.
 12. Isolated Relay for Low Voltage Occupancy Sensors: SPDT dry contacts, ratings as required for interface with system indicated.
- C. Wall Switch Occupancy / Vacancy Sensors:
1. All Wall Switch Occupancy / Vacancy Sensors:
 - a. Description: Occupancy sensors designed for installation in standard wall box at standard wall switch mounting height with a field of view of 180 degrees, integrated manual control capability, and no leakage current to load in off mode.
 - b. Unless otherwise indicated or required to control the load indicated on the drawings, provide line voltage units with self-contained relay.
 - c. Where indicated, provide two-circuit units for control of two separate lighting loads, with separate manual controls and separately programmable operation for each load.
 - d. Occupancy sensor to be field selectable as either manual-on/automatic-off or automatic on/off.
 - e. Manual-Off Override Control: When used to turn off load while in automatic-on mode, unit to revert back to automatic mode after no occupant presence is detected during the delayed-off time interval.
 - f. Provide selectable audible alert to notify occupant of impending load turn-off.
 - g. Finish: Match finishes specified for wiring devices in Section 26 2726, unless otherwise indicated.
 - h. Provide vandal resistant lenses for passive infrared (PIR) and dual technology wall switch occupancy sensors where indicated.
 2. Passive Infrared (PIR) Wall Switch Occupancy Sensors: Capable of detecting motion within an area of 900 square feet (83.6 sq. m).
 3. Ultrasonic Wall Switch Occupancy Sensors: Capable of detecting motion within an area of 400 square feet (37.2 sq. m).

4. Passive Infrared/Ultrasonic Dual Technology Wall Switch Occupancy Sensors: Capable of detecting motion within an area of 900 square feet (83.6 sq. m).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that openings for outlet boxes are neatly cut and will be completely covered by devices or wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to lighting control devices.
- F. Verify that the service voltage and ratings of lighting control devices are appropriate for the service voltage and load requirements at the location to be installed.
- G. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

- A. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated
- B. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of lighting control devices provided under this section.
 1. Mounting Heights: Unless otherwise indicated, as follows:
 - a. Wall Switch Occupancy Sensors: 48 inches (1.2 m) above finished floor.
 2. Orient outlet boxes for vertical installation of lighting control devices unless otherwise indicated.
 3. Locate wall switch occupancy sensors on strike side of door with edge of wall plate 3 inches (80 mm) from edge of door frame. Where locations are indicated otherwise, notify ENGINEER to obtain direction prior to proceeding with work.
- C. Install lighting control devices in accordance with manufacturer's instructions.
- D. Unless otherwise indicated, connect lighting control device grounding terminal or conductor to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- E. Install lighting control devices plumb and level, and held securely in place.
- F. Where required and not furnished with lighting control device, provide wall plate in accordance with Section 26 2726.
- G. Where applicable, install lighting control devices and associated wall plates to fit completely flush to mounting surface with no gaps and rough opening completely covered without strain on wall

plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

- H. Install identification label for wall switch occupancy sensors, in-wall time switches, in-wall interval timers, and accessory manual wall switches in accordance with Section 26 0526 indicating load served where indicated, when controlling loads that are not visible from the control location, or when multiple control devices are installed at one location.

3.04 FIELD QUALITY CONTROL

- A. Inspect each lighting control device for damage and defects.
- B. Test occupancy sensors to verify proper operation, including time delays and ambient light thresholds where applicable. Verify optimal coverage for entire room or area. Record test results in written report to be included with submittals.
- C. Correct wiring deficiencies and replace damaged or defective lighting control devices.

3.05 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.
- B. Adjust occupancy sensor settings to minimize undesired activations while optimizing energy savings, and to achieve desired function as indicated or as directed by ENGINEER.
- C. Adjust time switch settings to achieve desired operation schedule as indicated or as directed by Owner. Record settings in written report to be included with submittals.

3.06 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.07 CLOSEOUT ACTIVITIES

- A. Refer to Division 1.
- B. Demonstration: Demonstrate proper operation of lighting control devices to ENGINEER, and correct deficiencies or make adjustments as directed.
- C. Training: Train OWNER's personnel on operation, adjustment, programming, and maintenance of lighting control devices.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 - 2. Location: At project site.

END OF SECTION

SECTION 26 2726

WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wall switches.
- B. Receptacles.
- C. Wall plates.

1.02 REFERENCE STANDARDS

- A. FS W-C-596 - Connector, Electrical, Power, General Specification for; Federal Specification; Revision G.
- B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush-mounted (General Specification); Federal Specification; Revision F.
- C. NECA 1 - Standard for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- D. NEMA WD 1 - General Color Requirements for Wiring Devices; National Electrical Manufacturers Association.
- E. NEMA WD 6 - Wiring Device -- Dimensional Requirements; National Electrical Manufacturers Association.
- F. NFPA 70 - National Electrical Code; National Fire Protection Association.
- G. UL 20 - General-Use Snap Switches; Current Edition, Including All Revisions.
- H. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.
- I. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 10 years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Cooper Wiring Devices: www.cooperwiringdevices.com.
- B. Leviton Manufacturing, Inc.: www.leviton.com.
- C. Hubbell.
- D. Bryant.

2.02 ALL WIRING DEVICES

- A. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the

purpose specified and indicated.

2.03 WALL SWITCHES

- A. All Wall Switches: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable, FS W-S-896; types as indicated on the drawings.
 - 1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.
- B. Wall Switches: NEMA WD 1, General Duty, Spec. Grade, AC only general-use snap switch. Switches shall be binding screw type, side and back wired type.
 - 1. Body and Handle: Ivory plastic with toggle handle. Coordinate color selection with Architect prior to ordering.
 - 2. Ratings: Match branch circuit and load characteristics.
- C. Single Pole Single Throw Wall Switches
 - 1. Products:
 - a. Hubbell 1221.
 - b. Arrow Hart 1991.
 - c. Leviton 1221.
- D. Three Way Wall Switches
 - 1. Products:
 - a. Hubbell 1223.
 - b. Arrow Hart 1993.
 - c. Leviton 1223.

2.04 RECEPTACLES

- A. All Receptacles: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
 - 1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
 - 2. NEMA configurations specified are according to NEMA WD 6.
- B. Receptacles: NEMA WD 1, General duty, Spec. Grade, grounded type
 - 1. Configuration: NEMA WD 6, type as specified and indicated.
- C. 20 Amp Duplex Convenience Receptacles.
 - 1. Hubbell 5362.
 - 2. Arrow Hart 5362.
 - 3. Leviton 5362.
 - 4. Device Body: Ivory; Coordinate color selection with Architect prior to ordering. All devices on emergency circuits shall be red in color.
- D. 20 Amp GFCI Receptacles: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements.

1. Hubbell.
2. Arrow Hart.
3. Leviton.
4. Device Body: Ivory. Coordinate color selection with Architect prior to ordering. All devices on emergency circuits shall be red in color.
5. GFCI receptacles shall meet UL 2003 standards.

2.05 WALL PLATES

- A. All Wall Plates: Comply with UL 514D.
 1. Configuration: One-piece cover as required for quantity and types of corresponding wiring devices.
 2. Screws: Metal with slotted heads finished to match wall plate finish.
- B. Interior wall plates:
 1. Stainless Steel Cover Plates:
 - a. Hubbell "S" series.
 - b. Leviton 8400 series.
 - c. Arrow Hart "S" series.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- B. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- C. Verify that final surface finishes are complete, including painting.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- E. Verify that conditions are satisfactory for installation prior to starting work.
- F. Verify door openings/swings with Architectural trades prior to installation.

3.02 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

- A. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of wiring devices provided under this section.
- C. Install wiring devices in accordance with manufacturer's instructions.
- D. Where required, connect wiring devices using pigtails not less than 6 inches (150 mm) long. Do not connect more than one conductor to wiring device terminals.

- E. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.
- F. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- G. Install wiring devices plumb and level with mounting yoke held rigidly in place.
- H. Install wall switches with OFF position down.
- I. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.
- J. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
- K. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.
- L. Connect wiring device grounding terminal to branch circuit equipment grounding conductor.
- M. Use jumbo size plates for outlets installed in masonry walls.
- N. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

3.04 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 26 0537 to obtain mounting heights indicated on drawings.
- B. Install wall switches, dimmers, motor control switches, and fire alarm pull stations at 50 inches to center of box above finished floor. For CMU walls - 48" to top of box above finished floor.
- C. Install convenience receptacles 18 inches (450 mm) above finished floor to center of box (not otherwise specified).
- D. Install convenience receptacles in CMU walls at 16 inches above floor to bottom of box.
- E. Install convenience receptacles 6 inches (150 mm) above counter. Or as required to accommodate the counter construction - refer to Architectural elevations.
- F. Install telephone jacks, data outlets, communication outlets, etc. 18 inches (450 mm) to center of box above finished floor. For CMU walls - 16" to bottom of box above finished floor.
- G. Install fire alarm horns, strobes, speakers at 96 inches above floor (to top of box) or 6 inches below ceiling, whichever is less. But no lower than 80" above finish floor.
- H. Coordinate all finishes and colors of wiring devices with Architect prior to ordering.
- I. Coordinate mounting height/locations with Architect prior to rough-in.

3.05 FIELD QUALITY CONTROL

- A. Inspect each wiring device for damage and defects.
- B. Operate each wall switch, wall dimmer, and fan speed controller with circuit energized to verify proper operation.
- C. Test each receptacle to verify operation and proper polarity.

- D. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.
- E. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.06 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

3.07 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

SECTION 26 5100

INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Interior luminaires.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Contracting; National Electrical Contractors Association.
- B. NECA/IESNA 500 - Standard for Installing Indoor Commercial Lighting Systems; National Electrical Contractors Association.
- C. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; National Electrical Contractors Association.
- D. NFPA 70 - National Electrical Code; National Fire Protection Association.
- E. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures; National Fire Protection Association.
- F. UL 1598 - Luminaires; Current Edition, Including All Revisions.

1.03 SUBMITTALS

- A. Shop Drawings: Indicate dimensions and components for each fixture that is not a standard product of the manufacturer.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- D. Operation and Maintenance Data: Instructions for each product including information on replacement parts.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70 and NFPA 101.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 10 years documented experience.

1.06 SUBSTITUTION ITEMS REQUIRING PRIOR APPROVAL

- A. All items that the CONTRACTOR proposes to use in the work, that are not specifically named in the contract documents, must be submitted for review/approval. Such items must be submitted in duplicate to the ARCHITECT and/or ENGINEER for approval a minimum of ten (10) days prior to bid opening. Requests for prior approval must be accompanied by complete catalog information, including but not limited to, model, size, accessories, complete electrical information and performance data in the form given in the equipment schedule on the drawings at stated design

conditions. Where items are referred to by symbolic designations on the drawings, all requests for prior approval shall bear the same designations.

- B. Lighting Substitutions:
1. Furnish lighting fixtures as scheduled on drawings.
 2. Lighting fixture substitutions may be considered for approval by the ARCHITECT/ENGINEER only if all of the following criteria are met:
 - a. Provide specification cut sheets marked-up to clearly identify the proposed luminaire including features, options, accessories, etc. required to match products indicated in the schedules.
 - b. Provide detailed point-by-point lighting calculations for all areas proposed luminaire will be installed.
 - c. Submit all cut sheets, calculations, etc. to the ARCHITECT/ENGINEER no less than 10 days prior to bid date. Substitutions submitted after this date will not be considered.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acuity/Lithonia Lighting.
- B. Eaton/Cooper Lighting.
- C. Hubbell Lighting.
- D. Or as noted in lighting schedule on the drawings.

2.02 LUMINAIRES

- A. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- B. Provide products that comply with requirements of NFPA 70 and NFPA 101.
- C. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. Unless otherwise indicated, provide complete luminaires including LED light source, lamp(s) and all sockets, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

2.03 LUMINAIRES

- A. Furnish products as indicated in Schedule included on the Drawings.

2.05 LAMPS

- A. All LED light sources or Lamps:
 1. Unless explicitly excluded, provide new, compatible, operable lamps in each luminaire.
 2. Verify compatibility of specified lamps with luminaires to be installed. Where lamps are not specified, provide lamps per luminaire manufacturer's recommendations.

3. Minimum Efficiency: Provide lamps complying with all current applicable federal and state lamp efficiency standards.
 4. Color Temperature Consistency: Unless otherwise indicated, for each type of lamp furnish products which are consistent in perceived color temperature. Replace lamps that are determined by the ENGINEER to be inconsistent in perceived color temperature.
- B. Lamp Types: As specified for each fixture.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of luminaires provided under this section.
- B. Install products according to manufacturer's instructions.
- C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 1 (general workmanship), NECA 500 (commercial lighting), and NECA 502 (industrial lighting).
- D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
- E. Install suspended luminaires using pendants supported from swivel hangers (except where noted to use chain hangers). Provide pendant length required to suspend luminaire at indicated height.
- F. Support luminaires independent of ceiling framing.
- G. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- H. Install wall mounted luminaires at height as indicated on Drawings or in Architectural plans.
- I. Install accessories furnished with each luminaire.
- J. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within fixture; use flexible conduit.
- K. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- L. Bond products and metal accessories to branch circuit equipment grounding conductor.
- M. All night lights, emergency lights, and exit signs shall be circuited from the unswitched hot leg of the general lighting circuit for the area served by the night/emergency/exit lights.

3.02 FIELD QUALITY CONTROL

- A. Inspect each product for damage and defects.
- B. Operate each luminaire after installation and connection to verify proper operation.

3.03 CLEANING

- A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.06 SCHEDULE - See Drawings

END OF SECTION