



**2013 Bond Program
Series 1, Bid Package #3**

Sitework Improvements at 7 Buildings

PROJECT MANUAL

Issued: April 14, 2014

Barton
 **Malow**



**SECTION 00010
PROJECT MANUAL
TABLE OF CONTENTS**

INTRODUCTORY INFORMATION**ISSUE DATE**

00001	Project Manual Cover (<i>Cover Sheet</i>)	April 14, 2014
00010	Table of Contents	April 14, 2014
00015	<i>Listing of Documents</i>	April 14, 2014
00030	Information and Identities	April 14, 2014

BIDDING REQUIREMENTS

00100	Advertisement to Bid	April 14, 2014
00200	Instructions to Bidders	April 14, 2014
00210	Description of Work/Special Provisions	April 14, 2014
00220	Work Scopes	
	320000 Sitework	
00230	Schedule and Phasing	April 14, 2014
00400	Bid Proposal Form	April 14, 2014
00410	Familial Relationship Enclosure Form/ Iran Economic Sanctions Act Certification	April 14, 2014

CONTRACTING REQUIREMENTS**ISSUE DATE**

00500	Agreement Form (Contract)	April 14, 2014
00810	On-Site Project Safety and Loss Control Program	April 14, 2014
00840	Hazardous Materials	April 14, 2014
00870	Labor Relations	April 14, 2014
00880	Regulatory Requirements	April 14, 2014

DIVISION 1 GENERAL REQUIREMENTS

01140	Use of Premises	April 14, 2014
01250	Changes in the Work	April 14, 2014
01290	Payment Procedures	April 14, 2014
01310	Meetings	April 14, 2014
01320	Communications	April 14, 2014
01330	Submittals	April 14, 2014
01360	Coordination (General)	April 14, 2014
01370	Coordination Drawings	April 14, 2014
01400	Quality Requirements	April 14, 2014
01450	Testing and Inspection Services	April 14, 2014
01500	Interim Life Safety Plan	April 14, 2014
01520	Temporary Construction	April 14, 2014
01530	Field Engineering and Layout	April 14, 2014
01540	Cutting and Patching	April 14, 2014
01550	Clean-up and Final Cleaning	April 14, 2014
01600	Forms	April 14, 2014
01630	Product Substitutions	April 14, 2014
01700	Contract Close-out	April 14, 2014
01720	Project Record Documents	April 14, 2014
01730	Operations and Maintenance Data	April 14, 2014
01740	Warranties and Guarantees	April 14, 2014
01750	Systems Demonstration, Training and Start-up	April 14, 2014

OTHER DOCUMENTS ISSUED FOR BID PACKAGE NUMBER

- Division 0 Conditions of The Contract and Division 1 General Requirements are found in the Project Manual, included herein
- Project Manual issued by Barton Malow Company dated April 14, 2014
- TMP Associates Technical Specifications dated April 4, 2014
- TMP Associates Drawings dated April 4, 2014

SECTION 00015
Listing of Drawings

REFER TO PROJECT MANUAL BOOK 2: TECHNICAL SPECIFICATIONS ISSUED BY TMP
ARCHITECTURE, PAGES LD 1 THRU 4.

END OF SECTION 00015

**SECTION 00030
PROJECT MANUAL
INFORMATION AND IDENTITIES**

This Project Manual has been prepared by CM and contains the Bidding and Contract Requirements for **Troy School District – 2013 Bond Program, Series 1, Bid Package 3 Sitework Improvements at 7 Buildings** project in **Troy, MI**

PROJECT: **Troy School District 2013 Bond Program
Series 1, Bid Package 3
Sitework Improvements at 7 Buildings**

CONSTRUCTION MANAGER: **Barton Malow Company
(Direct all Questions to CM) 1140 Rankin Drive
Troy, MI 48083**

Kendra Fecho
Phone: 586.557.2263
Fax: 248.436.1767
Email: Kendra.Fecho@bartonmalow.com

OWNER: **Troy School District
4400 Livernois
Troy, MI 48098**

ARCHITECT: **TMP Architecture
1191 W. Square Lake Road
Bloomfield Hills, MI 48302**

Phone: (248) 338-4561

CIVIL CONSULTANT **Professional Engineering Associates, Inc.
2430 Rochester Ct. Suite 100
Troy, MI 48083**

Phone: (248) 689 - 9090
Fax: (248) 689 - 1044

SECTION 00100
Advertisement to Bid

1. Barton Malow Company requests Bid Proposals on behalf of Troy School District for the construction of the Series 1 Bid Package 3 Sitework Improvements at 7 Buildings. Bid Proposals will be received:

1.1. By delivery or mail by 2 p.m. local time on April 28, 2014.

1.2. To the attention of:

Kenneth Miller
Troy School District
1140 Rankin Drive
Troy, MI 48083

2. Proposals must be sealed with Bidder's name on the outside of the envelope and designated as follows:

Sealed Proposal
Series 1 Bid Package 3
Sitework Improvements at 7 Buildings
Bid Category: _____
Contractor Name, Address, Phone Number

3. Proposals shall be based on the requirements set forth in the Bidding Documents:

Bid Category 320000 Sitework

4. Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish, satisfactory Performance Bond and Payment Bond and Certificates of Insurance as required in the Project Manual
5. Unless otherwise specifically set forth, this Project is subject to state sales and/or use taxes and Bidder is required to include such taxes in its Bid Proposal.
6. Barton Malow Company has been contracted by the Owner in the capacity of CM for the Project, and shall act as representative of the Owner to the extent required/allowed under its Owner contract. Hereafter Barton Malow Company shall be referred to as the "CM".
7. Bid Proposals will be publicly opened by Troy School District, evaluated by CM, Owner and the Architect, with recommended awards subsequently made by Barton Malow Company. ***The Owner shall not open, consider, or accept a Bid Proposal that is received after the date and time specified for bid submission in this Advertisement for Bids.***
8. Bidding Documents will be available for examination and distribution on or after April 9, 2014. Examination may be made at: CM's Office (1400 Rankin Drive – Troy, MI 48083).
9. No Pre-bid conference will be held. Contractors can contact Kendra.Fecho@bartonmalow.com to do a site visit.
10. Electronic documents are free of charge and are made available by emailing: Kendra.Fecho@bartonmalow.com. There will be a \$25 fee (check payable to Barton Malow Company) for paper documents which will be available for distribution at Arc Document Solutions at 1009 W. Maple Rd, Clawson, MI. Bidder shall provide their shipper number for shipping fees if the bidder desires to have plans sent by ground or air transportation. More than one set is available upon payment of printing and shipping costs.
11. Bid Proposals shall be on forms furnished by CM. Bidders will be required to submit with their Bid Proposals a Bid Security by a qualified surety authorized to do business in the state where the Project is located. Bidders shall not withdraw Bid Proposals for a period of 90Days after date for receipt of Bid Proposals.

12. The successful Bidder(s) will be required to enter into an agreement with **Troy School District** on the Agreement Form identified in the Project Manual.
13. All Bid Proposals shall be accompanied by the following two forms found in Section 00410: Familial Disclosure Form (in accordance with MCL 380.1267) and an Iran Economic Sanctions Act Form (in compliance with Michigan Public Act No. 517 of 2012. Bid Proposals that do not include these two sworn and notarized forms shall not be accepted.

Barton Malow Company
Kendra Fecho
Project Manager

END OF SECTION 00100

SECTION 00200 INSTRUCTION TO BIDDERS

1. DEFINITIONS

- 1.1. Capitalized terms used in this Project Manual shall have the meanings set forth below. If a capitalized term is used herein but not defined in this Section, 00200, Part 1, it shall have the meaning set forth in the Contract Documents.
- 1.2. “**Addenda**” means the written and graphic instruments issued by the Architect and/or CM prior to the execution of the Agreement that modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.
- 1.3. “**Agreement**” means the document defined in the Project Manual, including all other documents incorporated by reference in the Agreement.
- 1.4. “**An Alternate Bid**” (or “**Alternate**”) is an amount stated in the Bid Proposal to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
- 1.5. “**Architect**” means the person or entity listed in section 00030 of the Project Manual and may include professional engineers if so designated.
- 1.6. “**Base Bid**” is the sum stated in the Bid Proposal for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added to or deducted from for sums stated in Alternate Bids.
- 1.7. A “**Bidder**” is a person or legal entity that submits a Bid Proposal in conformance with the Bidding Documents. After award of the Agreement, the Bidder will be referred to as Contractor. All Contractors on this project are considered prime/principal contractors.
- 1.8. “**Bid Categories**” are units of Work performed by a Contractor and its Subordinate Parties which form part of the total Project. The term “Bid Category” should not be confused with the term “**Technical Section**”. Technical Sections of the Specification establish quality and performance criteria, and the Bid Categories designate work scope and assignment.
- 1.9. “**Bidding Documents**” means the Bidding Requirements, the Contract Documents, and the Reference Documents collectively.
- 1.10. A “**Bid Package**” means a series of Bid Categories that are released for bidding in the same set of Bidding Documents.
- 1.11. “**Bidding Requirements**” include the Advertisement to Bid, Instructions to Bidders, Information Available to Bidders, and Bid forms and supplements.
- 1.12. “**Bid Proposal**” is a complete and properly signed proposal to do the Work of an individual Bid Category(ies) for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- 1.13. The “**Contract Documents**” consist of all Contracting Requirements set forth in the Project Manual, including, but not limited to, the Contract Forms (the Agreement, Performance/Payment Bonds, and Certificates), the Conditions of the Contract (General, Supplementary or Special), the General Requirements of the Project Manual, the Technical Specifications, Drawings, and all other documents incorporated into the Agreement by reference, all Addenda issued prior to and all modifications issued after execution of the Agreement.
- 1.14. “**Contractor**” means the entity to which the Owner issues a contract for performance of the Work.
- 1.15. “**Day**” means calendar day, unless otherwise defined in the particular Contract Document.
- 1.16. “**Hazard Communications Program**” means Contractor’s own hazard communications program that will govern project safety for its Work. The Hazard Communications Program must be submitted to CM by each successful Bidder before commencing Work and be no less stringent than Section 00810 - On Site Safety and Loss Control Program.

- 1.17. **“Hazardous Materials”** means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.
- 1.18. **“Lowest Responsive, Responsible Bidder”** means a Bidder who’s Bid Proposal conforms in all material aspects to the terms, conditions, specifications and requirements of the solicitations and who has demonstrated the ability to properly perform the Work.
- 1.19. **“MBE/WBE/SBE”** means Minority Owned Business Enterprise/Women Owned Business Enterprise/ Small Business Enterprise as these terms are defined in the applicable ordinances and laws governing the Project.
- 1.20. **“Project Safety Program”** means the Contractor’s site safety program that will govern project safety for its Work. The Project Safety Program must be submitted to CM by each successful Bidder before commencing Work and be no less stringent than Section 00810 - On Site Safety and Loss Control Program.
- 1.21. **“Reference Documents”** are drawings that do not form a part of the Contract Documents and are included in the Bidding Documents as a courtesy only. The Bidder is not entitled to rely upon the accuracy of the Resource Drawings and they are not warranted to be correct or reliable by the Owner or CM. The Bidder is expected to have conducted its own investigation into the reliability or accuracy of any Reference Documents, and no adjustment to the Base Bid shall be made if such request arises or results from the Bidder’s failure to conduct such investigation.
- 1.22. **“Subordinate Parties”** means all of Contractor’s employees, workers, laborers, agents, consultants, suppliers or subcontractors, at any tier, who perform, assist with, or otherwise are involved in any of the Work.
- 1.23. A **“Unit Price”** is an amount stated in the Bid Proposal as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Documents.
- 1.24. The **“Work”** includes all work and responsibilities performed or to be performed by Contractor under the Subcontract.

2. PART 2 - BIDDERS REPRESENTATIONS

- 2.1.1. The Owner reserves the right to request qualification forms or additional information from any Bidder before issuing documents, receiving Bid Proposals or awarding an Agreement. The Owner may, at their sole discretion, accept or reject Bidders as qualified. The right to waive any informalities or irregularities in qualification materials is reserved by the Owner.

2.2. BIDDER BY MAKING ITS BID REPRESENTS THAT:

- 2.2.1. Bidder has carefully read, reviewed and understands the Bidding Documents and its Bid Proposal is made in accordance therewith.
- 2.2.2. Bidder’s Bid Proposal is based upon the materials, systems, equipment, terms and conditions required by the Bidding Documents without exception.
- 2.2.3. Bidder certifies that it:
 - 2.2.3.1. has examined the Project site;
 - 2.2.3.2. has carefully reviewed the Bidding Documents
 - 2.2.3.3. has compared its examination of the Project site with the Bidding Documents;
 - 2.2.3.4. is satisfied as to the condition of the Project site, any surface or subsurface obstruction, the actual levels, and all excavating, filling in, removal and demolition, measurements and quantities involved in the Work;
 - 2.2.3.5. is familiar with weather conditions of the Project area;
 - 2.2.3.6. has taken account of all of these factors in preparing and presenting its Bid Proposal.

- 2.2.4. Bidder further certifies that it
 - 2.2.4.1. has fully acquainted itself with the character and extent of the Owner's, CM's and other Contractor's operations in the area of the Work
 - 2.2.4.2. has taken account of coordination of operations of others in its construction plans set forth in the Bid Proposal.
- 2.2.5. No change orders will be issued to the Contractor for or on account of costs or expenses occasioned by its failure to comply with the provisions of this paragraph, or by reason of error or oversight on the part of the Contractor, or on account of interferences by the Owner's, CM's or other contractor's activities.
- 2.2.6. The Bidder, by submitting its Bid Proposal, represents that it has carefully reviewed the project schedule, along with the related requirements of the Project's Schedule and Phasing, and acknowledges that these are acceptable and have been taken into account in preparing its Bid Proposal.

3. BIDDING DOCUMENTS

3.1. COPIES

- 3.1.1. Bidders shall use complete sets of Bidding Documents in preparing Bid Proposals. Neither the Owner, CM nor the Architect shall be responsible for errors, omissions or misinterpretations resulting from the Bidder's use of partial sets of Bidding Documents.
- 3.1.2. Copies of the Bidding Documents are being made available for the purpose of obtaining Bid Proposals for the Work only. Bidders shall not use the Bidding Documents for any other purpose. Neither the Owner, CM nor the Architect warrants the completeness and/or adequacy of the Bidding Documents.

3.2. INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- 3.2.1. Bidder shall promptly notify the Barton Malow Company of all ambiguities, inconsistencies, or errors that it may discover upon examination of the Bidding Documents or upon examination of the Project site and local conditions. Bidders requesting clarification or interpretation of the Bidding Documents shall make a written request, which shall reach Barton Malow Company at least 5 days prior to the date for receipt of Bid Proposals. Direct all questions to:

Contact Name: Kendra Fecho
Address: 1140 Rankin
City, State, Zip: Troy, MI, 48098
Phone: 586.557.2263
Fax: 248.436.1767
Email: Kendra.Fecho@bartonmalow.com

- 3.2.2. Any interpretation, correction, or change of the Bidding Documents will be made by Addendum and/or Bid Clarification. Interpretations, corrections, or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes. Advertisement to Bid

3.3. ADDENDA and/or BID CLARIFICATIONS

- 3.3.1. Addenda and/or Bid Clarifications will be distributed to all who are known by CM to have received a complete set of Bidding Documents. Copies of Addenda and/or Bid Clarifications will be made available for inspection wherever Bidding Documents are on file for that purpose.
- 3.3.2. No Addenda or Bid Clarifications will be issued later than 3 days prior to the date for receipt of Bids except an Addendum or Bid Clarification withdrawing or postponing the request for Bid Proposals.

3.4. ALTERNATES

- 3.4.1. Each Bidder must bid on all Alternates listed in the Bid Proposal that are applicable to its Bid Category. Alternates will be fully considered in awarding the Agreement.
- 3.4.2. The Owner shall be allowed a period of 90 Days after date of receipt of the Bid Proposals to exercise the right to accept or reject any or all Alternates submitted on the Bid Proposal.
- 3.4.3. Successful Bidders shall perform all Work required for complete execution of accepted Alternates, and the Bid Proposal shall include all overhead and profit for the Work required.

3.5. VOLUNTARY ALTERNATES

- 3.5.1. All Bid Proposals must be based upon the Bidding Documents. In addition to a Base Bid Proposal, the submission of Voluntary Alternates is acceptable and encouraged. If a Voluntary Alternate is submitted for consideration, it shall be expressed on the Bid Form as an add or deduct amount from the Base Bid. The [Owner or Owner and CM] reserve the right to unilaterally accept or reject Voluntary Alternates and to determine if the Voluntary Alternates will be considered in the awarding of the Agreement.

3.6. UNIT PRICES

- 3.6.1. Each Bidder must bid on all Unit Prices listed in the Bid Proposal that are applicable to its Bid Category. Unit Prices will be fully considered in awarding the Agreement.
- 3.6.2. Successful Bidders shall perform all Work required for complete execution of accepted Unit Prices, and such Unit Prices shall include all overhead and profit for the Work required.

3.7. NO DISCRIMINATION

- 3.7.1. All Bidders shall ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, national origin, age, marital status, sexual orientation, or disability and in conformance with local, state and federal laws, regulations and ordinances.
- 3.7.2. In regard to any Agreement entered into pursuant to this Bid Package, minority and women owned business enterprises will be afforded full opportunity to submit Bid Proposals and will not be discriminated against on the grounds of race, color, religion, sex, national origin, age, marital status, sexual orientation, disability or any other status protected by applicable law.

4. BIDDING PROCEDURE

4.1. FORM AND STYLE OF BIDS

- 4.1.1. Bid Proposals shall be submitted in accordance with the Bid Proposal Form.

4.2. BID SECURITY

- 4.2.1. Bid security in the form of a bid bond issued by a qualified surety, certified check or cashier's check in the amount of five percent (5%) of the Base Bid amount will be required at the time of submission of the Bid Proposal. Bid bonds shall be duly executed by the Bidder, as principal and by a surety that is properly licensed and authorized to do business in the state in which the Work is to be performed. All sureties providing bonds for this Project must be listed in the latest version of the Department of Treasury's Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", with the bond amount less than or equal to the underwriting limitation, and/or have an A.M. best rating of A- or better.
- 4.2.2. Bid bond shall pledge that the Bidder, with the understanding that if its Bid Proposal is accepted, will enter into the Agreement with the Troy School District for any of the Bid Category(ies) accepted from its Bid Proposal and will, if required, furnish performance and payment bonds covering the faithful performance of the Agreement and the payment of all obligations arising there under. The attorney-in-fact, who signs the surety bond must submit along with the bond, a certified and effectively dated copy of his/her power of attorney.

- 4.2.3. Bid bond form AIA Document A310 unmodified, is approved for use on this Project.
- 4.2.4. The bid security obligees shall be Troy School District and the amount of the bid security shall become their property in the event that the Bidder fails, within fifteen (15) days of notice of award or receipt of the Agreement form, to execute the Agreement, and deliver the performance and payment bonds as described in the Project Manual, section 00500. In such case, the bid security shall be forfeited to the Troy School District as liquidated damages, not as a penalty.
- 4.2.5. The Owner will have the right to retain the bid security(ies) of Bidders to whom an award is being considered until either (a) the Agreement has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bid Proposals may be withdrawn, or (c) all Bid Proposals have been rejected.
- 4.2.6. Bid security will be returned to the successful Bidders after the Agreement has been executed, and acceptance of required performance and payment bonds. The bid security of Bidders that are not under consideration for award of the Agreement will be returned to those Bidders.

4.3. SUBMISSION OF BIDS

- 4.3.1. All copies of the Bid Proposal, the bid security and any other documents required to be submitted with the Bid Proposal shall be enclosed in a sealed opaque envelope. The envelope shall be labeled as specified as noted in Section 00100.
- 4.3.2. Bid Proposals shall be deposited at the designated location prior to the time and date for receipt of Bid Proposals indicated in the Advertisement to Bid, or any extension thereof made by Addendum or Bid Clarification. Bid Proposals received after the date and time for receipt of bids may be returned unopened.

4.4. MODIFICATION OR WITHDRAWAL OF BID PROPOSAL

- 4.4.1. A Bid Proposal may not be modified, withdrawn or canceled by the Bidder after the stipulated time period and date designated for the receipt of Bid Proposals, and each Bidder so agrees in submitting its Bid.
- 4.4.2. Prior to the time and date designated for receipt of Bid Proposals, any Bid Proposal submitted may be modified or withdrawn by notice to the party receiving Bid Proposals at the place designated for their receipt. Such notice shall be in writing over the signature of the Bidder.
- 4.4.3. Withdrawn Bid Proposals may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.
- 4.4.4. Bid security as stated above shall be in an amount for the Base Bid as modified or resubmitted.

5. CONSIDERATION OF BIDS

5.1. OPENING OF BIDS

- 5.1.1. Bid Proposals received on time will be opened publicly.
- 5.1.2. Bid Proposals shall be held open and irrevocable for ninety (90)Days after the date for receipt of bids.

5.2. REJECTION OF BIDS

- 5.2.1. The Troy School District reserves the right to reject any or all Bid Proposals in accordance with all applicable laws.

5.3. ACCEPTANCE OF BID (AWARD)

- 5.3.1. It is the intent of the Troy School District to award the Agreement to the Lowest Responsive and Responsible Bidder in accordance with the Bidding Documents. The Troy School District shall have the right to waive any informality or irregularity in any Bid Proposal received and to accept Bid Proposals which, in its judgment, are in its own best interest.

- 5.3.2. The Troy School District shall have the right to accept Alternates in any order or combination and to determine the low Bidder on the basis of the sum of the Base Bid, Voluntary Alternates, and Alternates accepted.
- 5.4. To the extent that these Instructions to Bidders and applicable public bidding laws, rules, regulations or ordinances conflict with each other, the provisions of the applicable bidding laws, rules, regulations or ordinances shall govern.
- 5.5. The Owner expects all supplies, materials, equipment or products proposed by a Bidder to meet or exceed the Specifications set forth in the Bidding Documents. Further, it is the Owner's intent that the Bidding Documents permit competition. Accordingly, the use of any patent, proprietary name or manufacturer's name is for demonstrative purposes only and is not intended to curtail competition. Whenever any supplies, material, equipment or products requested in the Bidding Documents are specified by patent, proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words "or comparable equivalent," whether or not such words appear. The Owner, in its sole and absolute discretion, shall have the right to determine if the proposed equivalent products/brands submitted by Bidder meet the Specifications contained in the Bidding Documents and possess equivalent and/or better qualities. It shall be the Bidder's responsibility to notify the Owner in writing if any Specifications or suggested comparable equivalent products/brands require clarification by the Owner prior to the Due Date for Bid Proposals.

6. POST BID INFORMATION

6.1. POST BID INFORMATION

- 6.1.1. After the Bids are received, tabulated, and evaluated, the apparent low Bidders when so requested shall meet with CM at a post-bid meeting for the purposes of determining completeness of scope and any contract overlaps or omissions. If requested, the Bidder shall submit additional information as requested by CM. The Bidder will provide the following information at the post-bid meeting:
- 6.1.1.1. Designation of the Work to be performed by the Bidder with its own forces including manpower for the Contractor and that of its Subordinate Parties.
 - 6.1.1.2. Detailed cost breakdown of the Bidder's Bid Proposal including labor, equipment and material unit prices.
 - 6.1.1.3. A list of names of the Subordinate Parties proposed for the principal portions of the Work.
 - 6.1.1.4. The proprietary names and suppliers of principal items or systems of materials and equipment proposed for the Work.
 - 6.1.1.5. The names and backgrounds of the Bidder's key staff members including foremen and assistants. Bidder shall be requested to establish the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.
 - 6.1.1.6. Commitment to construction schedules, identification of items requiring long lead deliveries and manpower information in accordance with Section 00230 of the Project Manual.
 - 6.1.1.7. Signed safety program compliance, as described in the Contract Documents
- 6.1.2. Prior to award of the Agreement, CM will notify the Bidder if either the Owner, the Architect, or CM, after due investigation, has reasonable objection to any proposed Subordinate Party. If the Owner, Architect or CM has reasonable objection to any proposed Subordinate Party, the Bidder may, at its option: (1) withdraw its Bid Proposal; or (2) submit an acceptable substitute Subordinate Party with an adjustment in its bid amount to cover the difference in cost occasioned by such substitution. The Troy School District, may, at its discretion, accept the adjusted bid amount or it may disqualify the Bidder. In the event of either withdrawal or

disqualification under this Subparagraph, bid security will not be forfeited, notwithstanding the terms in the Instructions to Bidders.

- 6.1.3. Upon the Award of the Agreement, the Contractor shall submit to CM a complete list of all items, products, and layouts for which shop drawings, brochures, or samples are required; name of each Subordinate Party; and date of planned submission.
- 6.1.4. The Bidder will be required to establish to the satisfaction of CM, Owner and Architect, the reliability and responsibility of the Subordinate Parties proposed to furnish and perform the Work described in the Bidding Documents.

END OF SECTION 00200

SECTION 00210
DESCRIPTION OF THE WORK/SPECIAL PROVISIONS

1. GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. All Bidders shall review all of the Bidding Documents, all Bid Category Work descriptions and all Contract Documents, immediately advise CM of any adverse factors, conflicts or ambiguities that might affect the execution of Work of this Bid Package. Each Bidder is responsible to review all Bid Category descriptions and Contract Documents and coordinate the Work accordingly. Each Bidder shall incorporate into its Bid Proposal the cost of coordination of the Work with the requirements of all related Contract Documents, as shown, specified, or required.
- 1.1.2. Each Bidder shall thoroughly examine all of the Bidding Documents for the Work of all trades so as to familiarize itself both with the Work required under its Bid Category(ies) and with Work required under all other Bid Categories.
- 1.1.3. The Bidder shall perform all Work reasonably inferable from the Bidding Documents to produce the intended results. Bidders are required to visit and examine the Project site and may arrange the visit through CM.
- 1.1.4. A complete set of bid documents are available at CM's office

1.2. PROJECT DESCRIPTION

- 1.2.1. The Project is located at various school buildings. The scope of the overall Project generally consists of: Sitework Improvements at 7 district buildings.

1.3. SUMMARY OF THE BID CATEGORIES/WORK SCOPES

- 1.3.1. The following is a listing of Bid Categories for this Bid Package. All work relative to the Bid Package is identified on plans and specifications as prepared by the Architect. Each Bid Category description identifies the scope of Work to be performed by the Bidder as designated by CM.

BID CATEGORIES

320000 Sitework

Specific Bid Category/Work Scope descriptions are found in Section 00220.

1.4. SPECIAL PROVISIONS

- 1.4.1. The following special provisions form a part of each Bid Category Work Scope and apply to each Contractor's Scope of Work found in Section 00220.
- 1.4.2. The Bid Category/Work Scopes should in no way be construed as being all inclusive. The Work Scope is issued as a guide to aid in the assignment of Work. If conflict regarding assignment of Work exists between the drawing notes and these descriptions, the Description of the Work and Bid Category/Work Scopes will take precedence. The Contractor shall carefully review and compare the Drawings and Specifications with the Work Scopes, and if a conflict exists, the Contractor shall immediately notify CM in writing. The Bid Category numbers and the specification section numbers are not, in all cases, identical.
- 1.4.3. Bidders are required to bid the entire Bid Category. Bids will only be accepted for individual Bid Categories. A Bidder may bid more than one Bid Category. Combined bids covering several Bid Categories will not be accepted, unless separate bid amounts are listed for each Bid Category making up the combined bid amount. Review the "Instructions to Bidders" in Section 00200 for specific Bid Proposal instructions.
- 1.4.4. Each Bidder shall review the schedule enclosed in the Bidding Documents, and be prepared to review at the post-bid meetings a schedule for the engineering, fabrication, delivery and installation of its Work. This information will be considered in the award recommendation.

- 1.4.5. All Contractor's are to coordinate all Work with the work of other trades for proper function and sequence (see Section 01360). Contractor must furnish approved copies of shop drawings, mock-ups, and technical data to other contractors designated by the CM for the purposes of coordination of this Work. Contractor must provide to all other trades all information (drawings, diagrams, templates, embedments) and other related Work necessary for the proper coordination of the Work of all trades. Each phase of the Work shall be coordinated, and the coordination plan approved by CM prior to proceeding. Contractor shall keep informed as to Work of all trades engaged in the Project, and shall execute Work in such a manner as not to delay or interfere with the progress of other trades involved. Contractor is required to schedule its Work so that no other party is delayed in execution of its work. Contractor is required to employ competent supervision on the Project throughout the entire period of construction to ensure proper coordination.
- 1.4.6. Contractor will furnish before any Work is started, evidence of ISO Certification or documented procedures for process control, including drawings, submittals, inspection/surveillance and training. In lieu of defined procedures, Contractor will follow CM's documented procedures for process control.
- 1.4.7. When it is necessary to modify or tie into existing utility services, Contractor shall notify CM in writing a minimum of 48 hours prior to the planned disruption. All disruptions shall be scheduled with CM and shall be kept to a minimum time. Tie-ins and shutdowns of existing utilities may have to be performed during off hours. Contractor's are to include any required premium time in the Base Bid.
- 1.4.8. If Owner will occupy the premises or a portion of the premises during the construction, Contractor shall cooperate with CM and Owner in all construction operations to minimize conflict, and to facilitate Owner occupancy.
- 1.4.9. Information pertaining to the existing building has been obtained through photographs and investigations and is indicated on the Resource Drawings. This information is not warranted to be complete or accurate. Contractor shall verify all dimensions in the field prior to ordering materials or construction and any costs or expenses arising out of its failure to do so shall be borne solely by Contractor.
- 1.4.10. The Contractor shall examine the existing site conditions and carefully compare them to the Drawings. All measurements must be verified from actual observation at the Project site. The Contractor is responsible for all Work fitting in place in approved, satisfactory and workmanlike manner in every particular. If the Contractor encounters unexpected existing site or building conditions, it shall cease operations immediately to minimize damage and shall immediately notify CM in writing. Contractor shall bear all costs, expenses or damages arising or resulting from its failure to comply with this paragraph.
- 1.4.11. Hoisting of material or equipment above occupied areas will NOT be permitted unless the existing structure has been properly verified by a licensed professional Engineer to be able to bear the load of the material or equipment being hoisted if accidentally released. It is the responsibility of the Contractor performing such hoisting to properly and adequately reinforce existing structure.
- 1.4.12. Space for electrical and mechanical lines is limited for the Project. Therefore, it is imperative that Contractor coordinate its Work with the Work of all other trades to ensure containment of electrical and mechanical lines in space provided. Priority of space will be decided in discretion of CM, with no additional compensation, where unresolved conflict exists. If Work is not properly coordinated, Contractor shall remove and relocate Work without additional compensation.
- 1.4.13. The Contractor shall maintain all project record documents for all concealed Work to mark actual construction. The Contractor shall turned over to CM all project record documents upon completion of Work by the Contractor, in a format to be determined by CM. The Contractor shall make all project record documents available to the Owner, CM and/or the Architect for inspection and review. The Contractor's failure to maintain such documents adequately shall

entitle the Owner and/or CM to withhold payment until such documents are current and up to date.

1.4.14. The Contractor shall submit a daily report to CM on a daily basis on the form provided to Contractor by CM.

1.4.15. All Contractor shall attend all meetings as required by CM.

1.5. OWNER EQUIPMENT COORDINATION

1.5.1. The Owner Furnished and Contractor Installed (OF/CI) equipment as listed in the Individual Contractor's Work scopes found in Section 00220 shows the Contractor responsible to schedule delivery, receive the equipment and accessories F.O.B. jobsite, inspect, protect, store, handle and move into position, provide all coordination with applicable trades for rough-in requirements and final connections, marshal the appropriate trades as a composite installation crew, and assist in initial startup.

1.5.2. Refer to the Drawings to determine quantities.

END OF SECTION 00210

Section 00220 Work Scopes

BID CATEGORY 310000 –Sitework

The Work of this Bid Category includes but is not limited to providing all labor, equipment, materials, scaffolding, hoisting and incidentals to complete all Earthwork, Site Utilities in accordance with the Contract Documents and applicable codes. All Work is to be performed as shown on the plans and specified in the following technical Specification sections:

<u>Section</u>	<u>Name</u>
013219	Schedule of Required Submittals
013300	Submittal Procedures
014213	Abbreviations
014216	Standards and Definitions
016000	Product Requirements
017300	Execution Requirements
017836	Warranties
017839	Electronic Project Record Documents
024119	Selective Demolition
310516	Soils and Aggregates
311000	Site Clearing
312010	Building Earthwork
312213	Rough Grading
312316	Excavation
312317	Trenching
312323	Fill
312513	Erosion Controls
321216	Asphalt Paving
321313	Concrete Paving
321373	Concrete Paving Joint Sealants
323113	Chain Link Fences and Gates
329113	Soil Preparation
329119	Landscape Grading
329219	Seeding
330513	Manholes and Structures
331116	Site Water Utility Distribution Piping
334100	Storm Utility Drainage Piping
334600	Subdrainage

In addition to the above, this Bid Category requires adherence to and coordination with various other technical Specifications interfacing with this Work. The Bidder shall review the Work descriptions of the other Bid Categories as set forth in Section 00210 of the Project Manual so as to not misunderstand scope responsibilities.

THE SCOPE OF WORK IS TO INCLUDE, but is not limited to, the following items:

1. This contractor is responsible for all work shown and specified for BP#3.
2. This contractor shall be responsible for all layout, engineering, elevations and layout coordination with other contractors. It is the responsibility of this contractor to hire an accredited surveying firm approved by Barton Malow Company to layout all work of this category. Upon completion of the work furnish signed and sealed as-builts that tie all site improvements to property lines and/or building corners and meet the requirements of Section 01720 of the Project Manual.
3. Verify and stake locations of all existing underground utilities (both public & private) before work begins. Provide an independent utility staking consultant to verify existing private utilities prior to commencement of

the Work. Consultant shall periodically be engaged to locate routing of utilities within the work limits during the construction period. Note: Miss Dig maybe no locate on school property.

4. Immediately after final grading is complete, broom sweep any areas of the site that may be affected by debris generated during final site grading. Include sweeping and vacuuming of parking lot, driveways, sidewalks, etc.
5. This contractor is to maintain sweeping, dust control and vacuuming of roads and lots for the duration of their Work. This applies to any debris generated during this contractors Work throughout construction activities.
6. Work at each building is to be performed simultaneously/concurrently. Contractor shall include separate crews as necessary to achieve this task and meet the schedule.
7. This contractor is responsible for removing and relocating items shown on the drawings including but not limited to: trees, light poles, signage, school signs, hydrants, etc. Exclude the removal/reinstallation of the playground equipment (work to be performed by Owner).
8. At playground areas: this contractor is responsible for removal of the wood border and wood chips. This contractor shall exclude the removal/reinstallation of the playground equipment (work to be performed by Owner).
9. Include in base-bid a \$20,000.00 allowance for use of coordinating and obtaining the permits and inspection fees required for this project.
10. Provide and maintain all soil erosion fencing, filters, and traps as required by governing agencies.
11. This contractor will be responsible for all re-mobilization costs for all phases of work.
12. Provide all clearing, grubbing, earthmoving, excavation, filling, back-filling, sheeting, shoring, bracing, saw-cutting, grading, and site balancing required for this project as specified.
13. Provide all sanitary sewer, storm sewer, underdrain, edgredrain and watermain as shown and specified.
14. Provide all site concrete including but not limited to sidewalks and curbs as shown on drawings. Place, grade and compact the required granular cushions, as specified, for site concrete placement. Provide and install all concrete reinforcements, curing compounds, control joints, expansion joints, joint sealants, caulking, fillers and related accessories, as specified.
15. This contractor is responsible for all site demolition as shown on drawings including but not limited to trees, tree stumps, asphalt, concrete, curb, fencing.
16. Contractor is to remove all brush and overgrowth along fences that are shown to be demolished.
17. Provide all asphalt paving and pavement striping and marking including grinding/removal of existing striping where shown on drawings.
18. This contractor is responsible for removal of all their own spoils off-site.
19. This contractor will be responsible to remove all topsoil and backfill to specified elevation with class II material.
20. This contractor is responsible for dewatering within their own excavations during the performance of their own work.
21. Provide and install all topsoil, seeding, sodding, fertilizer and mulch, as specified.
22. Provide all landscaping and irrigation work, as specified.

23. Provide all grading, leveling, and restoration for all trades, when construction is complete to allow for the installation of all planted materials, concrete, asphalt, etc., on site.
24. Provide all fencing and gates as shown and specified.
25. Provide daily clean-up, according to Barton Malow standards, including daily removal of all materials and debris related to this category. If daily clean-up is not performed, the Construction Manager will provide his labor to complete the clean-up and the appropriate contractor will be backcharged.
26. Coordination with other trades, including mandatory participation in job meetings.

EXCLUDED FROM THIS CONTRACTOR'S WORK is:

1. All required testing. (By Owner)
2. Removal/Reinstallation of playground equipment. (By Owner).

SPECIAL CONSIDERATIONS:

1. This contractor shall provide dumpsters and/or removal offsite of all demolition and general debris created by the work of this contractor.
2. All safety requirements meeting MIOSHA and Barton Malow standards (most stringent applies) must be followed. A copy of the Barton Malow Safety Manual is available upon request or for viewing at the CM's office.
3. All work under this scope shall comply with proper trade jurisdictions, even if it is necessary to assemble composite crews or subcontract to appropriate trades.
4. Provide clean-up as outlined in the general requirements section 01550.
5. Contractor is responsible to furnish all Barton Malow Co. start-up documents within two (2) weeks of contract award. This includes signed contract, bonds, certificate of insurance, shop drawings and submittals, and contractors safety program with signed safety agreement (01600), Safety Program Review checklist (01600) and MSDS.
6. It is the responsibility of this Bid Category to review all drawings & drawing notes, including civil, architectural, structural, mechanical, and electrical drawings, and include items requiring work that is generally defined as the responsibility of this Bid Category within the work description unless otherwise noted above in the scope of work.
7. Bidder shall complete the Bid form in its entirety, special attention is directed to the Alternates and Unit Prices Section of the Bid Form.
8. The special provisions outlined in Section 00210 Description of the Work form a part of this bid category work description and apply to this bidder's scope of work.
9. This contractor is responsible to create a safety binder which will include the following information: site specific safety program, signed safety agreement (01600), MSDS sheets, Asbestos Training Certificates, CPR/first aid certificates, Lift certifications, Lead Renovators Certificates, Storm Water Certificates, Equipment Maintenance Logs, Equipment Training Letters, Roof Work Permits, & Letter indicating competent person. This information will be organized and clearly marked with the contractors name, address and division on the exterior of a 3 ring binder for each building you will be working at.

End Section 00220 Work Scopes

SECTION 00230 SCHEDULE AND PHASING

1. GENERAL

1.1. MILESTONE SCHEDULE

- 1.1.1. The following are the milestone schedule dates for the listed Work and will become a part of the Contract Documents. The master construction schedule will be developed after award of the Agreement with Contractor input.

MILESTONE ACTIVITY	SCHEDULED START	SCHEDULED COMPLETION
Sitework at all 7 Buildings	June 16, 2014	August 15, 2014

- 1.1.2. It is expressly agreed that time is of the essence for the completion of Work under the Agreement and Contractor agrees to perform the Work within the allotted time and in the manner specified. Contractor shall be liable for any and all damages and expenses suffered by the Owner or CM arising or resulting from the failure of Contractor to perform the Work in accordance with the construction schedule.

1.2. CONSTRUCTION SCHEDULE DEVELOPMENT PROCESS

- 1.2.1. Contractor agrees to commence Work in the field within five (5) Days after being notified to do so by the CM. Contractor shall diligently perform and fully complete all Work to the satisfaction of CM and Owner.
- 1.2.2. Work shall begin at such points as CM may designate and shall be carried to completion with the utmost speed.
- 1.3.2. Contractor shall submit to CM within fifteen (15) Days of award of the Agreement all necessary scheduling information, in form and substance satisfactory to CM of all activities contained in the Contractor's scope of Work, including activity descriptions and durations in working days, for shop drawings, fabrication, delivery and installation of products, materials and equipment. This schedule shall identify precedent relationships between Contractor's activities and those of other contractors, the dollar value, necessary manpower loadings, and precedent activities for other contractors. The activities on the schedule must be at a level of detail approved by CM and should agree with the terminology and building sequencing established by CM. CM will compile all Contractors' schedules and develop a project master construction schedule. Once the individual contractors schedules are agreed upon by CM, this project master construction schedule will become the project plan for construction.
- 1.3.3. Special requirements and/or sequencing issues should be brought to the attention of CM. It is intended the milestones remain in effect and all Bidders agree to accept the milestone dates. CM reserves the right to revise the project master construction schedule as deemed necessary. CM reserves the right to revise the project master construction schedule as deemed necessary.
- 1.3.4. CM shall periodically update the project master construction schedule and display it at the Project site. Contractor shall familiarize itself with the project master construction schedule and how it will affect or modify its operations, including coordination with the activities of other contractors. Reasonable changes in sequencing, durations and phasing are to be expected with each master schedule update. These changes will be made by Contractor at no additional cost. Reasonable changes in sequencing, durations, and phasing are to be expected with each master schedule update. These changes will be made by Contractor at no additional cost.
- 1.3.5. If it is apparent Contractor is unable to perform its Work in the sequence indicated or the time allotted, Contractor must notify CM within five (5) Days after initial publication of the project master construction schedule. Contractor's schedule of activities may be re-sequenced, and the schedule may be adjusted, provided all Work is completed within the stated milestone dates and

provided CM and affected contractors are notified of the change within five (5) calendar days of receipt of the schedule and the change does not otherwise negatively impact the other scheduled work; otherwise, the project master construction schedule shall be deemed accepted by all parties and becomes a contractual requirement for each Contractor.

- 1.3.6. If Contractor delays progress for any reason other than those delays specifically excused under the Contract Documents, Contractor will take all necessary steps to expedite its Work to maintain milestone target dates at no expense or additional cost to Owner or CM.
- 1.3.7. If Contractor is behind schedule and is so notified by CM, Contractor shall be required to accelerate the Work at its own expense. Contractor shall furnish to CM a short interval schedule of its Work showing location, number of men and crew required to get back on the agreed upon master construction schedule. If Contractor fails to maintain and meet the short interval schedule, Owner through CM reserves the right to take whatever steps it deems necessary in its sole discretion to recover the schedule at the Contractor's expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, all without additional compensation, and shall continue to do so until the progress of the Work, in the opinion of CM, is in conformance with the master project construction schedule.
- 1.3.8. Contractor agrees that it shall have no claim against the Owner, Architect, or CM for an increase in the contract price nor for a payment or allowance of any kind for damage, loss, or expense arising or resulting from delays, regardless of whether the delay is the basis for an extension of time. This provision includes claims for damage, loss, or expense arising or resulting from interruptions to, or necessary suspension of, Contractor's Work to enable other contractors to perform their work.

END OF SECTION 00230

SECTION 00400
BID PROPOSAL FORM
(Submit in Triplicate - Fill in all Blanks)

DATE: _____

TO: Troy School District
1140 Rankin Drive
Troy, MI 48083

PROJECT: Troy School District 2013 Bond Program
Series 1, Bid Package #3
Sitework Improvements at 14 Buildings

ATTN: Kenneth Miller
Executive Director

CM :Barton Malow Company

Architect: TMP Architecture

Name of Bidding Co.:

Contact Name:

Email Address:

Business Address:

Phone Number:

**Bid Proposal for
Category(ies):**

Bidder, in compliance with the Advertisement to Bid for construction contemplated for Bid Package No. 3 Sitework Improvements at 7 Buildings having carefully examined the Bidding Documents and the site of the proposed Project and the conditions affecting the proposed Work in the Bid Category(ies) including the condition of the Project site, any surface or subsurface obstruction, the actual levels, all excavating, filling in, removal and demolition, measurements and quantities involved in the Work, the availability of labor, materials and equipment, and the weather conditions that may possibly may be experienced in the Project vicinity, proposes to furnish all labor, materials, tools, equipment, machinery, equipment rental, transportation, superintendence, and services as are necessary to perform all Work in the Bid Category(ies) stated in accordance with the Contract Documents for the Base Bid and Alternate amounts stated below.

If identified as one of the apparent lowest bidder(s) for a Bid Category Bidder agrees to meet immediately with CM and shall submit post bid information as described in Section 00200 Instructions to Bidders.

Bidder, if awarded a contract, agrees to: (1) execute the Agreement within fifteen (15) days of receiving notice of the award; (2) provide performance/payment bonds and insurance certificates in full compliance with the Contract Documents, (3) submit the Project Safety Program as described in Section 00200 Instructions to Bidders; (4) commence Work upon execution of the Agreement or at such other time as directed in the notice of award, and (5) to complete its Work in accordance with the Contract Documents and within the milestone activity dates and durations set forth in the Bidding Documents and subsequent construction project master schedule established by CM. In the event Bidder defaults in complying with any portion of this paragraph, Bidder specifically agrees that the entire bid security amount shall become the property of Owner as liquidated damages constituting the reasonable estimate of the damages that Owner would incur for delays and additional expenses in the event of such default, and not as a penalty.

BASE BID: Bidder agrees to perform all Work for Bid Category(ies) as described in the Contract Documents, for the Base Bid(s) stated below. The Base Bid(s) shall include the cost of Performance and Payment Bonds. For each Bid Category to be bid, include the Base Bid, written and in figures, the cost of the Performance Bond and Payment Bond which is included in the Base Bid, written and in figures, and the Bid Category and description.

(Show amounts in both words and figures. In case of discrepancy, amount shown in words will govern).

BID CATEGORY	WRITTEN DESCRIPTION/AMOUNT(S)	BID AMOUNT IN FIGURES
1. Bid Category No. 320000		\$ _____
	_____ DOLLARS	

INDIVIDUAL BUILDING PRICES:

All contractors are required to provide individual pricing for each building. The following prices are requested for accounting purposes only and will not be used to determine the low bidder. The contract will be awarded based on the total base bid. Separate contracts will not be written for individual buildings. **Failure to quote the following individual prices will result in an incomplete bid proposal form and may be disqualified by Troy School District**

Barnard Elem.:	_____ DOLLARS \$ _____
Costello Elem.:	_____ DOLLARS \$ _____
Martell Elem.:	_____ DOLLARS \$ _____
Morse Elem.:	_____ DOLLARS \$ _____
Troy Union Elem.:	_____ DOLLARS \$ _____
Wass Elem.:	_____ DOLLARS \$ _____
Wattles Elem.:	_____ DOLLARS \$ _____

UNIT PRICES: The following Unit Prices to Base Bid Categories are required to be offered by the respective Bidders. Bidder agrees that the following amounts will be used in determining contract changes from the Base Bid for authorized Changes in the Work. Bidder shall not include these unit costs in the Base Bid amount(s). All unit prices shall include Bidder's mark-up for overhead and profit.

	BID CATEGORY CODE	DESCRIPTION OF UNIT PRICE	UNIT PRICE	
			ADD	DEDUCT
1.	320000	Undercuts – removal only per CY	\$ _____	\$ _____
2.	320000	1 x 3 Stone delivered and installed per CY	\$ _____	\$ _____
3.	320000	21AA limestone installed per CY	\$ _____	\$ _____
4.	320000	21AA crushed concrete installer per CY	\$ _____	\$ _____

5.	<u>320000</u>	<u>Class II sand installed per CY</u>	<u>\$</u>	<u>\$</u>
6.	<u>320000</u>	<u>Remove/Replace 4" concrete per SF</u>	<u>\$</u>	<u>\$</u>
7.	<u>320000</u>	<u>Temporary fencing per LFT</u>	<u>\$</u>	<u>\$</u>
8.	<u>320000</u>	<u>Remove/Replace 4" asphalt per detail per SY</u>	<u>\$</u>	<u>\$</u>
9.	<u>320000</u>	<u>Curb and gutter (per detail) per LFT</u>	<u>\$</u>	<u>\$</u>
10.	<u>320000</u>	<u>Deciduous tree as shown on drawing EACH</u>	<u>\$</u>	<u>\$</u>
11.	<u>320000</u>	<u>Operator & front end loader per hour</u>	<u>\$</u>	<u>\$</u>
12.	<u>320000</u>	<u>Operator & excavator per hour</u>	<u>\$</u>	<u>\$</u>
13.	<u>320000</u>	<u>Operator & bobcat per hour</u>	<u>\$</u>	<u>\$</u>
14.	<u>320000</u>	<u>Top soil per CY</u>	<u>\$</u>	<u>\$</u>
15.	<u>320000</u>	<u>Hydroseeding per CY</u>	<u>\$</u>	<u>\$</u>
16.	<u>320000</u>	<u>Bollards (each)</u>	<u>\$</u>	<u>\$</u>
17.	<u>320000</u>	<u>Silt fence per LF</u>	<u>\$</u>	<u>\$</u>

VOLUNTARY ALTERNATES: The following voluntary Alternates are offered by the Bidder. Bidder agrees that the amounts indicated below shall be added to or deducted from the Base Bid, as indicated, for each voluntary Alternate that is accepted.

(Show amount(s) in both words and figures for voluntary alternates. In case of discrepancy, amount shown in words will govern).

BID CATEGORY	WRITTEN DESCRIPTION OF VOLUNTARY ALTERNATE AMOUNT(S)	ADD	DEDUCT
1.		<u>\$</u>	<u>\$</u>

For the amount of:

 DOLLARS

2.		<u>\$</u>	<u>\$</u>
----	--	-----------	-----------

For the amount of:

 DOLLARS

Bidder is required to submit sufficient detailed information to fully describe each voluntary Alternate(s) on a separate sheet(s) attached to this Bid Proposal form.

All applicable taxes and bond costs are included in the above Base Bid and all listed Alternates and Unit Prices.

Bid Security in the form of a bid bond from a qualified surety (), certified check (), or cashier's check (), (check one) accompanies this proposal in the amount of five (5) percent of the Base Bid amount(s). Bidder agrees that this Bid Proposal shall be irrevocable for a period of 90 Days after the day and time designated for receipt of the Bid Proposal in Section 00100 of the Project Manual.

As of the date of submission of the Bid Proposal, Bidder's worker's compensation Experience Modification Rate (EMR) for the state in which the Work is to be performed is _____. Bidder has attached to the Bid Proposal form the OSHA Form 200 / 200S indicating recordable incidence rates for the last calendar year per 200,000 man-hours for the following categories:

- | | |
|--|-------|
| 1) Total Cases | _____ |
| 2) Lost Workday Cases | _____ |
| 3) Non-fatal Cases Without Lost Workdays | _____ |
| 4) Employee Hours Worked Last Year | _____ |
| 5) Fatalities in the last year (if yes describe below) | _____ |

Has Bidder been cited by state or federal OSHA for any serious or willful violation? If yes, please describe:

Bidder understands that the Owner reserves the right to reject any or all Bid Proposals and to waive any informalities or irregularities therein.

Bidder acknowledges receipt of the following Addenda (identify no. and date of each): _____

Bidder acknowledges receipt of the pre-bid conference minutes dated _____

If awarded a contract, Bidder's surety will be _____.

Check

☐ I have included a fully executed and notarized copy of the familial disclosure form set forth in Section 00410 of this Project Manual with my Bid Proposal.

Bidder accepts the provisions of the Bidding and Contract Documents and certifies that this Bid Proposal is submitted in good faith and without collusion with any other person or entity submitting a Bid Proposal for the Work. If Bidder is required to be licensed in the state where the work is performed add "Bidder certifies that it meets all licensing requirements of the state in which work is to be performed, its current license number and classification are as follows: _____ Bidder hereby affixes its authorized signature(s) representing (check one):

_____ An individual doing business as _____

_____ A partnership

_____ A limited liability company, organized in _____ (enter state)

_____ A corporation, organized in _____ (enter state)

_____ Joint venture formed between _____ and _____

_____ (Signature from authorized representatives of each partner are required)

_____ An Agent with a Current Power of Attorney must be attached to this bid form.

Signature(s): _____ Title: _____

_____ Title: _____

Legal Name of Firm: _____

Business Address: _____

Telephone Number: _____ () _____

(All interlinear marks, alterations or erasures shall be initialed by the signer of the Bid Proposal)

END OF SECTION 00400

**SECTION 00410
FAMILIAL RELATIONSHIP DISCLOSURE FORM**

SWORN AND NOTARIZED FAMILIAL DISCLOSURE STATEMENT

All Vendor/Contractor(s) submitting proposals must provide familial disclosure and attach this information to the proposal. The proposal will be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or key employee of the vendor submitting a proposal and any member of the Troy School Board or the Troy School Superintendent. The District will not accept a proposal that does not include this sworn and notarized disclosure statement.

The members of Troy School Board are: Nancy Philippart, Todd Milette, Paula Fleming, Ida Edmunds, Wendy Underwood, Gary Hauff and Karl Schmidt. The Troy Schools Superintendent is Dr. Barbara Fowler.

☐ **The following are the familial relationship(s):**

	<u>Owner/Employee Name</u>	<u>Related to:</u>	<u>Relationship</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Attach additional pages if necessary to disclose familial relationships.

☐ **There is no familial relationship that exists** between the owner or key employee of the Vendor/Contractor(s) submitting a proposal and any member of the Troy School Board, or the Troy Schools Superintendent.

INDIVIDUAL/FIRM NAME _____

BY (SIGNATURE) _____

PRINTED NAME AND TITLE _____

Subscribed and sworn before me, this _____

Seal:

day of _____, 20 ____, a Notary Public

in and for _____ County, _____

(Signature)
NOTARY PUBLIC

My Commission expires _____

*CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT****Michigan Public Act No. 517 of 2012***

The undersigned, the owner, or authorized officer of the below-named Company, pursuant to the compliance certification requirement provided in Troy School District's Request For Proposal, the "RFP", hereby certifies, represents, and warrants that the Company and its officers, directors and employees, is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event the Company is awarded a contract by Troy School District as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of Troy School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the it is determined that the person has submitted the false certification.

Contractor:

Print Name of Contractor

By: _____

Its: _____

Subscribed and sworn before me, this _____ Seal:

day of _____, 20 _____, a Notary Public

in and for _____ County, _____

(Signature)
NOTARY PUBLIC

My Commission expires _____

END OF SECTION 00410

SECTION 00500 AGREEMENT

1 AGREEMENT FORM

- 1.01 The form of Agreement that will be used for Work under this Bid Package shall be AIA Document 132 Standard Form of Agreement between Owner and Contractor, CMa 2009 Edition. The above Agreement Form is included immediately behind this section.

2. GENERAL CONDITIONS OF THE CONTRACT

- 2.1. AIA 232 Document **General Conditions of the Contract for Construction, 2009 Edition** is bound within this Project Manual and is a part of the Contract Documents.

3. INSURANCE

- 3.1. The description box on the ACORD certificate must be endorsed as follows:

For Troy School District 2013 Bond Projects: Barton Malow Company, Troy School District, are added as additional insureds on the Insured's commercial general liability policy, excess liability policy, automobile liability policy, and contractor's pollution liability policy, with respect to liabilities arising out of the operations or "work" performed by or on behalf of the Insured and in accordance with all Contractor requirements for such coverage. Coverage for the additional insureds is primary and non-contributory with any other insurance available to the additional insureds, whether such other insurance is available on a primary or excess basis. Waivers of subrogation apply in accordance with Contractor requirements.

- 3.2. A sample of the Certificate of Insurance (ACORD) form at the end of this Section.

- 3.3. CM Contractor Insurance Requirements for Agency Work, PRO 15.14, shall govern this Project. A copy of these Insurance Requirements is included in this Section.

4. BOND REQUIREMENTS

4.1. PERFORMANCE BONDS AND PAYMENT BONDS

- 4.1.1. Troy School District will, require Contractor to furnish a Performance Bond and a Payment Bond, in amounts equal to the Agreement price, by a qualified surety naming both the Owner and CM as Obligees. All sureties providing bonds on this Project must be listed in the Department of Treasury's Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" with the bond amounts less than or equal to the underwriting limitation indicated in the Circular, and/or must have an A.M. Best rating of A – VII or better. Bonds shall be duly executed by the Contractor, as principal, and by a surety that is licensed in the state in which the Work is to be performed
- 4.1.2. The Contractor shall deliver the required bonds to CM prior to execution of the Agreement. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder, at a minimum, shall submit evidence to the satisfaction of CM that such bonds will be furnished prior to commencement of on site Work. In no event may the Contractor commence on-site Work without the required bonds properly issued and delivered.
- 4.1.3. Performance Bond and Payment Bond unmodified form AIA Document or A312 (1984 Edition) must be used for this Project.
- 4.1.4. The Bidder's proposed surety must be acceptable to the Owner and CM. If, at any time, after acceptance of the Contractor's bonds, the surety fails to meet the stated criteria Contractor must, as a precondition to continuing Work and receiving further payments, replace the bonds with bonds from a surety that meets the stated criteria.
- 4.1.5. The Performance and Payment Bond penal sums (i.e., the Agreement price) must be listed as a separate line item in the schedule of values.

- 4.1.6. In the event of a Change Order, the penal sum of any required Performance and Payment Bonds shall be adjusted to equal the adjusted Contract Price. CM or Owner shall have the right to request submission of bond riders, issued by the original qualified surety, evidencing that such adjustments to the penal sum of the bonds have been accomplished. Notwithstanding the foregoing, in the next pay application after the Agreement price has been increased by twenty-five percent (25%) or more, as a condition precedent to payment, Contractor shall deliver a bond rider issued by the original qualified surety evidencing that the appropriate adjustment in penal sums has been accomplished.

END OF SECTION 00500



AIA[®] Document A232[™] – 2009

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

THE CONSTRUCTION MANAGER:
(Name, legal status and address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

This document is intended to be used in conjunction with AIA Documents A132[™]–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132[™]–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132[™]–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT AND CONSTRUCTION MANAGER
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

Init.

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(Paragraphs deleted)

Init.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 **The Contract Documents.** The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, the portions of the Project Manual defined as Contract Documents therein, and other documents listed in the Agreement 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 Notice to Proceed or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of addenda relating to bidding requirements).

In the event of any conflict among the Contract Documents, the Contract Documents shall be construed according to the following priorities:

Highest Priority: Modifications including Changes Orders and Notices to Proceed;

2nd Priority: Owner/Contractor Agreement;

3rd Priority: Addenda, later date to take precedence;

4th Priority: The Contract Documents (other than those mentioned above) that are included in the Project Manual Sections 0 - 2000);

5th Priority: Drawings and Technical Specifications.

In the event of a conflict among the General Conditions and Supplementary Conditions, the Supplementary Conditions shall control.

§ 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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their 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. The Work may constitute the whole or a part of the Project.

§ 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 other Multiple Prime Contractors and by the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

§ 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

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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 to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.1.9 Provide. When the word "provide," including derivatives, is used, it shall mean to fabricate properly, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all other items necessary to properly complete in place, ready for operation or use under the terms of the Specifications.

§ 1.1.10 Addenda. Addenda are written or graphic instruments issued prior to the execution of the Contract that modify or interpret the Bidding Documents, including the Drawings and Specifications, by additions, deletions, clarifications or corrections.

§ 1.1.11 Knowledge. The terms "knowledge," "recognize," and "discover," their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill and diligence required of the Contractor by the Contract Documents.

§ 1.1.12 Persistently. The phrase "persistently fails" and other similar expressions, as used in reference to the Contractor, shall mean any combination of acts and omissions that cause the Owner, Construction Manager, or Architect to reasonably conclude that the Contractor will not complete the Work within the Contract Time, for the Contract Sum, or in substantial compliance with the requirements of the Contract Documents.

§ 1.1.13 Product(s). 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.

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

§ 1.1.15 Singular/Plural. 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.

§ 1.1.16 Project Manual. The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.1.17. Hazardous Material: "Hazardous Material" means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.

§ 1.1.18. Permitted Material The term "Permitted Materials" as used in the Contract Documents 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.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and the applicable standards, codes, and ordinances, the Contractor shall (1) provide the better quality or greater quantity of Work, or (2) comply with the more stringent requirement,

either or both in accordance with the Architect's interpretation. The terms and conditions of this Subparagraph 1.2.3, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 3.2 and 3.7.

§ 1.2.1.1 On the Drawings, given dimensions shall take precedence over scaled measurements, and large-scale drawings over small-scale drawings.

§ 1.2.1.2 Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify measurements at the Project site and shall be responsible for the correctness of such measurements. No extra charges or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference that may be found shall be submitted to the Construction Manager and Architect for resolution before proceeding with the Work.

§ 1.2.1.3 If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure to the Construction Manager for approval by the Architect before making the change.

§ 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. Where responsibility for particular Work is required of the Contractor, the Contractor shall not be released from that responsibility by reason of the location of the specification or drawing information which establishes the responsibility. Thus, the Contractor shall be responsible for all Work required of him, even though that responsibility may be shown only in that portion of the documents typically pertaining to another contractor or trade.

§ 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.

§ 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, or Architect's consultants' reserved rights.

§ 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 without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 Transmission of Data in Digital Form

If the parties intend to transmit 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 or the Contract Documents.

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ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement 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 Article 4, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

(Paragraph deleted)

§ 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; (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 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. Unless otherwise provided under the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. Refer to Project Manual Section 00880 – Regulatory Requirements and Section 00890 – Permits, which detail Contractor's obligations in relation to permits. The Contractor shall not be entitled to additional compensation resulting from its failure to confirm the location of the site utilities or existing structures prior to the opening of the Contractor's bid.

§ 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. Information will be furnished only to the extent it is readily available to the Owner.

§ 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.

§ 2.2.6 The Owner shall endeavor to forward all communications to the Contractor through the Construction Manager and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents.

§ 2.3 Owner's/Construction Manager's Right to Stop the Work

1 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 or persistently fails to carry out Work in accordance with the Contract Documents, the Owner or Construction Manager, may order 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 or Construction Manager to stop the Work shall not give rise to a duty on the part of the Owner or Construction Manager to exercise this right for the benefit of the Contractor or any other person or entity. This right shall be in addition to and not in limitation of the Owner's or Construction Manager's rights under any provision of the Contract Documents.

§ 2.4 Owner's/Construction Manager'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 seventy-two (72) hour period (or such lesser period as determined by Owner or Construction Manager in its

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discretion when grounds exist to complete the neglected or defaulted Work in a shorter time period) after receipt of written notice from the Owner or Construction Manager to commence and continue correction of such default or neglect with diligence and promptness, the Owner or Construction Manager may correct such deficiencies, without prejudice to other remedies the Owner or Construction Manager may have, and without affecting any rights of the Construction Manager or Owner as obligee under the performance and payment bonds issued for this Contract. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Construction Manager's and Architect's and their respective consultants' additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner through the Construction Manager. In the event the Owner/Construction Manager 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.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. 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 plural term "Multiple Prime Contractors" refers to persons or entities who perform construction under contracts with the Owner that are administered by the Construction Manager. The term does not include the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

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

§ 3.1.4 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 Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.5 These General Conditions refer to the relationship between the Owner and Contractor. As to the contract between the Contractor and its Subcontractors, the General Conditions shall be read as the Contractor having the position of the Owner and the Subcontractors having the position of the Contractor. The Subcontractors are bound to the Contractor just as the Contractor is bound to the Owner. The Subcontractor shall have all the rights, duties and obligations to the Contractor as the Contractor has rights, duties and obligations to the Owner. The Subcontractors shall agree to and accept the same responsibility to the Owner as the Contractor. In the event any failure of a Subcontractor 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 in addition to any responsibility or liability of the Subcontractor.

§ 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 familiar with local 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

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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 Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor, any member of its organization, or any of its Subcontractors, before proceeding with the Work, as a request for information submitted to the Construction Manager in such form as the Construction Manager 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. Refer to Project Manual Section 01530 – Field Engineering and Layout, which details Contractor's responsibilities for field layout and verification.

§ 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, but the Contractor shall promptly report to the Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and 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, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, 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.

§ 3.2.5 Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any error, inconsistency or omission in the Contract Documents. It will be presumed that the Contractor's bid and the Contract Sum include the cost of correcting any such error, inconsistency, or omission, which could have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such error, inconsistency or omission could not have been discovered by the exercise of reasonable diligence, the Contractor will make such corrections without additional compensation so that the Work is fully functional.

§ 3.2.6 Except as to any reported errors, inconsistencies, or omissions, and to concealed or unknown conditions defined in Subparagraph 4.7.6, by submitting its bid the Contractor represents the following:

§ 3.2.6.1 The Contract Documents are sufficiently complete and detailed for the Contractor to: (1) perform the Work required to produce the results intended by the Contract Documents; and (2) comply with all the requirements of the Contract Documents.

§ 3.2.6.2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures, and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of product manufacturers are consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to the Work; and (3) requirements of any warranties applicable to the Work.

§ 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 instruction 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 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, the

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Construction Manager, and the Architect and shall not proceed with that portion of the Work without further written instructions from the Architect, through the Construction Manager. The Contractor shall ensure that Suppliers, Subcontractors, and their agents and employees, perform their Work in accordance with the Contract Documents and that all products are ordered and delivered in strict accordance with the Contract Documents and that all products are ordered and delivered in strict accordance with the Schedule. The Contractor shall coordinate its Work with that of all persons or entities on the Project site. The Contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation. A general example is equipment above corridor ceilings where ductwork, piping, conduit, lights, etc. will be installed. A thorough coordinated plan shall be used to install the equipment, to furnish proper clearances, radii of turns, locations, pipe slopes, supporting appurtenances, and access where required. Refer to Project Manual Section 001530 – Field Engineering and Layout.

§ 3.3.2 The Contractor shall be responsible to the Construction Manager and the Owner for acts and omissions of the Contractor's employees, Subcontractors, Suppliers and their agents and employees, and any entity or other persons performing portions of the Work at any tier, directly or indirectly, under a contract with the Contractor. The Contractor shall coordinate the Work of its Subcontractors engaged in construction at the Project. Whenever interference might occur, before any Work is done at the places in question, Contractor shall consult with others and shall come to agreement with them as to the exact location and level of piping, conduits, ducts and/or other Work which might cause interference. Refer to Project Manual Section 001530 – Field Engineering and Layout.

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

§ 3.3.4 The Contractor shall be responsible for its own, its employees' and its Subcontractors' and Suppliers' workmanship and quality of materials and every part thereof or in connection therewith against risk of any and every kind (except those covered by a Builder's Risk Policy applicable to the Project) until the final acceptance of the Work by Owner.

§ 3.3.5 Within fifteen (15) days of award of Contract, each awarded Contractor shall assemble all necessary information and data concerning its supervision and construction procedures, as identified in Project Manual Section 00200 – Instructions to Bidders. Contractor shall submit updated information from the post-bid meetings as well as the following:

§ 3.3.5.1 A schedule of values in the format and detail as the Construction Manager may require.

§ 3.3.5.2 Contractor's Project Safety Program.

§ 3.3.5.3 A complete list of all items, products and layouts for which shop drawings, brochures or samples are required; a list of each Subcontractor or Supplier; the date of planned submission and time period for fabrication and delivery to the jobsite after approval of the submission. The foregoing items will be provided on forms furnished by the Construction Manager. The Contractor shall thoroughly review the Project Manual and adhere to any additional instructions with regard to Submittals.

§ 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.

§ 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 consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

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§ 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.

§ 3.4.4 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.

§ 3.4.5 If any person employed by or under the Contractor is found in the judgment of the Construction Manager or Owner to be incompetent, disorderly, unfaithful, disobedient so far as to endanger proper fulfillment of the Contract or otherwise objectionable, such person shall, if directed by the Construction Manager, be discharged immediately and not employed again on any part of the Work without any liability to Owner or Construction Manager for such discharge.

§ 3.4.6 The Contractor agrees that neither it nor its Subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to hire, tenure, conditions or privilege or employment, or any matter directly or indirectly related to employment, because of race, age, sex, color, religion, national origin, ancestry or physical disability. Breach of this covenant may be regarded as a material breach of this Contract.

§ 3.5 Warranty

§ 3.5.1 In addition to any other warranties, guarantees or obligations set forth in the Contract Documents or applicable as a matter of 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 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 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. This warranty is not limited by the provisions of Paragraph 12.2 or any other provision of the Contract Document.

§ 3.5.2 ALL WRITTEN WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS SHALL INCLUDE LABOR AND MATERIALS AND SHALL BE SIGNED BY THE MANUFACTURER OR SUBCONTRACTOR RESPECTIVELY, AND COUNTERSIGNED BY THE CONTRACTOR. ALL WARRANTIES SHALL BE ADDRESSED TO THE OWNER AND DELIVERED TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT AND BEFORE OR WITH THE SUBMISSION OF REQUEST FOR FINAL PAYMENT.

§ 3.5.3 The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such a manner so as to preserve any and all such manufacturer's warranties.

§ 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

Init.

merely scheduled to go into effect. 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 Construction Manager and hold them harmless from same.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay 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. Refer to Project Manual Section 00880 – Regulatory Requirements and Project Manual Section 00890 – Permits for a description of Contractor's obligations in relation to Permits.

§ 3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules and regulations and lawful orders, and all other requirements of public authorities bearing on performance of the Work. The Contractor shall procure and obtain all bonds required of the Owner or the Contractor by the municipality in which the Project is located or by any other public or private body with jurisdiction over the Project. In connection with such bonds, the Contractor shall prepare all applications, supply all necessary backup material, and furnish the surety with any required personal undertakings. The Contractor shall also obtain and pay all charges for all approvals for street closing, parking meter removal and other similar matters as may be necessary or appropriate from time to time for the performance of the Work.

§ 3.7.3 If the Contractor performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, 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, Construction Manager, and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, 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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor in writing, stating the reasons. If the Contractor disputes the determination or recommendation, the Contractor shall proceed as provided in Article 15. The Contractor shall be alert to any indication or evidence of existing underground or concealed utilities or structures not shown on the Contract Documents and shall immediately notify the Owner of discovery of such evidence. If the Contractor encounters such utilities or structures, it shall cease operations immediately to minimize damage and shall notify the Owner and Architect. The Contractor shall bear the cost of damage resulting from its failure to exercise reasonable care in its construction activity or from continuing operations without notifying the Owner. No adjustment in the Contract Time or Contract Sum shall be permitted, however, in connection with a concealed or unknown condition that does not differ materially from those conditions disclosed or that reasonably should have been disclosed by the Contractor's prior inspections, tests, reviews, and preconstruction services for the Project, or inspections, tests, reviews, and preconstruction services that the Contractor had the opportunity to make or should have performed in connection with the Project in the exercise of the care and skill required of the Contractor by the Contract Documents.

§ 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 the Owner, Construction Manager, 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

Init.

otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. 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 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 costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 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.

§ 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 Construction Manager, the name and qualifications of a proposed superintendent. The Construction Manager may reply within a reasonable amount of time to the Contractor in writing stating (1) whether the Owner, the Construction Manager, or the Architect has reasonable objection to the proposed superintendent or (2) that any of them require additional time to review.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's/Construction Manager's consent, except with another superintendent who is satisfactory to the Owner/Construction Manager. The Contractor shall maintain order and discipline among all workers involved in the Project at all times. The superintendent shall be present at the Project site at all times when Work is performed by the Contractor or its Subcontractors.

§ 3.10 Contractor's Construction Schedules

§ 3.10.1 The Contractor, promptly, and within the time set forth in Project Manual Section 00230 – Schedule and Phasing, after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information and the Construction Manager's approval a Contractor's 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 conditions of the Work and Project, shall be related to the entire Project schedule, and within the time set forth in Project Manual Section 00230 – Schedule and Phasing, and shall provide for expeditious and practicable execution of the Work. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner's own forces. Refer to Project Manual Section 00230 – Schedule and Phasing.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Construction Manager's and Architect's approval. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and 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. Refer to Project Manual 01330 – Submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager and Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule. Refer to Project Manual Section 00230 – Schedule and Phasing.

§ 3.10.4 In the event the Construction Manager or Owner determines that the performance of the Work, as of a Milestone Date, has not progressed or reached the level of completion required by the Contract Documents, the Construction Manager shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation: (1) working additional shifts or overtime; (2) supplying additional manpower, equipment and facilities; and (3) other similar measures (referred to collectively as "Extraordinary Measures"). Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Construction Manager or Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the schedule. Failure to order Extraordinary Measures shall not excuse late completion.

§ 3.10.4.1 The Contractor shall not be entitled to an adjustment in the Contract Sum in connection with Extraordinary Measures required by the Construction Manager or Owner under or pursuant to this Subparagraph 3.10.4.

§ 3.10.4.2 The Construction Manager or Owner may exercise the rights furnished the Owner under or pursuant to this Subparagraph 3.10.5 as frequently as the Construction Manager or Owner deems 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.

§ 3.10.5 The Construction Manager or Owner shall have the right to direct a postponement or rescheduling of any date or time for the performance of any part of the Work that may interfere with the operations of other contractors or of the Owner's premises or any of the Owner's tenants or invitees. The Contractor shall, upon the Construction Manager's or Owner's request, schedule any portion of the Work affecting other contractors or other operation of the premises during hours when the premises are not in operation. Any postponement, rescheduling, or performance of the Work under this Subparagraph 3.10.6 may be grounds for an extension of the Contract Time, if permitted under Paragraph 8.3, and an equitable adjustment in the Contract Sum if (1) the performance of the Work was properly scheduled by the Contractor in compliance with the requirements of the Contract Documents, and (2) such rescheduling or postponement is required for the convenience of the Owner.

§ 3.10.6 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project schedule.

§ 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 delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed. The Contractor shall advise the Construction Manager on a current basis of all changes in the Work made during construction. Refer to Project Manual Section 01320 – Communications, Section 01700 – Contract Close Out, and Section 01720 – Project Record 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. 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 and Construction Manager is subject to the limitations of Sections 4.2.9 through 4.2.11. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§ 3.12.5 Within seven (7) days after award of Contract, the Contractor shall submit to Construction Manager a submittal register as set forth in Project Manual, Section 01330 – Submittals. The Contractor shall review for compliance with the Contract Documents, approve and submit to the Construction Manager, and in a manner calculated to cause no delay in Contractor's Work or the Work of Owner or other contractors, Shop Drawings, Product Data, Samples, brochures and similar submittals required by the Contract Documents in accordance with the Project submittal schedule approved by the Construction Manager and Architect, or in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Multiple Prime Contractors or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples and similar submittals with related documents submitted by other Multiple Prime Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner, Construction Manager, 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.

§ 3.12.7 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 reviewed and 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 Construction Manager's or Architect's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Construction Manager and 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 Construction Manager's or Architect's review or 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 Construction Manager and 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

Init.

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. Refer to Project Manual Section 01330 – Submittals and Architect's technical specifications for specific instructions regarding Contractor's submittal requirements.

§ 3.13 Use of Site

§ 3.13.1 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.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 3.13.3 Only materials and equipment that are to be used directly in the Work shall be brought and stored on the Project Site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project Site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the Contractor's responsibility.

§ 3.13.4 The Contractor and any entity the Contractor is responsible for shall not erect any sign on the Project site without the Owner's prior written consent, which may be withheld in the Owner's sole discretion.

§ 3.13.5 The Contractor shall ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment. Without limitation of any other provision of the Contract Documents, the Contractor shall minimize any interference with the occupancy or beneficial use of any areas in buildings adjacent to the site of the Work or the premises in the event of partial occupancy, as more specifically described in Paragraph 9.9.

§ 3.13.6 The Contractor shall not permit any workers to use any existing facilities at the Project site, including without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site, as amended from time to time. The Contractor shall immediately notify the Construction Manager and Owner in writing if during the performance of the Work the Contractor finds compliance with any portion of such rules and regulations to be impracticable. The Contractor's notice shall set forth the specific issues with such compliance and suggest alternatives under which the same results intended by the rules and regulations may be achieved. The Owner may in such a circumstance, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site. Refer to Project Manual Section 01140 – Use of Premises, for a complete description of Contractor's obligations regarding use of the site.

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§ 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.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner's own forces or of other Multiple Prime Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner's own forces or by other Multiple Prime Contractors except with written consent of the Construction Manager, Owner and such other Multiple Prime Contractors; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the other Multiple Prime Contractors or the Owner the Contractor's consent to cutting or otherwise altering the Work.

§ 3.14.3 See Project Manual Section 01540 as well as technical specifications for further requirements.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises 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, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor. Refer to Project Manual Section 01550 – Cleaning Up and Final Cleaning.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager 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, defend and hold harmless the Owner, Construction Manager and Architect from any and all cost, damage and loss on account thereof, including but not limited to actual attorney's fees, 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, Architect, or Construction Manager. 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 through the Construction Manager. The review by the Owner, Construction Manager or Architect of any method of construction, invention, appliance, process, article, device or materials of any kind shall be for its adequacy in the Work and shall not be an approval for the use thereof by the Contractor in violation of any patent or other rights of any third person.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, Architect and Construction Manager, and their respective agents, representatives, employees, officers, directors, affiliates, and successors (collectively, "Indemnitees") from and against any and all claims, demands, liabilities, causes of action, costs and expenses, or other dispute resolution expenses, including attorney fees and litigation expenses (collectively "Indemnification Claims"), involving:

- (a) Personal injury or death of any person;
- (b) Property damage (including loss of use);
- (c) The breach of any provision in the Owner – Contractor Agreement or Contract;
- (d) Money or other claims by subcontractors, suppliers, their employees or any entity involved in the Work at any tier;
- (e) Any contractual duty of an Indemnitee to indemnify another person; or
- (f) The enforcement by an Indemnitee of its rights under this provision;

but only if such Indemnification Claims arise from or related directly or indirectly to the Work under the Contract by, or the acts of omissions of: (i) the Contractor; (ii) its Subcontractors, Vendors or Suppliers at any tier, or (iii) any persons for whom any of them are responsible, including their employees, agents, officers or representatives. In any event, the obligations contained in Subparagraph 3.18.1 shall not apply to an Indemnification Claim resulting from the sole negligence of an Indemnitee.

§ 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 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.

§ 3.18.3 In the event that any claim is made or asserted, or lawsuit filed for damages or injury arising out of or resulting from the performance of the Work, whether or not the Owner, Architect or Construction Manager is named as a party, the Contractor shall immediately advise the Owner, Architect and Construction Manager, in writing, of such claim or lawsuit, and shall provide a full and complete copy of any documents or pleadings relating thereto, as well as a full and accurate report of the facts involved.

§ 3.18.4 An Indemnitee, at its option, may select counsel to defend any claim, cause of action or lawsuit brought against it without impairing any obligation of Contractor to provide indemnification.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 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 and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 The Owner shall retain a construction manager lawfully licensed to practice construction management or an entity lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Contract and is referred to throughout the Contract Documents as if singular in number. All instructions to the Contractor shall be forwarded through the Construction Manager.

§ 4.1.2.1 The Construction Manager shall act as the Owner's agent for purposes of administering and enforcing the Contract.

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

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner shall employ a successor construction manager or architect.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and 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. 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 and Construction Manager (1) known deviations from the Contract Documents and from the most recent Project schedule prepared by the Construction Manager, and (2) defects and deficiencies observed in the Work.

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§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project schedule, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Multiple Prime Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager and Architect will not have control over, or charge of, 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work. The Architect, the Owner and the Construction Manager shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so that the Owner, Architect and the Construction Manager may perform their functions under the Contract Documents.

§ 4.2.6 **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 Construction Manager, and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents. 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 other Multiple Prime Contractors shall be through the Construction Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner's own forces shall be through the Owner.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of known defects and deficiencies in the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data and Samples. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed them for conformance with the submittal requirements of Contract Documents. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

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§ 4.2.10 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. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.11 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and 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 or any other obligations set forth in the Contract. The Construction Manager and Architect's review shall not constitute approval of safety precautions, 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.

§ 4.2.12 The Construction Manager will prepare Change Orders and Notices to Proceed.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Notices to Proceed in accordance with Article 7. and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.15 The Construction Manager will assist the Architect in conducting inspections to determine the dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.16 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.

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

§ 4.2.18 Interpretations 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, 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 so rendered in good faith.

§ 4.2.19 The Owner's interpretations on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

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§ 4.2.20 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect. The Architect will review and respond in writing to the Construction Manager to requests for information about the Contract Documents. The Architect's response to each request 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 other Multiple Prime Contractors or subcontractors of other Multiple Prime Contractors. The term "Subcontractor" shall also include material and equipment suppliers, which may also be called "Supplier". Each and every Subcontractor shall be understood to have named the Owner and Construction Manager as a third party beneficiary to its subcontract with Contractor and the Owner and Construction Manager shall enjoy all third party beneficiary rights permitted by law.

§ 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 Within seven (7) days after award of the Contract, the Contractor shall submit in writing to the Construction Manager, for review by the Owner, Architect and Construction Manager, (1) the name, trade and subcontract amount for each Subcontractor and (2) the names of all persons or entities proposed as manufacturers of the products identified in the Specifications (including those who are to furnish materials or equipment fabricated to a special design) and, where applicable, the name of the installing Subcontractor. The Construction Manager will promptly reply to the Contractor in writing stating whether or not the Owner, Construction Manager or Architect, after due investigation, has reasonable objection to any such proposed person or entity.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager 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, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. The Contract Sum shall be amended by either of the following at the Owner's sole discretion: (1) the difference between the subcontract amount proposed by the person or entity recommended by the Contractor and the subcontract amount proposed by the person or entity accepted or designated by the Owner and the Construction Manager; or (2) the amount by which the subcontract amount proposed by the person or entity accepted or designated by the Owner and Construction Manager exceeds the amount set forth in the Schedule of Values that is applicable to the Work covered by such subcontract. However, no increase in the Contract Sum 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, Construction Manager or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner, the Architect and the Construction Manager of any proposed Subcontractor substitution a minimum of 10 (ten) days prior to such proposed change.

§ 5.3 Subcontractual Relations

By appropriate written agreement, 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 responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner, Construction

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Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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.

§ 5.4 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 If the Work in connection with a subcontract has been suspended for more than thirty (30) days after termination of the Contract by the Owner pursuant to Paragraph 14.2 or Paragraph 14.4 and the Owner accepts assignment of such subcontract, the Subcontractor's compensation shall be equitably adjusted for any increase in direct documented costs necessarily incurred by such subcontractor as a result of the suspension. In no event will such an adjustment include any consequential damages or indirect costs such as extended home office overhead or lost profit.

§ 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.

§ 5.5 Contractor and Subcontractors' Warranty Acknowledgement. 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 Acknowledgement before a Certificate of Final Completion is issued:

Warranty Acknowledgement

(Name of Subcontractor) ("Subcontractor") warrants that all of its Work complies with requirements of the Contract Documents. If, within the time period Contractor is responsible for warranties under the Contract Documents, any of Subcontractor's Work is found to be not in accordance with the requirements of the Contract Documents, Subcontractor shall correct the Work and its sole expense promptly after receipt of written notice from the Owner.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which may include persons or entities under separate contracts not administered by the Construction Manager. The Owner further reserves the right to award other contracts in connection with other portions of the Project or other construction or operations on the site. 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 elsewhere in the Contract Documents and any time extension or adjustment in Contract Sum will be governed by the applicable provisions of the Contract. The Contractor shall be responsible for coordination the Work with the work of the other Contractors, including the Owner's own forces or separate contractors, so as to complete the Work in accordance with the Project time schedule.

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§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces including persons or entities under separate contracts not administered by the Construction Manager, the Owner shall provide for coordination of such forces with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 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 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, as amended.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Construction Manager and other Multiple Prime 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's own forces or other Multiple Prime Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager and 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 own forces or other Multiple Prime Contractors' 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 or to other Multiple Prime Contractors because of the Contractor's delays, improperly timed activities or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor causes to completed or partially completed construction or to property of the Owner, Construction Manager, separate contractors, or other Multiple Prime Contractors as provided in Section 10.2.5. Should a claim be made that the Contractor wrongfully delayed or caused damage to the Work or property of another contractor, the Contractor shall promptly settle the dispute with such other contractor. If a separate contractor sues the Construction Manager or Owner on account of any delay or damage alleged to have been caused by the Contractor, the Construction Manager will notify the Contractor who shall defend such proceedings at the Contractor's sole expense. If any judgment or award against the Construction Manager or Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Construction Manager or Owner for all costs, including attorney's fees and court costs which either may have incurred.

§ 6.2.5 The other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, other Contractors and the Construction Manager and/or the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Section 3.15, the Owner or Construction Manager may clean up and allocate the cost among those responsible as the Construction Manager, in consultation with the Architect, determines to be just. 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. Refer to Project Manual Section 01550 – Clean Up and Final Cleaning.

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, by Change Order, Notice to Proceed, 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. Refer to Project Manual Section 01250 – Changes in the Work.

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§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor; a Notice to Proceed requires agreement by the Owner, Construction Manager 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.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and Contractor shall proceed promptly, unless otherwise provided in the Change Order, Notice to Proceed or order for a minor change in the Work. Except as permitted in paragraph 7.3, an increase in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any claim for an increase in any amounts due under the Contract Documents or for a change in any time period provided for in the Contract Documents.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect and Contractor, 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
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change. Any impact such change may have on the unchanged Work, including but not limited to claims for acceleration, stacking, inefficiency, ripple effect, disruption, compression, interference, delay and cumulative impact, and any and all adjustments to the Contract Sum and the Schedule. In the event a Change Order increases the Contract Sum, the Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.3 Notice To Proceed

§ 7.3.1 A Notice to Proceed is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager 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 Notice to Proceed, 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.

§ 7.3.2 A Notice to Proceed shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Notice to Proceed provides for an adjustment to the Contract Sum, the adjustment shall be based on one 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.

However, the contract time shall be adjusted only if the Contractor demonstrates to the Owner and Construction Manager that the changes in the Work required by the Notice to Proceed adversely affect the critical path of the Work.

§ 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 Notice to Proceed 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.

§ 7.3.5 Upon receipt of a Notice to Proceed, the Contractor shall promptly proceed with the change in the Work involved

§ 7.3.6 A Notice to Proceed 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.

(Paragraphs deleted)

§ 7.4 Minor Changes in the Work

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order issued through the Construction Manager and shall be binding on the Owner and Contractor.

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.

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

§ 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.

§ 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 the Contractor confirms that the Contract Time is 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. 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. All Work shall be completed in sufficient time to allow for clean-up and preparation for Owner move-in prior to the date of Substantial Completion of the Work.

§ 8.2.4 Without altering the applicability and obligations of Section 8.2.3, the Contractor shall prosecute the Work undertaken in a prompt and diligent manner wherever such Work, or any part of it, becomes available, or at such other times as the Owner and/or Construction Manager 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 of any other contractor, the Owner, Construction Manager or the Architect. Any supplies, materials, tools and/or equipment that are to be furnished by the Contractor hereunder shall be furnished in sufficient time to enable the Contractor to perform and complete its Work within the time or times provided for herein. If the Contractor, through its negligence or failure, including the negligence or failure of its Subcontractors or suppliers, thus to furnish the necessary labor and/or supplies, materials, tools and/or equipment to meet 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 the Contractor fails to take such action necessary to bring its part of the Work up to schedule within twenty-four hours of receiving notice from the Owner or Construction Manager, then the Owner, at its sole option, may supplement the Contractor's forces, materials and/or equipment or remove the Contractor from the Project, and the Owner may complete part or all of the remainder of the Contractor's Work, either utilizing in the Owner's sole discretion its own forces, new contractors chosen by the Owner or any Subcontractor or supplier of the Contractor, which may include fixed price supplemental work time and materials supplemental work, or any combination thereof, which in Owner's sole discretion will most quickly and completely cure the failure of the Contractor. The Contractor shall be responsible for any and all costs of

performing or completing the Work that are incurred by the Owner or any Contractor, Subcontractor, Supplier, or other entity on the Owner's behalf. The Contractor shall pay the Owner for such costs within ten (10) days of the date of demand. If not paid within ten (10) days, the amount will be withheld from the Contractor and paid to the Owner from the next payment due the Contractor under the Contract. Exercise of such rights shall in no way limit or jeopardize the Owner's right to any other remedy, including but not limited to, a claim against the Performance Bond of the Contractor.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in progress of the Work by an act or neglect of the Owner's own forces, Construction Manager, Architect, any of the other Contractors or an employee of any of them, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, adverse weather conditions not reasonably anticipated, unavoidable casualties or other causes beyond the Contractor's control, or by delay authorized by the Owner pending litigation, or by other causes which the Construction Manager determines may justify delay, then the Contract Time shall be extended by Change Order to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension in the Contract Time under the Contract Documents. The Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay is not caused, or could not have been anticipated or prevented by the Contractor, could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, and is of a duration not less than one (1) day.

§ 8.3.2 Any claim for extension of time shall be made in writing to the Construction Manager in the manner and time specified by Paragraph 4.7; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide a written estimate of the probable effect of such delay on the progress of the Work.

§ 8.3.3 Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted under Subparagraph 8.3.1, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work; (2) hindrance or obstruction in the performance of the Work; (3) loss of productivity or acceleration; or (4) other similar claims (collectively referred to in this Subparagraph 8.3.3 as "Delays") whether or not such Delays are foreseeable, unless a Delay is caused by the Owner's active interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. 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 Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling, or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

The Contract Sum is stated in the Agreement 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

The Contractor shall submit to the Construction Manager, within seven (7) days after award of contract, 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 Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or 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 fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 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, Construction Manager or

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Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents. See Project Manual Section 01290 – Payment Procedures for Contractor's obligations in relation to Applications for Payment.

§ 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 Notice to Proceed, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

§ 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 supporting data substantiating the Contractor's right to payment as the Owner, Architect and Construction Manager may require.

§ 9.3.2 Payment will not be made on account of materials or equipment stored on or off site unless the requirements set forth in Project Manual Section 01290 regarding materials stored off site are met to the satisfaction of Construction Manager and Owner.

§ 9.3.3 The Contractor warrants that title to all Work (including materials and equipment) 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 (hereinafter collectively referred to as "Liens") 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.

§ 9.3.3.1 The Contractor further expressly undertakes to defend, indemnify and hold harmless the Indemnitees, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against the Indemnitees as a result of Liens filed against the Work, the site of the Work, the Project site and any improvements on it, payments due the Contractor, or any portion of the property of any of the Indemnitees. The Contractor agrees to defend, indemnify and hold the Indemnitees harmless from and against any such Liens and agrees to pay any judgment resulting from any such actions, lawsuits, or proceedings.

§ 9.3.3.2 The Owner shall release any payments withheld due to a Lien if the Contractor obtains security acceptable to the Owner or a lien bond that is (1) issued by a surety acceptable to the Owner that is licensed and admitted in the state; (2) in form and substance satisfactory to the Owner; and (3) in an amount not less than One Hundred Fifty Percent (150%) of such Lien. By posting a lien bond or other acceptable security, however, the Contractor shall not be relieved of any responsibilities or obligations under this Paragraph 9.3, including, without limitation, the duty to defend and indemnify the Indemnitees. The cost of any premiums incurred in connection with such bonds and security shall be the Contractor's responsibility and shall not be part of, or cause any adjustment to, the Contract Sum.

§ 9.3.3.3 Notwithstanding the foregoing, the Owner reserves the right to settle any disputed Lien by making payment to the lien claimant or by such other means as the Owner, in the Owner's sole discretion, determines is the most economical or advantageous method of settling the dispute. The Contractor shall promptly reimburse Owner, upon demand, for any payments so made.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, after the receipt of the Project Application for Payment with the recommendations of the Construction Manager, review the Project Application for Payment and will either issue a Project Certificate for Payment to the Owner with a copy to the Construction Manager for such amounts as the Architect determines are properly due, or notify the Construction Manager and Owner in writing of the reasons for withholding a Certificate as provided in Subparagraph 9.5.1. Such notifications will be forwarded to the Contractor by the Construction Manager.

§ 9.4.2 The issuance of a separate Certificate for Payment or a Project Certificate for Payment will constitute representations made separately by the Construction Manager and Architect to the Owner, based on their individual observations at the site and the data comprising the Application for Payment submitted by the Contractor, that the Work has progressed to the point indicated and that, to the best of the Construction Manager's and Architect's knowledge, information and belief, 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 minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Construction Manager or Architect. The issuance of a separate Certificate for Payment or a Project Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and 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.

(Paragraphs deleted)

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the 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, Construction Manager 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;
- .8 or any other default or breach under the Contract Documents.

§ 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 or Construction Manager withholds certification for payment under Section 9.5.1, 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 Construction Manager and both will reflect such payment on the next Certificate for Payment.

§ 9.5.4 Should the Subcontractor be in debt to the Owner for any reason, whether in connection with this Contract or a separate contract on this, or another Project, then Owner shall have the right to apply funds from this Contract against the debt owed.

§ 9.5.5 If the Contractor disputes any determination by the Owner, Architect, or Construction Manager 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 The Owner shall either forward payments for the preceding month's Work to the Contractor directly, or forward payments for the preceding month's Work to the Construction Manager for distribution to Contractors. As agent of the Owner, Construction Manager shall forward payment to Contractor following verification of Owner's disbursement checks.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner or Construction Manager 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 Construction Manager, on request, and in the Construction Manager's discretion, may furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner, Construction Manager 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. However, if either Owner, Construction Manager or Architect has cause for concern of whether all payments have been made or will be made as required to subcontractors, laborers or suppliers or creditors of the Subcontractor, Owner, Construction Manager or Architect, in their sole discretion, and without limiting other remedies, after seventy-two (72) hours notice to Contractor, have the right to issue payments either by joint check, payable to both Contractor and the subcontractor, laborer, supplier or creditor, or directly to the subcontractor, laborer, supplier or creditor. Such payments shall be applied against the Contract Sum to the same extent as if the payment were made solely to the Contractor. The Owner's, Construction Manager's or Architect's rights to issue joint checks or direct payments shall in no event create an obligation on the part of the Owner, Construction Manager or Architect to exercise this right on behalf of a subcontractor, laborer, supplier or creditor.

§ 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.

§ 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 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.

§ 9.6.8 Subject to applicable law, if a petition in bankruptcy or any other arrangement or proceeding regarding insolvency, assignment for the benefit of creditors, trust, chattel mortgage, or similar state or federal proceeding, whether voluntary or involuntary, shall be filed with respect to the Contractor, the Owner may withhold the final balance, or any other payments, whether or not an application for progress payment has been properly filed, until expiration of the period of any guarantee or warranties required for the contractor, and the Owner may pay out such funds the amount necessary to satisfy any claims or costs that otherwise would have been covered by such guarantee or warranties.

§ 9.7 Failure of Payment

§ 9.7.1 If the Construction Manager should fail to issue recommendations within fourteen (14) days of receipt of the Contractor's Application for Payment, or if, through no fault of the Contractor, the Architect does not issue a Project Certificate for Payment within fourteen (14) days after the Architect's receipt of the Project Application for Payment, or if the Owner does not pay the Contractor within fourteen (14) days after the date established in the Contract Documents any amount certified by the Architect or awarded by litigation, then the Contractor may, upon

fourteen (14) additional days' written notice to the Owner, the Architect and the Construction Manager, stop Work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, which shall be accomplished as provided in Article 7.

§ 9.7.2 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

§ 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 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 through the Construction Manager a comprehensive list of items to be completed or corrected. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. The Contractor shall then submit through the Construction Manager a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which 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 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. 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. In no case shall the Contractor's final completion of the Work and contract closeout (see Project Manual Section 01700 – Contract Closeout) exceed sixty (60) days from the date of issuance of the Certificate of Substantial Completion. In the event Contractor fails to complete the Work within the sixty (60) day period, the Owner may, in addition to all of its other rights and remedies under the Contract and at law and/or equity, complete the Contractor's Work at the sole expense of Contractor. Owner shall be entitled to deduct from the final payment all costs and expenses incurred in completing the Work, including additional Construction Management and Architecture fees and costs. In the event the costs exceed the amounts being withheld by Owner for final payment, the Contractor or its surety shall make the excess payment within five (5) days of demand by the Owner.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 list, which is not sufficiently complete in accordance with the requirements of 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, through the Construction Manager, a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work or designated portion thereof is substantially complete, the Architect will prepare, and the Construction Manager and Architect shall execute 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 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.

§ 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.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner reserves the right to occupy the whole or any portion of the premises at any time prior to completion of the Work provided such occupancy or use is consented to by the insurer as required under Subparagraph 11.3.11 and authorized by public authorities having jurisdiction over the Work. It is understood and agreed that the right to use the premises is part of the Contract and the Contractor has taken this possibility into account when preparing its bid, and that the Contractor shall proceed with the Work in such a manner as may be directed and shall cooperate with the Owner to limit interruptions to the Owner's routine operations. 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, through the Construction Manager, 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 after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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.

§ 9.9.4 Any agreement as to the acceptance of non-conforming Work not complying with the requirements of the Contract Documents, shall be in writing in the form of a Change Order, acceptable to the Owner's authorized representative and signed by all parties.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the Construction Manager's recommendations, to the Architect who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment or Project 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. All warranties and guarantees and specified closeout documents required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Construction Manager as part of the final Application for Payment (Refer to Project Manual Section 01700 – Contract Closeout, Section 01720 – Project

Record Documents, Section 01730 – Operations and Maintenance Data, Section 01740 – Warranties and Guarantees, and Section 01750 – Systems Demonstration, Training and Start Up). The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees and other specified closeout documentation have been received and accepted by the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or Construction Manager 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 required by the Owner or Construction Manager, other data establishing payment or satisfaction of obligations, such as 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 or Construction Manager. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner and Construction Manager to indemnify the Owner and Construction Manager against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner and/or Construction Manager all money that the Owner and/or Construction Manager may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees, (6) 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, (7) 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, (8) a general release executed by the Contractor on a form provided by the Construction Manager.

§ 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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 through the Construction Manager 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;
- .3 terms of special warranties required by the Contract Documents;
- .4 Owner's claims arising after payment;
- .5 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 Supplier shall constitute a waiver of all claims by that payee against Owner, Architect, and Construction Manager except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. If Contractor fails to submit a final Application for Payment or a final conditional waiver within a reasonable time after request by Construction Manager, and in no event later than sixty (60) days after the issuance of the Certificate of Substantial Completion, the Owner and Construction Manager may unilaterally determine the balance due to the Contractor and the Contractor shall be bound by such determination.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be solely responsible to the Owner and Construction Manager for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor

shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to control over or charge of the acts or omissions of the Contractors, Subcontractors, Suppliers, agents or employees of the Contractors or Subcontractors or Suppliers, or any other persons performing portions of the Work, as these obligations are the sole responsibility of the Contractor. Contractor shall be responsible for payment of all fines levied against Owner, Architect or Construction Manager and all costs (including attorney's fees and litigation/dispute resolution costs) incurred as a result of such fines arising from or relating to conduct of Contractor's Work.

§ 10.2 Safety of Persons and Property

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

- .1 all employees involved in the Project and all 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;
- .3 other property at the site or adjacent thereto, such as, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
- .4 construction or operations by the Owner, Construction Manager, or other Contractors.

§ 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 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, all necessary or appropriate 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. The Contractor shall also be responsible, at the Contractor's sole cost and expense, for all measures necessary to protect any property and improvements adjacent to the Project. Any damages to such property or improvements shall be promptly repaired by the Contractor. Without limiting the indemnity provisions elsewhere in the Contract Documents, the Contractor shall defend, indemnify and hold harmless the Owner and Construction Manager from and against any and all actions or damages arising out of or resulting from damage to such property or improvements.

§ 10.2.4 Use of explosives is not permitted. When use or storage of hazardous substances or equipment, or unusual construction methods are necessary, Contractor shall give Owner, Construction Manager and Architect reasonable advanced notice. When driving or removing piles, wrecking, performing excavation work or other similar potentially dangerous work, the Contractor shall provide protection and exercise utmost care, under supervision of properly qualified personnel, so as not to endanger life or property. Contractor is fully responsible for any and all damages, claims and for defense of all actions against Owner, Construction Manager and Architect resulting from prosecution of such work in connection with or arising out of the Contract.

§ 10.2.5 The Contractor shall promptly remedy damage and loss to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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 Construction Manager.

§ 10.2.7 The Contractor shall not load or permit any part of the structure or site to be loaded with a weight that will endanger the structural integrity of the structure or site or the safety of workmen or any other persons on or about the

Work. When required law or for the safety of the Work, the Contractor shall shore up, brace, underpin, and protect foundations and other portion or existing structures that re in any way affected by the Work. Before commencement of any part of the Work, the Contractor shall serve any and all notices required to be given to adjoining land and/or property owners or other parties.

§ 10.2.8 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause.

(Paragraph deleted)

§ 10.2.9 The Contractor shall promptly report by telephone and in writing to the Owner, Construction Manager and Architect all accidents arising out of or in connection with the Work that cause death, personal injury, or property damage, giving full details and observations of any witnesses. See Project Manual Section 00810 – Safety Program

§ 10.2.10 Injury or Damage to Person or Property

If Contractor suffers injury or damage to person or property because of an act or omission of the Owner, or of others for whose acts the Owner is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the Owner 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's failure to do so shall be an irrevocable waiver of any claim against the Owner arising out of such injury or damage. Injury or damage to persons or property suffered by the Owner because of an act or omission of the Contractor or others for whose acts the Contractor is legally responsible shall be subject to the limitations provisions established by Michigan law. § 10.3

Hazardous Materials

§ 10.3.1 In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB), or any other hazardous material, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner, Construction Manager and Architect in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner and Contractor if in fact the material is asbestos, polychlorinated biphenyl (PCB) or any other material deemed a Hazardous Material, and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or any other Hazardous Material, or when it has been rendered harmless, by written agreement of the Owner and Contractor, or in accordance with final determination by the Architect on which litigation has not been demanded, or by litigation under Article 4. The term "rendered harmless" shall be interpreted to mean that levels of asbestos, polychlorinated biphenyls, and other Hazardous Materials are less than any applicable exposure standards set forth in OSHA regulations or other applicable state regulations. In no event, however, shall the Owner, Construction Manager or Architect have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any Supplier, or any entity for whom any of them is responsible. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or made up of any items that are hazardous or toxic. Refer to Project Manual Section 00840 – Hazardous Materials.

(Paragraphs deleted)

§ 10.3.2 The Contractor shall not, nor shall it permit any member of the construction team to bring on, keep, store, use, release or dispose of any hazardous or potentially Hazardous material on, in or about the Project site except Permitted Materials and as required by section 10.3.8., subject to the requirements of §10.3.9.

§ 10.3.3 The Contractor shall cause the presence, use, storage and/or disposal of Permitted Materials by any member of the construction team to be in strict (not substantial) compliance in every respect with all applicable laws and shall promptly notify the Owner if any amount of Permitted Materials or any other Hazardous Materials are released on the Project site at any time in a quantity that would have to be reported or remediated under any applicable laws.

.1 the Contractor shall at its expense, without recovery from the Owner, under the Contract Sum or otherwise, fully and promptly remediate each and every release of Permitted Materials and any other Hazardous Materials in full compliance with all applicable laws, to the most stringent standards available under all applicable laws, and in cooperation with the Owner, except to the extent of contamination (i) that existed before Work began at the Project site and neither the Contractor nor any other member of the construction team has exacerbated such preexisting contamination after recognizing the presence and general location of such contamination, or (ii) was caused directly by the Owner, the Architect, a separate contractor of the Owner who is not a member of the construction team, or any third party. The Contractor shall be responsible if and to the extent, after recognizing the presence and general

location of Hazardous Materials that were preexisting at the site, or after it should have recognized such presence and general location, it exacerbates such contamination.

§ 10.3.4 The Contractor shall at its expense, without recovery from the Owner, under the Contract Sum or otherwise, be solely responsible to the Indemnitees for and shall defend, indemnify and hold harmless the Indemnitees and the Project site from and against all claims, damages costs, fines, judgments and liabilities, including attorneys fees and costs, arising out of or in connection with the generation, release, transportation, storage, use, disposal or presence of Permitted Materials or Hazardous Materials at the Project site by or due to any member of the construction team or for any noncompliance with section 10.3 by any member of the construction team. The indemnity in the previous sentence and in section 10.3.4 does not include claims, damages, costs, fines, judgments or liabilities, to the extent they arise from (i) contamination that existed before Work began at the Project site which was not exacerbated by the Contractor or any member of the construction team (after it recognized or should have recognized the presence and general location of such contamination) or (ii) contamination that was caused directly by the Owner, the Architect, a separate contractor of the Owner who is not a member of the construction team, or any third party.

§ 10.3.5 The Contractor's responsibility under the foregoing indemnification shall include any and all governmentally mandated removal and/or clean up of any such Permitted Materials or Hazardous Materials.

§ 10.3.6 If the Contractor shall receive any notice, whether oral or written, of any inquiry, test, investigation, enforcement proceeding, environmental audit or the like by or against the Contractor, any member of the construction team, or the Work with regard to any permitted or Hazardous Materials at or emanating from the Project site, the Contractor shall immediately notify the Owner, Construction Manager and Architect.

§ 10.3.7 If any member of the construction team encounters on the Project site material, which it believes is a Hazardous Material in any form (other than Permitted Materials being used in an appropriate manner or asbestos, asbestos containing materials or polychlorinated biphenyl (PCBs) which have been rendered harmless), the Contractor shall (i) immediately stop Work in the area affected, (ii) report the condition to the Owner, Construction Manager and Architect as expeditiously as possible, and (iii) clear all persons from the area of exposure. The Work in the affected area shall not be resumed until the Hazardous Material has been removed or rendered harmless as evidenced by written agreement of the Owner and the Contractor. The term 'rendered harmless' shall be interpreted to mean that the levels are less than any applicable exposure standards set forth in OSHA regulations or other applicable state regulations and all applicable laws. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by any member of the construction team. Except for the Permitted Materials, no member of the construction team shall use any fill or other materials to be incorporated into the Work, which are Hazardous Materials, toxic or comprised of any items that are Hazardous Materials or toxic.

§ 10.3.8 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Construction Manager, Architect, Contractor, Subcontractors, and agents, officers, directors, affiliates and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising out of or resulting from performance of the Work in an area affected by Hazardous Materials (excluding Permitted Materials and other Hazardous Materials brought to the site by the Contractor or persons for whom it is responsible and excluding all claims, damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising out of or resulting from any exacerbation of preexisting contamination after the Contractor recognized or should have recognized the presence or general location of such preexisting contamination), if (i) in fact, the material presents the risk of bodily injury or death 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, but only to the extent that such damage, loss or expense is not due to the negligence of the person seeking indemnity.

§ 10.3.9 The Contractor shall not be required to cause performance without its consent any Work relating to asbestos or PCB or other Hazardous Materials, except as otherwise required under this section 10.3. The Contractor agrees to excavate and stockpile on site soils with levels of contamination such that it can be safely and lawfully handled without special protective equipment if the Owner so requests. In such a circumstance, the Contractor shall comply with all applicable laws, shall be fully responsible for any non-compliance with all applicable laws, and shall indemnify, defend and hold harmless the Owner, Architect and Construction Manager for any and all claims damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising from

Contractor's failure to comply with applicable laws.

§ 10.3.10 The Contractor shall take care to minimize the use of any Hazardous Materials to the extent consistent with the orderly conduct of the Work. To the maximum extent practical, the Contractor shall cause Permitted Materials which contain Hazardous Materials (and any explosive materials which are not Hazardous Materials) to be stored off the Project site and off Owner's premises. Except for Permitted Materials, all Hazardous Materials used, stored or generated at the Project site by the construction team shall be used, stored, transported and disposed of in strict (not substantial) conformity with applicable laws, codes, rules, regulations, guidelines and orders of governmental authorities having jurisdiction. The Contractor shall maintain — and provide promptly to Owner upon demand — appropriate and complete documentation evidencing the Contractor's compliance with all such laws, codes, rules, regulations, guidelines and orders.

The Contractor shall not permit inclusion of asbestos, polychlorinated biphenyls or urea formaldehyde in any construction materials. The Contractor shall be responsible for the removal and cleanup of all Hazardous Materials and wastes brought to the Project site or generated at the pProject site by any member of the construction team. The Contractor shall indemnify and defend the Indemnitees against and hold them harmless from all claims, suits, damages, losses, fines, penalties, costs and expenses, including attorneys' fees and litigation expenses, arising from or in connection with or otherwise relating to, the use, generation, storage, release, transporting and disposal of any Hazardous Materials or waste in connection with the Work excluding such items as are Owner's responsibility as set forth in § 10.3.8.

§ 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

(Paragraphs deleted)

Reference Project Manual Section 00500 – Insurance for the insurance provisions applicable to Contractor under this Contract.

(Paragraphs deleted)

§ 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.

§ 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 the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.

§ 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

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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 the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles, unless the loss was caused Contractor or a party for whom the Contractor is responsible, in which case Contractor shall be responsible for the applicable deductibles.

§ 11.3.1.4 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.

(Paragraph deleted)

§ 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, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 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.

§ 11.3.4 The Owner, Architect and Construction Manager, "Barton Malow Company", shall be named as an additional insured on all property and liability policies. Refer to Project Manual 00500 – Insurance.

§ 11.3.5 Before an exposure to loss may occur, the Owner shall file with the Construction Manager 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.

§ 11.3.6 **Waivers of Subrogation.** Reference Project Manual Section 00500 – Insurance for the insurance provisions applicable to Contractor under this Contract. § 11.3.7 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary, through the Construction Manager, 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.

(Paragraph deleted)

§ 11.3.8 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.

§ 11.3.9 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.

(Paragraph deleted)

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. Bonds shall be executed by a responsible surety licensed and admitted in the state where Work is located, listed in the latest version of the Department of the Treasury's Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," with the bond amount less than or equal to the underwriting limitation; and with an AM Best's rating of no less than A- VII or better. Bonds shall meet all other requirements set forth in Section 0500 – Bonds - of the Project Manual.

§ 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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their observation and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered which the Construction Manager or Architect has not specifically requested to observe prior to its being covered, the Construction Manager or Architect may request 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 one of the other Contractors 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 Construction Manager or 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 uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If any portion of the Work is determined by the Owner, Construction Manager or Architect, either during performance of the Work or during any applicable warranty period, to be defective or not in compliance with the requirements therefor, the Construction Manager or Owner shall notify the Contractor in writing that such Work is rejected. Thereupon, the Contractor shall immediately replace and/or correct such Work by making the same comply strictly with all the requirements therefor. The Contractor shall bear all costs of correcting such rejected Work, including work of other Subcontractors and including compensation for the Architect's and Construction Manager's additional services and any delay or related damaged to the Owner made necessary thereby. The Construction Manager shall have the right to charge the Contractor for any compensation payable for the Architect's or Construction Manager's additional services required by the Contractor's rejected Work and deduct the payment from the next payment due the Contractor.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one 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 correct it promptly after receipt of written notice from the Owner or Construction Manager to do so unless the

Owner or Construction Manager has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.4., without affecting the surety(ies) obligations under the Bonds. Refer to the Project Manual Section 01740 – Warranties and Guarantees.

§ 12.2.2.2 The one-year period 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 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 or other Multiple Prime 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.

§ 12.2.6 Unless the Owner authorizes otherwise, Substantial Completion shall not commence the correction period for any equipment or systems that:

- .1 Are not fully operational (equipment or systems shall not be considered fully operational if they are intended to provide service to any portion of the building which the Owner has not accepted as substantially complete); or
- .2 Are not accepted by the Owner

§ 12.2.7 The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Failure to correct Work deficiencies and/or punch list items in a timely fashion shall be a material breach, and the Owner may terminate the Contract. Whether or not the Contract is terminated, if the Contractor fails to make corrections in a timely fashion, such Work may be corrected by the Owner, in its sole discretion, at the Contractor's expense and the Contract Sum may be adjusted by backcharge accordingly. The Contractor shall promptly notify the Construction Manager in writing when Work deficiencies and/or punch list items are completed. If upon review of the Work by the Construction Manager, after such notification by the Contractor, Work deficiencies and/or punch list items shall continue to exist, the Contractor shall reimburse the Owner for any costs incurred by the Owner, plus ten percent (10%) overhead and profit, as well as the Construction Manager's and Architect's fees for reinspections of 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 will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The acceptance of nonconforming Work by the Owner shall be by written Change Order signed by the Owner's authorized representative. Acceptance of nonconforming Work may only occur pursuant to such written Change Order.

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.

§ 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. The Contractor shall not assign the Contract as a whole or part without written consent of the Owner. If Contractor attempts to make such an assignment without such consent, it and its surety(ies) 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. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 Written Notice

§ 13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or 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. Owner or Construction Manager as Owner's Agent, may, at their option, serve notice on the Contractor by faxing a copy of the notice to the Contractor at its last known facsimile number and subsequently mailing the notice to the Contractor's last known business address.

§ 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, Construction Manager, 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 thereunder, 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. 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and 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 Construction Manager, 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 Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and 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 or applicable law, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and

compensation for the Construction Manager's and Architect's services and expenses. The Contractor also agrees that the cost of testing services required for the convenience of the Contractor in its scheduling and performance of the Work, and the cost of testing services required for the convenience of the Contractor in its scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 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 Construction Manager for transmittal to the Architect.

§ 13.5.5 If the Construction Manager or Architect is to observe tests, inspections or approvals required by the Contract Documents, the Construction Manager or 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 not bear interest

§ 13.7 Time Limits on Claims

The Owner shall commence all claims and causes of action in accordance with Michigan law, regardless of time frames identified in this Agreement. The Contractor shall commence all claims and causes of action in accordance with the Contract and in accordance with Michigan law.

§ 13.7.2 Regardless of any provisions to the contrary, the statute of limitations with respect to any defect 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 Except where otherwise expressly required by the terms of the Contract, 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 rights or remedy. Further, pursuit of such a right or remedy without prior notice to or approval or 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 90 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;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents subject to justifiable withholding of payment as described herein or in the Contract Documents.

§ 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, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed

§ 14.1.4 If the Work is stopped for a period of 90 consecutive days or if repeated suspensions, delays, or interruptions by the Owner as described in Paragraph 14.3 constitute in the aggregate the lesser of an amount equal to the Contract time or One Hundred Twenty (120) days in any one (1) year period 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, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 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 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;
- .5 is petitioned bankrupt, or makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of the Contractor's insolvency;
- .6 breaches any warranty made by the Contractor under or pursuant to the Contract Documents;
- .7 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract Documents; or
- .8 fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Construction Manager, and upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seventy-two (72) hours written notice, terminate employment of the Contractor and may:

- .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.

§ 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.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner in pursuing termination and completion of the Work, including actual attorney and legal fees and costs, and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the 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, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 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 and the Contract Time shall 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:

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- .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 this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner reserves the right to terminate the Contract, or any portion thereof, for convenience and without cause, even though the Contractor has not failed to perform any part of the Contract. Termination of the Work hereunder shall be effected by written notice to the Contractor. Upon receipt of such notice, the Contractor shall, unless the notice otherwise directs:

- .1 Immediately discontinue the terminated portion of the Work and the placing of all orders and subcontracts in connection with the terminated portion of the Work;
- .2 Immediately cancel all of the existing orders and subcontracts in connection with the terminated portion of the Work;
- .3 Immediately transfer to the Owner all materials, supplies, Work in progress, appliances, facilities, machinery and tools acquired by the Contractor in connection with the performance of the terminated portion of the Work, and take such action as may be necessary or as the Owner or Construction Manager may direct for protection and preservation of the Work relating to this Contract; and
- .4 Deliver all plans, drawings, specifications and other necessary information to the Owner through the Construction Manager.

§ 14.4.2 If the Owner terminates the Contract for convenience, the following shall be the Contractor's exclusive remedies:

14.4.2.1 Reimbursement of all actual expenditures and costs approved by the Owner through the Construction Manager and Architect as having been made or incurred in performing the terminated Work.

(Paragraph deleted)

14.4.2.2 Reimbursement of expenditures made and costs incurred with the Owner's prior written approval in settling or discharging outstanding commitments entered into by the Contractor in performing the Contract; and

14.4.2.3 Payment of profit, insofar as profit is realized hereunder, of an amount equal to the estimated profit on the entire Contract at the time of termination multiplied by the percentage of completion of the Work. In no event shall the Contractor be entitled to anticipated fees or profits on Work not required to be performed.

§ 14.4.3 All obligations of the Contractor under the Contract with respect to completed Work, including but not limited to all warranties, guarantees, indemnities, insurance and bonds shall apply to all Work completed or substantially completed by the Contractor prior to a convenience termination by the Owner. Notwithstanding the above, any convenience termination by the Owner or payments to the Contractor shall be without prejudice to any claims or legal remedies that the Owner may have against the Contractor for any cause.

§ 14.4.4 Upon a determination that a termination of this Contract, other than a termination for convenience under this Paragraph 14.4, was wrongful or improper for any reason, such termination shall automatically be deemed converted to a convenience termination under this Paragraph 14.4, and the Contractor's remedy for such wrongful termination shall be limited to the recoveries specified under Subparagraph 14.4.2.

§ 14.4.5 Contractor is required to include a termination for convenience clause in all of its Subcontractor and Supplier contracts, in substantially similar form as set forth in this Paragraph 14.4, and that limits the Subcontractors and Suppliers to exclusive remedies no greater than those set forth in Subparagraph 14.4.2 that are available to Contractor. Contractor shall bear all costs arising or related to its failure to include such clause in its Subcontracts.

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. 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.

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§ 15.1.2 Notice of Claims. Claims by Contractor must be made within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later, provided, however, that the Contractor shall use its best efforts to furnish the Construction Manager, Architect, and the Owner, as expeditiously as possible, with notice of any Claim including, without limitation, those in connection with concealed or unknown conditions, as soon as such Claim is recognized. Contractor shall cooperate with the Construction Manager, Architect, and the Owner in any effort to mitigate the alleged or potential damages, delay or other adverse consequences arising out of the condition that is the cause of the Claim. Claims must be made by written notice. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted in a timely manner.

§ 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 Construction Manager will prepare Change Orders and the Architect will issue a Certificate for Payment or Project Certificate for Payment in accordance with the decisions of the Initial Decision Maker.

§ 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. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3. A Project delay shall not be a basis for a Claim for additional costs. Delays may be remedied only through an extension of time per Section 15.1.5.

§ 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.

(Paragraphs deleted)

§ 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 initial interpretation. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial interpretation shall be required as a condition precedent to litigation of any Claim brought by the Contractor against the Owner 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 interpretation having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not interpret 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. Within ten (10) days or written request, the Contractor shall make available to the Owner or its representative all of its books, records, or other documents in its possession or to which it has access relating to a Claim and shall require its Subcontractors and Suppliers, regardless of tier, to do the same.

§ 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 an interpretation. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

Init.

§ 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, based on its interpretation, either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial interpretation approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial interpretation shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect and Construction Manager, if the Architect or Construction Manager 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 subject to the parties' agreed upon dispute resolution process.

§ 15.2.6 Notwithstanding anything herein to the contrary, claims of the Owner shall be governed in accordance with the statute of limitations periods under Michigan Law.

(Paragraph deleted)

§ 15.2.7 In the event of a Claim against the Contractor, the Owner, Architect or initial Decision Maker 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.

(Paragraphs deleted)

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PAGE 1

1

PAGE 3

INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work
9.6.6, 9.9.3, 12.3
Acceptance of Work
9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3
Access to Work
3.16, 6.2.1, 12.1
Accident Prevention
10
Acts and Omissions
3.2.1, 3.2.2, 3.3.2, 3.12.8, 3.18, 8.3.1, 9.5.1, 10.1, 10.2.5, 13.4.2, 13.7
Addenda
1.1.1, 3.11, 4.2.14
Additional Costs, Claims for
3.2.4, 3.7.4, 3.7.5, 6.1.1, 7.3, 9.10.3, 9.10.4, 10.3, 10.4, 15.1.4
Additional Inspections and Testing
4.2.8, 12.2.1, 13.5
Additional Insured
11.1.4
Additional Time, Claims for
3.7.4, 3.7.5, 6.1.1, 7.3, 8.3, 10.3
Administration of the Contract
3.10, 4.2
Advertisement or Invitation to Bid
1.1.1
Aesthetic Effect
4.2.19
Allowances
3.8, 7.3.8
All risk Insurance
11.3.1, 11.3.1.1
Applications for Payment
4.2.7, 4.2.15, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.7, 9.8.3, 9.10.1, 9.10.3, 9.10.5, 11.1.3, 14.2.4
Approvals
2.1.1, 2.2.2, 2.4, 3.1.4, 3.10.1, 3.10.2, 3.12.4 through 3.12.10, 3.13.2, 3.15.2, 4.2.9, 9.3.2, 13.4.2, 13.5
Arbitration
8.3.1, 11.3.10, 13.1, 15.3.2, 15.4
ARCHITECT
4
Architect, Certificates for Payment
9.4
Architect, Definition of
4.1.1
Architect, Extent of Authority
5.2, 7.1.2, 7.3.7, 7.4, 9.3.1, 9.4, 9.5, 9.8.3, 9.8.4, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.5.1, 13.5.2, 15.1.3, 15.2.1
Architect, Limitations of Authority and Responsibility
2.1.1, 3.12.8, 4.2.1, 4.2.2, 4.2.8, 4.2.13, 5.2.1, 9.6.4, 15.2
Architect's Additional Services and Expenses
2.4, 11.3.1.1, 12.2.1, 12.2.4, 13.5.2
Architect's Administration of the Contract
4.2, 9.4, 9.5, 15.2
Architect's Approvals
3.12.8

Architect's Authority to Reject Work
 4.2.8, 12.1.2, 12.2.1
 Architect's Copyright
 1.5
 Architect's Decisions
 4.2.8, 7.3.9, 7.4, 8.1.3, 8.3.1, 9.2, 9.4, 9.5, 9.8.3, 9.9.2, 13.5.2, 14.2.2, 14.2.4, 15.2
 Architect's Inspections
 3.7.4, 4.2, 9.8.3, 9.9.2, 9.10.1, 13.5
 Architect's Instructions
 3.2.4, 7.4, 9.4
 Architect's Interpretations
 4.2.8, 4.2.17, 4.2.18
 Architect's On-Site Observations
 4.2.2, 9.4, 9.5.1, 9.10.1, 12.1.1, 12.1.2, 13.5
 Architect's Project Representative
 4.2.16
 Architect's Relationship with Contractor
 1.1.2, 1.5, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.9.2, 3.9.3, 3.10, 3.11, 3.12.8, 3.16, 3.18, 4.2, 5.2, 6.2.2, 8.2,
 11.3.7, 12.1, 13.5
 Architect's Relationship with Construction Manager
 1.1.2, 9.3 through 9.10, 10.3, 13.5.1, 10.3, 11.3.7, 13.4.2, 13.5.4
 Architect's Relationship with Subcontractors
 1.1.2, 4.2.8, 5.3, 9.6.3, 9.6.4
 Architect's Representations
 9.4, 9.5, 9.10.1
 Architect's Site Visits
 4.2.2, 9.4, 9.5.1, 9.8.3, 9.9.2, 9.10.1, 13.5
 Asbestos
 10.3.1
 Attorneys' Fees
 3.18.1, 9.10.2, 10.3.3
 Award of Other Contracts
 6.1.1, 6.1.2
 Award of Subcontracts and Other Contracts for Portions of the Work
 5.2
 Basic Definitions
 1.1
 Bidding Requirements
 1.1.1, 5.2.1, 11.4.1
 Binding Dispute Resolution
 9.7, 11.3.9, 11.3.10, 13.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.4.1
 Boiler and Machinery Insurance
 11.3.2
BONDS, INSURANCE AND
 1.1
 Bonds, Lien
 7.3.7.4, 9.10.3
 Bonds, Performance and Payment
 7.3.7.4, 9.6.7, 9.10.3, 11.3.9, 11.4
 Building Permit
 2.2.2, 3.7.1
 Capitalization
 1.3
 Certificate of Substantial Completion
 9.8.3, 9.8.4, 9.8.5
 Certificates for Payment
 4.2.2, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 15.1.3

Certificates of Inspection, Testing or Approval
 13.5.4
 Certificates of Insurance
 9.3.2, 9.10.2, 11.1.3
 Change Orders
 1.1.1, 2.4, 3.4.2, 3.7.4, 3.8.2, 3.11, 3.12.8, 4.2.12, 4.2.13, 4.2.14, 5.2.3, 7.1.1, 7.1.2, 7.2, 7.3.2, 7.3.4, 7.3.6, 7.3.9,
 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2.1.2, 11.3.4, 11.3.9, 12.1.2, 15.1.3
 Change Orders, Definition of
 7.2
 Changes
 7.1
CHANGES IN THE WORK
 2.2.1, 3.4.2, 3.11, 3.12.8, 4.2.13, 4.2.14, 7, 8.3.1, 9.3.1.1
 Claims, Definition of
 15.1.1
CLAIMS AND DISPUTES
 1.1.8, 3.2.4, 3.7.5, 6.1.1, 7.3.9, 8.3.2, 9.3.3, 9.10.3, 9.10.4, 10.3.3, 15, 15.4
 Claims for Additional Cost
 3.2.4, 3.7.5, 6.1.1, 7.3.9, 9.10.3, 9.10.4, 10.3.2, 10.4, 15.1.4
 Claims for Additional Time
 3.2.4, 3.7.5, 7, 8.3.2, 10.4, 15.1.5
 Concealed or Unknown Conditions, Claims for
 3.7
 Claims for Damages
 3.2.4, 3.18, 6.1.1, 6.2.5, 8.3.2, 9.3.3, 9.5.1.2, 9.10.2, 9.10.5, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 15.1.6
 Cleaning Up
 3.15, 6.3
 Commencement of Statutory Limitation Period
 13.7
 Commencement of the Work, Definition of
 8.1.2
 Communications, Owner to Architect
 2.2.6
 Communications, Owner to Construction Manager
 2.2.6
 Communications, Owner to Contractor
 2.2.6
 Communications Facilitating Contract Administration
 3.9.1, 4.2.6
COMPLETION, PAYMENTS AND
 9
 Completion, Substantial
 4.2.15, 8.1.1, 8.1.3, 8.2.3, 9.4.3.3, 9.8, 9.9.1, 9.10.3, 12.2.1, 12.2.2, 13.7
 Concealed or Unknown Conditions
 3.7.4, 4.2.8, 8.3.1, 10.3
 Conditions of the Contract
 1.1.1
 Consolidation or Joinder
 15.4.4
CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS
 1.1.4, 6
 Construction Change Directive, Definition of
 7.3.1
 Construction Change Directives
 1.1.1, 3.4.2, 3.12.8, 4.2.12, 4.2.13, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1
 Construction Manager, Building Permits
 3.2.2

Construction Manager, Communications through
4.2.6

Construction Manager, Construction Schedule
3.10.1, 3.10.3

CONSTRUCTION MANAGER

4

Construction Manager, Definition of
4.1.2

Construction Manager, Documents and Samples at the Site
3.1.1

Construction Manager, Extent of Authority

3.12.7, 3.12.8, 4.1.3, 4.2.1, 4.2.4, 4.2.5, 4.2.9, 7.1.2, 7.2, 7.3.1, 8.3, 9.3.1, 9.4.1, 9.4.2, 9.4.3, 9.8.2, 9.8.3, 9.8.4, 9.9.1,
12.1, 12.2.1, 14.2.2, 14.2.4

Construction Manager, Limitations of Authority and Responsibility
4.2.5, 4.2.8, 13.4.2

Construction Manager, Submittals
4.2.9

Construction Manager's Additional Services and Expenses
12.2.1

Construction Manager's Administration of the Contract
4.2, 9.4, 9.5

Construction Manager's Approval
2.4, 3.10.1, 3.10.2

Construction Manager's Authority to Reject Work
4.2.8, 12.2.1

Construction Manager's Decisions
7.3.7, 7.3.9, 9.4.1, 9.5.1

Construction Manager's Inspections
4.2.8, 9.8.3, 9.9.2

Construction Manager's On-Site Observations
9.5.1

Construction Manager's Relationship with Architect

1.1.2, 4.2.1, 4.2.7, 4.2.8, 4.2.9, 4.2.13, 4.2.15, 4.2.16, 4.2.20, 9.2.1, 9.4.2, 9.5, 9.6.1, 9.6.3, 9.8.2, 9.8.3, 9.8.4, 9.9.1,
9.10.1, 9.10.2, 9.10.3, 11.1.3, 12.2.4, 13.5.1, 13.5.2, 13.5.4, 14.2.2, 14.2.4

Construction Manager's Relationship with Contractor

3.2.2, 3.2.3, 3.3.1, 3.5, 3.10.1, 3.10.2, 3.10.3, 3.11, 3.12.5, 3.12.6, 3.12.7, 3.12.8, 3.12.9, 3.12.10, 3.13.2, 3.14.2,
3.15.2, 3.16, 3.17, 3.18.1, 4.2.4, 4.2.5, 4.2.6, 4.2.9, 4.2.14, 4.2.17, 4.2.20, 5.2, 6.2.1, 6.2.2, 7.1.2, 7.2, 7.3.5, 7.3.7,
7.3.10, 8.3.1, 9.2, 9.3.1, 9.4.1, 9.4.2, 9.7, 9.8.2, 9.8.3, 9.8.4, 9.9.1, 9.10.1, 9.10.2, 9.10.3, 10.1, 10.3, 11.3.7, 12.1,
13.5.1, 13.5.2, 13.5.3, 13.5.4

Construction Manager's Relationship with Owner
2.2.2, 4.2.1, 10.2.2

Construction Manager's Relationship with Other Contractors and Owner's Own Forces
4.2.4

Construction Manager's Relationship with Subcontractors
4.2.8, 5.3, 9.6.3, 9.6.4

Construction Manager's Site Visits
9.5.1

Construction Schedules, Contractor's
3.10, 3.12.1, 3.12.2, 6.1.2, 15.1.5.2

Contingent Assignment of Subcontracts
5.4, 14.2.2.2

Continuing Contract Performance
15.1.3

Contract, Definition of
1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE
5.4.1.1, 11.3.9, 14

Contract Administration

3.1.3, 4.2, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

Contract Documents, Copies Furnished and Use of

1.5.2, 2.2.5, 5.3

Contract Documents, Definition of

1.1.1

Contract Performance During Arbitration

15.1.3

Contract Sum

3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.3.1.1, 12.3, 14.2.4, 14.3.2, 15.1.4, 15.2.5

Contract Time

3.7.4, 3.7.5, 4, 3.10.2, 5.2.3, 7.2.3, 7.3.1, 7.3.5, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2, 15.1.5.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1.1

Contractor's Construction Schedules

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Other Contractors and Owner's Own Forces

3.12.5, 3.14.2, 4.2.6, 6, 11.3, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8, 14.2.1.2

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.2.2, 3.2.3, 3.2.4, 3.4.2, 3.5, 3.7.4, 3.10.1, 3.11, 3.12, 3.16, 3.18, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Relationship with the Construction Manager

1.1.2, 3.2.2, 3.2.3, 3.3.1, 3.5, 3.10.1, 3.10.2, 3.10.3, 3.11, 3.12.5, 3.12.7, 3.12.9, 3.12.10, 3.13.2, 3.14.2, 3.15.1, 3.16, 3.17, 3.18.1, 4.2.4, 4.2.5, 5.2, 6.2.1, 6.2.2, 7.1.2, 7.3.5, 7.3.7, 7.3.10, 8.3.1, 9.2, 9.3.1, 9.4.1, 9.4.2, 9.8.2, 9.9.1, 9.10.1, 9.10.2, 9.10.3, 10.1, 10.2.6, 10.3, 11.3.7, 12.1, 13.5.1, 13.5.2, 13.5.3, 13.5.4

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

14.1

Contractor's Submittals

3.10.2, 3.11, 3.12, 4.2.9, 9.2, 9.3, 9.8.2, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction Procedures

1.2.2, 3.3, 3.4, 4.2.5, 4.2.7, 6.1, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2, 11.3.1.5

Coordination and Correlation
 1.2, 3.2, 3.3.1, 3.10, 3.12.6, 6.1.2, 6.2.1
 Copies Furnished of Drawings and Specifications
 1.5, 2.2.5, 3.11
 Copyrights
 1.5, 3.17
 Correction of Work
 2.3, 2.4, 9.4.1, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2
 Correlation and Intent of the Contract Documents
 1.2
 Costs
 2.4, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.6, 7.3.7, 7.3.8, 7.3.9, 11.3.1.2, 11.3.1.3, 11.3.4, 11.3.9,
 12.1, 12.2.1, 13.5, 14
 Cutting and Patching
 3.14, 6.2.5
 Damage to Construction of Owner or Other Contractors
 3.14.2, 6.2.4, 9.5.1.5, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4
 Damage to the Work
 3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 11.3.1, 12.2.4
 Damages, Claims for
 3.2.4, 3.18, 6.1.1, 8.3.2, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.2.1, 15.1.6
 Damages for Delay
 6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 15.1.5
 Date of Commencement of the Work, Definition of
 8.1.2
 Date of Substantial Completion, Definition of
 8.1.3
 Day, Definition of
 8.1.4
 Decisions of the Architect
 3.7.4, 4.2.7, 4.2.8, 4.2.10, 4.2.11, 4.2.13, 4.2.15, 4.2.16, 4.2.17, 4.2.18, 4.2.19, 4.2.20, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4,
 9.5, 9.8.3, 9.8.4, 9.9.1, 10.1.2, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2
 Decisions of the Construction Manager
 7.3.7, 7.3.8, 7.3.9, 15.1, 15.2
 Decisions to Withhold Certification
 9.4.1, 9.5, 9.7, 14.1.1.3
 Defective or Nonconforming Work, Acceptance, Rejection and Correction of
 2.3, 2.4, 3.5, 4.2.8, 6.2.5, 9.5.1, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1, 12.2.2
 Definitions
 1.1, 2.1.1, 3.1.1, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 4.1.2, 7.2, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1
 Delays and Extensions of Time
 3.2, 3.7.4, 5.2.3, 7.2, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.5, 15.2.5
 Disputes
 7.3.8, 7.3.9, 9.3, 15.1, 15.2
DISPUTES, CLAIMS AND
 3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 15, 15.4
 Documents and Samples at the Site
 3.11
 Drawings, Definition of
 1.1.5
 Drawings and Specifications, Ownership and Use
 1.1.1, 1.5, 2.2.5, 3.11, 5.3
 Duty to Review Contract Documents and Field Conditions
 3.2
 Effective Date of Insurance
 8.2.2, 11.1.2

Emergencies
 10.4, 14.1.1.2, 15.1.4
Employees, Contractor's
 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.1, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1
Equipment, Labor, Materials and/or
 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12.2, 3.12.3, 3.13.1, 3.15.1, 4.2.8, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.2
Execution and Progress of the Work
 1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2, 9.5.1, 9.9.1,
 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
Extensions of Time
 3.2.4, 3.7.4, 5.2.3, 7.2.3, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.5, 15.2.5
Failure of Payment
 9.5.1.3, 9.7, 13.6, 14.1.1.3, 14.1.3, 14.2.1.2, 15.1.4
Faulty Work (See Defective or Nonconforming Work)
Final Completion and Final Payment
 4.2.1, 4.2.15, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.3.1, 11.3.5, 12.3, 15.2.1
Financial Arrangements, Owner's
 2.2.1
GENERAL PROVISIONS
1
Governing Law
 13.1
Guarantees (See Warranty and Warranties)
Hazardous Materials
 10.2.4, 10.3
Identification of Contract Documents
 1.2.1
Identification of Subcontractors and Suppliers
 5.2.1
Indemnification
 3.18, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2, 11.3.7
Information and Services Required of the Owner
 2.1.2, 2.3, 4.2.6, 6.1.2, 6.2.5, 9.6.1, 9.6.4, 9.8, 9.9.1, 9.10.3, 10.3.2, 10.3.3, 11.2, 11.3.4, 13.5.1, 13.5.2, 14.1.1.4,
 14.1.3, 15.1.2
Initial Decision
 15.2
Initial Decision Maker, Definition of
 1.1.8
Initial Decision Maker, Extent of Authority
 14.2.2, 14.2.4, 15.1.3, 15.2.2, 15.2.3, 15.2.4, 15.2.5
Injury or Damage to Person or Property
 3.18.1, 10.2.1, 10.2.2, 10.2.8, 10.3, 10.3.3, 10.4, 11.1.1
Inspections
 3.1.3, 3.7.1, 4.2.2, 9.8.2, 9.9.2, 9.10.1, 13.5
Instructions to Bidders
 1.1.1
Instructions to the Contractor
 3.1.4, 3.3.3, 3.7.1, 4.2.4, 5.2.1, 7, 8.2.2, 12.1, 13.5.2
Instruments of Service, Definition of
 1.1.7, 1.5, 1.6
Insurance
 6.1.1, 7.3.7, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, 11
Insurance, Boiler and Machinery
 11.3.2
Insurance, Contractor's Liability
 11.1

Insurance, Effective Date of
 8.2.2, 11.1.2
 Insurance, Loss of Use
 11.3.3
 Insurance, Owner's Liability
 11.2
 Insurance, Property
 10.2.5, 11.3
 Insurance, Stored Materials
 9.3.2, 11.3.1
INSURANCE AND BONDS
 11
 Insurance Companies, Consent to Partial Occupancy
 9.9.1, 11.3.1.5
 Insurance Companies, Settlement with
 11.3.10
 Intent of the Contract Documents
 1.2, 4.2.18, 4.2.19, 7.4
 Interest
 9.7, 13.6
 Interpretation
 1.4, 4.2.8, 4.2.17, 4.2.18
 Interpretations, Written
 4.2.17, 4.2.18, 4.2.20
 Joinder and Consolidation of Claims Required
 15.4.4
 Judgment on Final Award
 15.4.2
 Labor and Materials, Equipment
 1.1.3, 1.1.6, 3.4, 3.8.2, 3.8.3, 3.12.2, 3.12.3, 3.12.6, 3.12.10, 3.13.1, 3.15.1, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.6, 9.10.2, 10.2.1.2, 11.3.1, 14.2.1, 14.2.2
 Labor Disputes
 8.3.1
 Laws and Regulations
 3.2.3, 3.2.4, 3.7, 3.13.1, 10.2.2, 10.2.3, 13.5.1, 14.2.1
 Liens
 2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8
 Limitation on Consolidation or Joinder
 15.4.4
 Limitations, Statutes of
 15.4.1
 Limitations of Authority
 3.12.4, 4.1.3, 4.2.16
 Limitations of Liability
 9.6.7, 11.1.1, 12.2
 Limitations of Time
 3.10.1, 4.2.17, 4.2.20, 8.2.1, 9.3.3, 9.6.1, 9.8.4, 9.10.2, 10.2, 11.1.3, 12.1.1, 12.2.2.2, 12.2.5, 13.7, 14.1.1, 15.2.6.1
 Loss of Use Insurance
 11.3.3
 Material Suppliers
 1.5.1, 1.5.2, 3.12, 4.2.6, 4.2.8, 9.3.1, 9.3.1.2, 9.3.3, 9.5.3, 9.6.4, 9.6.5, 9.6.7, 9.10.5, 11.3.1
 Materials, Hazardous
 10.2.4, 10.3
 Materials, Labor, Equipment and
 1.1.3, 1.1.6, 1.5.1, 1.5.2, 3.4, 3.5, 3.8.2, 3.8.3, 3.12.2, 3.12.3, 3.12.6, 3.12.10, 3.13.1, 5.2.1, 6.2.1, 9.3.1, 9.3.2, 9.3.3,
 9.5.1, 9.5.3, 9.6.4, 9.6.5, 9.6.7, 9.10.2, 9.10.5, 10.2.1, 10.2.4, 10.3

Means, Methods, Techniques, Sequences and Procedures of Construction
 3.3.1, 3.12.10, 4.2.5, 4.2.11
 Mechanic's Lien
 2.1.2, 15.2.8
 Mediation
 8.3.1, 10.3.5, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1
 Minor Changes in the Work
 1.1.1, 3.12.8, 4.2.13, 7.1, 7.4
MISCELLANEOUS PROVISIONS
 13
 Modifications, Definition of
 1.1.1
 Modifications to the Contract
 1.1.1, 1.1.2, 3.11, 4.1.3, 4.2.14, 5.2.3, 7, 11.3.1
 Mutual Responsibility
 6.2
 Nonconforming Work, Acceptance of
 9.4.3, 9.8.3, 12.3
 Nonconforming Work, Rejection and Correction of
 2.3, 2.4, 3.2.3, 3.7.3, 9.4.3.3, 9.8.2, 9.8.3, 9.9.1, 11.1.1, 12.2.2.1, 12.2.3, 12.2.4, 12.2.5
 Notice
 1.5, 2.1.2, 2.2.1, 2.4, 3.2.4, 3.3.1, 3.7.1, 3.7.2, 3.7.5, 3.9.2, 3.12.9, 5.2.1, 6.3, 9.4.1, 9.7, 9.10.1, 9.10.2, 10.2.2, 10.2.6,
 10.2.8, 10.3.2, 11.3.6, 12.2.2.1, 13.3, 13.5.1, 13.5.2, 14.1.2, 14.2.2, 14.4.2, 15.1.2, 15.1.4, 15.1.5.1, 15.2, 15.4.1
 Notice of Claims
 3.7.2, 10.2.8, 15.1.2, 15.4.1
 Notice of Testing and Inspections
 13.5.1, 13.5.2
 Notices, Permits, Fees and
 3.7, 7.3.7, 10.2.2
 Observations, On-Site
 3.2.1, 9.5.1, 12.1.1
 Occupancy
 2.2.2, 9.6.6, 9.9, 11.3.1.5
 On-Site Inspections
 4.2.2, 9.10.1, 9.4.4, 9.5.1
 Orders, Written
 4.2.7, 4.2.18, 4.2.20
 Other Contracts and Contractors
 1.1.4, 3.14.2, 4.2.9, 6, 11.3.7, 12.1.2
OWNER
 2
 Owner, Definition of
 2.1.1
 Owner, Information and Services Required of the
 2.1.2, 2.2, 4.2, 6.1.2, 6.1.3, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.2, 10.3.3, 11.2, 11.3, 13.5.1, 13.5.2, 14.1.1, 14.1.3,
 15.1.3
 Owner's Authority
 1.5, 2.1.1, 2.3, 2.4, 3.4.2, 3.12.10, 3.14.2, 4.1.2, 4.1.3, 4.2.8, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2, 7.3.1, 8.2.2, 9.3.1,
 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.3.3, 11.3.10, 12.2.2.1, 12.3, 13.5.2, 14.2, 14.3.1, 14.4, 15.2.7
 Owner's Financial Capability
 2.2.1, 13.2.2, 14.1.1
 Owner's Liability Insurance
 11.3
 Owner's Relationship with Subcontractors
 1.1.2, 5.2.1, 5.3, 5.4.1, 9.6.4, 9.10.2, 14.2.2
 Owner's Right to Carry Out the Work
 2.4, 12.2.4, 14.2.2

Owner's Right to Clean-Up
 6.3
Owner's Right to Perform Construction with Own Forces and to Award Other Contracts
 6.1
Owner's Right to Stop the Work
 2.3
Owner's Right to Suspend the Work
 14.3
Owner's Right to Terminate the Contract
 14.2
Ownership and Use of Drawings, Specifications and Other Instruments of Service
 1.1.1, 1.1.5, 1.5, 1.6, 3.11, 3.12.10, 3.17, 4.2.14, 4.2.18, 4.2.20
Partial Occupancy or Use
 9.9, 11.3.1.5
Patching, Cutting and
 3.14, 6.2.5
Patents and Copyrights, Royalties
 3.17
Payment, Applications for
 4.2.1, 4.2.7, 4.2.15, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.7, 9.10.1, 9.10.3, 9.10.5, 11.1.3
Payment, Certificates for
 4.2.15, 7.3.9, 9.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 15.1.3
Payment, Failure of
 9.4.1, 9.5, 9.7, 14.1.1.3
Payment, Final
 4.2.1, 9.8.2, 9.10, 11.1.2, 11.3.1, 11.3.5, 12.3, 15.2.1
Payment Bond, Performance Bond and
 5.4.1, 7.3.7, 9.6.7, 9.10.2, 9.10.3, 11, 11.4
Payments, Progress
 9.3.1, 9.4.2, 9.6
PAYMENTS AND COMPLETION
 9, 14
Payments to Subcontractors
 5.4.2, 9.3, 9.5.1.3, 9.5.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 9.10.5, 14.2.1.2
PCB
 10.3.1
Performance Bond and Payment Bond
 5.4.1, 7.3.7, 9.6.7, 9.10.2, 9.10.3, 11, 11.4
Permits, Fees, Notices and Compliance with Laws
 2.2.2, 3.7, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION OF
 10
Polychlorinated Biphenyl
 10.3.1
Product Data, Definition of
 3.12.2
Product Data and Samples, Shop Drawings
 3.11, 3.12, 4.2.9, 4.2.10, 4.2.14
Progress and Completion
 8.2, 9.3.1, 9.4.2, 9.6, 9.8, 9.10, 14.2.4, 15.1.6
Progress Payments
 9.3.1, 9.4.2, 9.6
Project, Definition of
 1.1.4
Project Representatives
 4.2.16

Property Insurance

10.2.5, 11.3

Project Schedule

3.10.1, 3.10.3, 3.10.4, 4.2.2, 4.2.3, 4.2.4

PROTECTION OF PERSONS AND PROPERTY

10

Regulations and Laws

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1, 14.2.1, 15.2.8, 15.4

Rejection of Work

3.5, 4.2.8, 12.2.1

Releases of and Waivers and of Liens

9.10.2

Representations

1.3, 2.2.1, 3.5, 3.12, 6.2.2, 8.2.1, 9.3.3, 9.4.3, 9.5.1, 9.8.2, 9.10.1

Representatives

2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2, 13.2.1

Requests for Information

4.2.20

Resolution of Claims and Disputes

15

Responsibility for Those Performing the Work

3.3.2, 3.7.3, 3.12.8, 3.18, 4.2.2, 4.2.5, 4.2.8, 5.3, 6.1.2, 6.2, 6.3, 9.5.1, 9.8.2, 10

Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

Review of Contract Documents and Field Conditions by Contractor

1.2.2, 3.3, 3.7.3, 3.12.7

Review of Contractor's Submittals by Owner, Construction Manager and Architect

3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 5.2, 9.2, 9.8.2

Review of Shop Drawings, Product Data and Samples by Contractor

3.12.5

Rights and Remedies

1.1.2, 2.3, 2.4, 3.7.4, 3.15.2, 4.2.8, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4, 13.4, 14, 15.4

Royalties, Patents and Copyrights

3.17

Rules and Notices for Arbitration

15.4

Safety of Persons and Property

10.2, 10.3, 10.4

Safety Precautions and Programs

3.3.1, 3.12, 4.2.5, 5.3, 10.1, 10.2, 10.3, 10.4

Samples, Definition of

3.12.3

Samples, Shop Drawings, Product Data and

3.11, 3.13, 4.2.9, 4.2.10

Samples at the Site, Documents and

3.11

Schedule of Values

9.2, 9.3.1

Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.2, 15.1.5.2

Separate Contracts and Contractors

1.1.4, 3.12.5, 3.14.2, 4.2.6, 4.2.11, 6, 8.3.1, 12.1.2

Shop Drawings, Definition of

3.12.1

Shop Drawings, Product Data and Samples

~~3.1.1, 3.12, 4.2.9, 4.2.10, 4.2.14~~

Site, Use of

~~3.13, 6.1.1, 6.2.1~~

Site Inspections

~~3.2.2, 3.3.2, 3.7.1, 3.7.4, 4.2.2, 4.2.3, 4.2.15, 9.4.3.3, 9.8.3, 9.9.2, 9.10.1, 13.5~~

Site Visits, Architect's

~~3.7.4, 4.2.2, 4.2.15, 9.8.3, 9.9.2, 9.10.1, 13.5~~

Special Inspections and Testing

~~4.2.8, 12.2.1, 13.5~~

Specifications, Definition of

~~1.1.6~~

Specifications

~~1.1.1, 1.1.6, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14~~

Staffing Plan

~~4.2.3~~

Statute of Limitations

~~12.2.5, 13.7, 15.4.1.1~~

Stopping the Work

~~2.3, 9.7, 10.3, 14.1~~

Stored Materials

~~6.2.1, 9.3.2, 10.2.1.2, 10.2.4~~

Subcontractor, Definition of

~~5.1.1~~

SUBCONTRACTORS

~~5~~

Subcontractors, Work by

~~1.2.2, 3.3.2, 3.12.1, 4.2.5, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7~~

Subcontractual Relations

~~5.3, 5.4, 9.3.1.2, 9.6.2, 9.6.3, 9.10, 10.2.1, 14.1, 14.2~~

Submittals

~~3.2.3, 3.10, 3.11, 3.12, 4.2.9, 4.2.10, 4.2.11, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3~~

Submittal Schedule

~~3.10.2, 3.12.5, 4.2.9, 4.2.10~~

Subrogation, Waivers of

~~6.1.1, 11.3.7~~

Substantial Completion

~~8.1.1, 8.1.3, 8.2.3, 9.4.3.3, 9.8, 9.9.1, 9.10.3, 12.2.1, 12.2.2, 13.7~~

Substantial Completion, Definition of

~~9.8.1~~

Substitution of Subcontractors

~~5.2.3, 5.2.4~~

Substitution of Architect

~~4.1.4~~

Substitution of Construction Manager

~~4.1.4~~

Substitutions of Materials

~~3.4.2, 3.5, 7.3.8~~

Sub-subcontractor, Definition of

~~5.1.2~~

Subsurface Conditions

~~3.7.4~~

Successors and Assigns

~~13.2~~

Superintendent

~~3.9, 10.2.6~~

~~Supervision and Construction Procedures~~
~~1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.3, 4.2.5, 4.2.8, 4.2.9, 4.2.10, 4.2.11, 6.1.3, 6.2.4, 7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.3.3, 10, 12, 14, 15.1.3~~
~~Surety~~
~~5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7~~
~~Surety, Consent of~~
~~9.10.2, 9.10.3~~
~~Surveys~~
~~1.1.7, 2.2.3~~
~~Suspension by the Owner for Convenience~~
~~14.3~~
~~Suspension of the Work~~
~~5.4.2, 14.3~~
~~Suspension or Termination of the Contract~~
~~5.4.1.1, 14~~
~~Taxes~~
~~3.6, 3.8.2.1, 7.3.7.4~~
~~Termination by the Contractor~~
~~14.1, 15.1.6~~
~~Termination by the Owner for Cause~~
~~5.4.1.1, 14.2, 15.1.6~~
~~Termination by the Owner for Convenience~~
~~14.4~~
~~Termination of the Contractor~~
~~14.2.2~~
TERMINATION OR SUSPENSION OF THE CONTRACT
~~14~~
~~Tests and Inspections~~
~~3.1.4, 3.3.3, 4.2.2, 4.2.6, 4.2.8, 9.4.3.3, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.5~~
TIME
~~8~~
~~Time, Delays and Extensions of~~
~~3.2.4, 3.7.4, 5.2.3, 7.2, 7.3.1, 7.4, 8.3, 9.5.1, 10.3.2, 14.3.2, 15.1.5, 15.2.5~~
~~Time Limits~~
~~2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.1, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.4.2, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.4, 12.2, 13.5, 13.7, 14, 15~~
~~Time Limits on Claims~~
~~3.7.4, 10.2.8, 13.7, 15.1.2~~
~~Title to Work~~
~~9.3.2, 9.3.3~~
~~Transmission of Data in Digital Form~~
~~1.6~~
UNCOVERING AND CORRECTION OF WORK
~~12~~
~~Uncovering of Work~~
~~12.1~~
~~Unforeseen Conditions, Concealed or Unknown~~
~~3.7.4, 8.3.1, 10.3~~
~~Unit Prices~~
~~7.3.3.2, 7.3.4~~
~~Use of Documents~~
~~1.1.1, 1.5, 2.2.5, 3.12.6, 5.3~~
~~Use of Site~~
~~3.13, 6.1.1, 6.2.1~~
~~Values, Schedule of~~
~~9.2, 9.3.1~~

Waiver of Claims by the Architect
 13.4.2
 Waiver of Claims by the Construction Manager
 13.4.2
 Waiver of Claims by the Contractor
 9.10.5, 13.4.2, 15.1.6
 Waiver of Claims by the Owner
 9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6
 Waiver of Consequential Damages
 14.2.4, 15.1.6
 Waiver of Liens
 9.10.2, 9.10.4
 Waivers of Subrogation
 6.1.1, 11.3.7
 Warranty
 3.5, 4.2.15, 9.1.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2
 Weather Delays
 15.1.5.2
 Work, Definition of
 1.1.3
 Written Consent
 1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.3, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 10.3.2, 11.4.1, 13.2, 13.4.2, 15.4.4.2
 Written Interpretations
 4.2.17, 4.2.18
 Written Notice
 2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 5.3, 5.4.1.1, 8.2.2, 9.4, 9.5.1, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, 13.3, 13.5.2, 14, 15.4.1
 Written Orders
 1.1.1, 2.3, 2.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1, 15.1.2

PAGE 4

§ 1.1.1 The Contract Documents. The Contract Documents ~~are enumerated in~~ consist of the Agreement between the Owner and Contractor (hereinafter the Agreement), ~~and consist of the Agreement, Conditions of the Contract~~ (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, ~~the portions of the Project Manual defined as Contract Documents therein, and~~ other documents listed in the Agreement 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 Notice to Proceed~~ or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include ~~the advertisement or other documents such as bidding requirements~~ (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, or portions of addenda relating to bidding requirements~~).

In the event of any conflict among the Contract Documents, the Contract Documents shall be construed according to the following priorities:

Highest Priority: Modifications including Changes Orders and Notices to Proceed;

2nd Priority: Owner/Contractor Agreement;

3rd Priority: Addenda, later date to take precedence;

4th Priority: The Contract Documents (other than those mentioned above) that are included in the Project Manual Sections 0 - 2000;

5th Priority: Drawings and Technical Specifications.

In the event of a conflict among the General Conditions and Supplementary Conditions, the Supplementary Conditions shall control.

PAGE 5

§ 1.1.9 Provide. When the word "provide," including derivatives, is used, it shall mean to fabricate properly, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all other items necessary to properly complete in place, ready for operation or use under the terms of the Specifications.

§ 1.1.10 Addenda. Addenda are written or graphic instruments issued prior to the execution of the Contract that modify or interpret the Bidding Documents, including the Drawings and Specifications, by additions, deletions, clarifications or corrections.

§ 1.1.11 Knowledge. The terms "knowledge," "recognize," and "discover," their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill and diligence required of the Contractor by the Contract Documents.

§ 1.1.12 Persistently. The phrase "persistently fails" and other similar expressions, as used in reference to the Contractor, shall mean any combination of acts and omissions that cause the Owner, Construction Manager, or Architect to reasonably conclude that the Contractor will not complete the Work within the Contract Time, for the Contract Sum, or in substantial compliance with the requirements of the Contract Documents.

§ 1.1.13 Product(s). 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.

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

§ 1.1.15 Singular/Plural. 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.

§ 1.1.16 Project Manual. The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.1.17. Hazardous Material: "Hazardous Material" means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.

§ 1.1.18. Permitted Material The term "Permitted Materials" as used in the Contract Documents 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.

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. 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. In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and the applicable standards, codes, and ordinances, the Contractor shall (1) provide the better quality or greater quantity of Work, or (2) comply with the more stringent requirement, either or both in accordance with the Architect's interpretation. The terms and conditions of this Subparagraph 1.2.3, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 3.2 and 3.7.

§ 1.2.1.1 On the Drawings, given dimensions shall take precedence over scaled measurements, and large-scale drawings over small-scale drawings.

§ 1.2.1.2 Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify measurements at the Project site and shall be responsible for the correctness of such measurements. No extra charges or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference that may be found shall be submitted to the Construction Manager and Architect for resolution before proceeding with the Work.

§ 1.2.1.3 If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure to the Construction Manager for approval by the Architect before making the change.

§ 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. Where responsibility for particular Work is required of the Contractor, the Contractor shall not be released from that responsibility by reason of the location of the specification or drawing information which establishes the responsibility. Thus, the Contractor shall be responsible for all Work required of him, even though that responsibility may be shown only in that portion of the documents typically pertaining to another contractor or trade.

PAGE 7

§ 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.

§ 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. Unless otherwise provided under the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. Refer to Project Manual Section 00880 – Regulatory Requirements and Section 00890 – Permits, which detail Contractor's obligations in relation to permits. The Contractor shall not be entitled to additional compensation resulting from its failure to confirm the location of the site utilities or existing structures prior to the opening of the Contractor's bid.

§ 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. Information will be furnished only to the extent it is readily available to the Owner.

§ 2.2.4 The 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.

§ 2.3 Owner's Right to Stop the Work/Owner's/Construction Manager's Right to Stop the Work

1 If the Contractor fails to correct Work that which is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly/persistently fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to or Construction Manager, may order 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 or Construction Manager to stop the Work shall not give rise to a duty on the part of the Owner or Construction Manager 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 entity. This right shall be in addition to and not in limitation of the Owner's or Construction Manager's rights under any provision of the Contract Documents.

§ 2.4 Owner's Right to Carry Out the Work/Owner's/Construction Manager'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~~ seventy-two (72) hour period (or such lesser period as determined by Owner or Construction Manager in its discretion when grounds exist to complete the neglected or defaulted Work in a shorter time period) after receipt of written notice from the Owner or Construction Manager to commence and continue correction of such default or neglect with diligence and promptness, the Owner ~~may, or Construction Manager may correct such deficiencies, without prejudice to other remedies the Owner may have, correct such deficiencies, or Construction Manager may have, and without affecting any rights of the Construction Manager or Owner as obligee under the performance and payment bonds issued for this Contract.~~ 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 Construction Manager's and Architect's and their respective consultants' additional services and expenses 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, after consultation with the Construction Manager. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner through the Construction Manager. In the event the Owner/Construction Manager 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.~~

PAGE 8

§ 3.1.5 These General Conditions refer to the relationship between the Owner and Contractor. As to the contract between the Contractor and its Subcontractors, the General Conditions shall be read as the Contractor having the position of the Owner and the Subcontractors having the position of the Contractor. The Subcontractors are bound to the Contractor just as the Contractor is bound to the Owner. The Subcontractor shall have all the rights, duties and obligations to the Contractor as the Contractor has rights, duties and obligations to the Owner. The Subcontractors shall agree to and accept the same responsibility to the Owner as the Contractor. In the event any failure of a Subcontractor 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 in addition to any responsibility or liability of the Subcontractor.

§ 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 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 Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor-Contractor, any member of its organization, or any of its Subcontractors, before proceeding with the Work, as a request for information submitted to the Construction Manager in such form as the Construction Manager 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. Refer to Project Manual Section 01530 – Field Engineering and Layout, which details Contractor's responsibilities for field layout and verification.

PAGE 9

§ 3.2.5 Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any error, inconsistency or omission in the Contract Documents. It will be presumed that the Contractor's bid and the Contract Sum include the cost of correcting any such error, inconsistency, or omission, which could have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such error, inconsistency or omission could not have been discovered by the exercise of reasonable diligence, the Contractor will make such corrections without additional compensation so that the Work is fully functional.

§ 3.2.6 Except as to any reported errors, inconsistencies, or omissions, and to concealed or unknown conditions defined in Subparagraph 4.7.6, by submitting its bid the Contractor represents the following:

§ 3.2.6.1 The Contract Documents are sufficiently complete and detailed for the Contractor to: (1) perform the Work required to produce the results intended by the Contract Documents; and (2) comply with all the requirements of the Contract Documents.

§ 3.2.6.2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures, and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of product manufacturers are consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to the Work; and (3) requirements of any warranties applicable to the Work.

§ 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 instruction 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, and 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, the Construction Manager, and the Architect and shall not proceed with that portion of the Work without further written instructions from the Architect, through the Construction Manager. If the Contractor is then instructed 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. The Contractor shall ensure that Suppliers, Subcontractors, and their agents and employees, perform their Work in accordance with the Contract Documents and that all products are ordered and delivered in strict accordance with the Contract Documents and that all products are ordered and delivered in strict accordance with the Schedule. The Contractor shall coordinate its Work with that of all persons or entities on the Project site. The Contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations, and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation. A general example is equipment above corridor ceilings where ductwork, piping, conduit, lights, etc. will be installed. A thorough coordinated plan shall be used to install the equipment, to furnish proper clearances, radii of turns, locations, pipe slopes, supporting appurtenances, and access where required. Refer to Project Manual Section 001530 – Field Engineering and Layout.

§ 3.3.2 The Contractor shall be responsible to the Construction Manager and the Owner for acts and omissions of the Contractor's employees, Subcontractors, Suppliers and their agents and employees, and any entity or other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors at any

tier, directly or indirectly, under a contract with the Contractor. The Contractor shall coordinate the Work of its Subcontractors engaged in construction at the Project. Whenever interference might occur, before any Work is done at the places in question, Contractor shall consult with others and shall come to agreement with them as to the exact location and level of piping, conduits, ducts and/or other Work which might cause interference. Refer to Project Manual Section 001530 – Field Engineering and Layout.

PAGE 10

§ 3.3.4 The Contractor shall be responsible for its own, its employees' and its Subcontractors' and Suppliers' workmanship and quality of materials and every part thereof or in connection therewith against risk of any and every kind (except those covered by a Builder's Risk Policy applicable to the Project) until the final acceptance of the Work by Owner.

§ 3.3.5 Within fifteen (15) days of award of Contract, each awarded Contractor shall assemble all necessary information and data concerning its supervision and construction procedures, as identified in Project Manual Section 00200 – Instructions to Bidders. Contractor shall submit updated information from the post-bid meetings as well as the following:

§ 3.3.5.1 A schedule of values in the format and detail as the Construction Manager may require.

§ 3.3.5.2 Contractor's Project Safety Program.

§ 3.3.5.3 A complete list of all items, products and layouts for which shop drawings, brochures or samples are required; a list of each Subcontractor or Supplier; the date of planned submission and time period for fabrication and delivery to the jobsite after approval of the submission. The foregoing items will be provided on forms furnished by the Construction Manager. The Contractor shall thoroughly review the Project Manual and adhere to any additional instructions with regard to Submittals.

PAGE 11

§ 3.4.4 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.

§ 3.4.5 If any person employed by or under the Contractor is found in the judgment of the Construction Manager or Owner to be incompetent, disorderly, unfaithful, disobedient so far as to endanger proper fulfillment of the Contract or otherwise objectionable, such person shall, if directed by the Construction Manager, be discharged immediately and not employed again on any part of the Work without any liability to Owner or Construction Manager for such discharge.

§ 3.4.6 The Contractor agrees that neither it nor its Subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to hire, tenure, conditions or privilege of employment, or any matter directly or indirectly related to employment, because of race, age, sex, color, religion, national origin, ancestry or physical disability. Breach of this covenant may be regarded as a material breach of this Contract.

The Contractor warrants to the Owner, Construction Manager, 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 with 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 Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.1 In addition to any other warranties, guarantees or obligations set forth in the Contract Documents or applicable as a matter of 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 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 of 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 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. This warranty is not limited by the provisions of Paragraph 12.2 or any other provision of the Contract Document.

§ 3.5.2 ALL WRITTEN WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS SHALL INCLUDE LABOR AND MATERIALS AND SHALL BE SIGNED BY THE MANUFACTURER OR SUBCONTRACTOR RESPECTIVELY, AND COUNTERSIGNED BY THE CONTRACTOR. ALL WARRANTIES SHALL BE ADDRESSED TO THE OWNER AND DELIVERED TO THE ARCHITECT THROUGH THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT AND BEFORE OR WITH THE SUBMISSION OF REQUEST FOR FINAL PAYMENT.

§ 3.5.3 The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such a manner so as to preserve any and all such manufacturer's warranties.

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 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 Construction Manager and hold them harmless from same.

PAGE 12

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay 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. Refer to Project Manual Section 00880 – Regulatory Requirements and Project Manual Section 00890 – Permits for a description of Contractor's obligations in relation to Permits.

§ 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 laws, ordinances, rules and regulations and lawful orders, and all other requirements of public authorities bearing on performance of the Work. The Contractor shall procure and obtain all bonds required of the Owner or the Contractor by the municipality in which the Project is located or by any other public or private body with jurisdiction over the Project. In connection with such bonds, the Contractor shall prepare all applications, supply all necessary backup material, and furnish the surety with any required personal undertakings. The Contractor shall also obtain and pay all charges for all

approvals for street closing, parking meter removal and other similar matters as may be necessary or appropriate from time to time for 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, 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, Construction Manager, and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, 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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor in writing, stating the reasons. ~~If the Owner or Contractor disputes the Architect's determination or recommendation, either party may the Contractor shall proceed as provided in Article 15. The Contractor shall be alert to any indication or evidence of existing underground or concealed utilities or structures not shown on the Contract Documents and shall immediately notify the Owner of discovery of such evidence. If the Contractor encounters such utilities or structures, it shall cease operations immediately to minimize damage and shall notify the Owner and Architect. The Contractor shall bear the cost of damage resulting from its failure to exercise reasonable care in its construction activity or from continuing operations without notifying the Owner. No adjustment in the Contract Time or Contract Sum shall be permitted, however, in connection with a concealed or unknown condition that does not differ materially from those conditions disclosed or that reasonably should have been disclosed by the Contractor's prior inspections, tests, reviews, and preconstruction services for the Project, or inspections, tests, reviews, and preconstruction services that the Contractor had the opportunity to make or should have performed in connection with the Project in the exercise of the care and skill required of the Contractor by the Contract Documents.~~

PAGE 13

- .3 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.~~

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§ 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 Construction Manager, the name and qualifications of a proposed superintendent. The Construction Manager may reply within 14 days a reasonable amount of time to the Contractor in writing stating (1) whether the Owner, the Construction Manager, or the Architect has reasonable objection to the proposed superintendent or (2) that any of them require additional time to review. ~~Failure of the Construction Manager 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, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the ~~Owner's consent, which shall not unreasonably be withheld or delayed.~~ Owner's/Construction Manager's consent, except with another superintendent who is satisfactory to the Owner/Construction Manager. The Contractor shall maintain order and discipline among all workers involved in the Project at all times. The superintendent shall be present at the Project site at all times when Work is performed by the Contractor or its Subcontractors.

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§ 3.10.1 The Contractor, promptly, and within the time set forth in Project Manual Section 00230 – Schedule and Phasing, after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information and the Construction Manager's approval a Contractor's 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 conditions of the Work and Project, shall be related to the entire Project schedule to the extent required by the Contract Documents, schedule, and within the time set forth in Project Manual Section 00230 – Schedule and Phasing, and shall provide for expeditious and practicable execution of the Work. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner's own forces. Refer to Project Manual Section 00230 – Schedule and Phasing.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Construction Manager's and Architect's approval. The Architect and Construction Manager'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 Construction Manager and 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. Refer to Project Manual 01330 – Submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager and Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule. Refer to Project Manual Section 00230 – Schedule and Phasing.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project schedule. In the event the Construction Manager or Owner determines that the performance of the Work, as of a Milestone Date, has not progressed or reached the level of completion required by the Contract Documents, the Construction Manager shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation: (1) working additional shifts or overtime; (2) supplying additional manpower, equipment and facilities; and (3) other similar measures (referred to collectively as "Extraordinary Measures"). Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Construction Manager or Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the schedule. Failure to order Extraordinary Measures shall not excuse late completion.

§ 3.10.4.1 The Contractor shall not be entitled to an adjustment in the Contract Sum in connection with Extraordinary Measures required by the Construction Manager or Owner under or pursuant to this Subparagraph 3.10.4.

§ 3.10.4.2 The Construction Manager or Owner may exercise the rights furnished the Owner under or pursuant to this Subparagraph 3.10.5 as frequently as the Construction Manager or Owner deems 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.

§ 3.10.5 The Construction Manager or Owner shall have the right to direct a postponement or rescheduling of any date or time for the performance of any part of the Work that may interfere with the operations of other contractors or of the Owner's premises or any of the Owner's tenants or invitees. The Contractor shall, upon the Construction Manager's or Owner's request, schedule any portion of the Work affecting other contractors or other operation of the premises during hours when the premises are not in operation. Any postponement, rescheduling, or performance of the Work under this Subparagraph 3.10.6 may be grounds for an extension of the Contract Time, if permitted under Paragraph 8.3, and an equitable adjustment in the Contract Sum if (1) the performance of the Work was properly scheduled by the Contractor in compliance with the requirements of the Contract Documents, and (2) such rescheduling or postponement is required for the convenience of the Owner.

§ 3.10.6 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project schedule.

PAGE 14

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 delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed. The Contractor shall advise the Construction Manager on a current basis of all changes in the Work made during construction. Refer to Project Manual Section 01320 – Communications, Section 01700 – Contract Close Out, and Section 01720 – Project Record Documents.

PAGE 15

§ 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. 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.

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§ 3.12.5 Within seven (7) days after award of Contract, the Contractor shall submit to Construction Manager a submittal register as set forth in Project Manual, Section 01330 – Submittals. The Contractor shall review for compliance with the Contract Documents, approve and submit to the Construction Manager Shop Drawings, Product Data, Samples, and in a manner calculated to cause no delay in Contractor's Work or the Work of Owner or other contractors, Shop Drawings, Product Data, Samples, brochures and similar submittals required by the Contract Documents in accordance with the Project submittal schedule approved by the Construction Manager and Architect, or in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Multiple Prime Contractors or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples and similar submittals with related documents submitted by other Multiple Prime Contractors.

...

§ 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 Construction Manager's or Architect's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Construction Manager and 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 Construction Manager's or Architect's review or approval thereof.

...

§ 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. Refer to Project Manual Section 01330 – Submittals and Architect's technical specifications for specific instructions regarding Contractor's submittal requirements.

PAGE 16

§ 3.13.3 Only materials and equipment that are to be used directly in the Work shall be brought and stored on the Project Site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project Site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the Contractor's responsibility.

§ 3.13.4 The Contractor and any entity the Contractor is responsible for shall not erect any sign on the Project site without the Owner's prior written consent, which may be withheld in the Owner's sole discretion.

§ 3.13.5 The Contractor shall ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment. Without limitation of any other provision of the Contract Documents, the Contractor shall minimize any interference with the occupancy or beneficial use of any areas in buildings adjacent to the site of the Work or the premises in the event of partial occupancy, as more specifically described in Paragraph 9.9.

§ 3.13.6 The Contractor shall not permit any workers to use any existing facilities at the Project site, including without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site, as amended from time to time. The Contractor shall immediately notify the Construction Manager and Owner in writing if during the performance of the Work the Contractor finds compliance with any portion of such rules and regulations to be impracticable. The Contractor's notice shall set forth the specific issues with such compliance and suggest alternatives under which the same results intended by the rules and regulations may be achieved. The Owner may in such a circumstance, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site. Refer to Project Manual Section 01140 – Use of Premises, for a complete description of Contractor's obligations regarding use of the site.

PAGE 17

§ 3.14.3 See Project Manual Section 01540 as well as technical specifications for further requirements.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor. Refer to Project Manual Section 01550 – Cleaning Up and Final Cleaning.

...

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, defend and hold harmless the Owner, Construction Manager and Architect ~~harmless from loss on account thereof, from any and all cost, damage and loss on account thereof,~~ including but not limited to actual attorney's fees, 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, Architect, or Construction Manager. 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 through the Construction Manager. The review by the Owner, Construction Manager or Architect of any method of construction, invention, appliance, process, article, device or materials of any kind shall be for its adequacy in the Work and shall not be an approval for the use thereof by the Contractor in violation of any patent or other rights of any third person.

...

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, Construction Manager, Architect, ~~Construction Manager's and 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. Architect and Construction Manager, and their respective agents, representatives, employees, officers, directors, affiliates, and successors (collectively, "Indemnitees") from and against any and all claims, demands, liabilities, causes of action, costs and expenses, or other dispute resolution expenses, including attorney fees and litigation expenses (collectively "Indemnification Claims"), involving:

- (a) Personal injury or death of any person;
- (b) Property damage (including loss of use);
- (c) The breach of any provision in the Owner – Contractor Agreement or Contract;
- (d) Money or other claims by subcontractors, suppliers, their employees or any entity involved in the Work at any tier;
- (e) Any contractual duty of an Indemnitee to indemnify another person; or
- (f) The enforcement by an Indemnitee of its rights under this provision;

but only if such Indemnification Claims arise from or related directly or indirectly to the Work under the Contract by, or the acts of omissions of: (i) the Contractor; (ii) its Subcontractors, Vendors or Suppliers at any tier, or (iii) any persons for whom any of them are responsible, including their employees, agents, officers or representatives. In any event, the obligations contained in Subparagraph 3.18.1 shall not apply to an Indemnification Claim resulting from the sole negligence of an Indemnitee.

PAGE 18

§ 3.18.3 In the event that any claim is made or asserted, or lawsuit filed for damages or injury arising out of or resulting from the performance of the Work, whether or not the Owner, Architect or Construction Manager is named as a party, the Contractor shall immediately advise the Owner, Architect and Construction Manager, in writing, of such claim or lawsuit, and shall provide a full and complete copy of any documents or pleadings relating thereto, as well as a full and accurate report of the facts involved.

§ 3.18.4 An Indemnitee, at its option, may select counsel to defend any claim, cause of action or lawsuit brought against it without impairing any obligation of Contractor to provide indemnification.

...

§ 4.1.2 The Owner shall retain a construction manager lawfully licensed to practice construction management or an entity lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the ~~Agreement-Contract~~ and is referred to throughout the Contract Documents as if singular in number. All instructions to the Contractor shall be forwarded through the Construction Manager.

§ 4.1.2.1 The Construction Manager shall act as the Owner's agent for purposes of administering and enforcing the Contract.

...

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner shall employ a successor construction manager or ~~architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.~~ architect.

PAGE 19

§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site ~~whenever the Work is being performed.~~ site. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project schedule, and (2) defects and deficiencies observed in the Work.

...

§ 4.2.5 ~~The Construction Manager, except to the extent required by Section 4.2.4, Manager and Architect will not have control over, or charge of, 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work. The Architect, the Owner and the Construction Manager shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so that the Owner, Architect and the Construction Manager may perform their functions under the Contract Documents.~~

...

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of known defects and deficiencies in the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data

and Samples. Where there are Multiple Prime Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from Contractor and other Multiple Prime Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval, them for conformance with the submittal requirements of Contract Documents. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

PAGE 20

§ 4.2.11 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and 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, 3.12~~ or any other obligations set forth in the Contract. The Construction Manager and Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Construction Manager and Architect, precautions, 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.

§ 4.2.12 The Construction Manager will prepare Change Orders and ~~Construction Change Directives~~ Notices to Proceed.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or ~~Construction Change Directives~~ Notices to Proceed in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

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

§ 4.2.18 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~~, interpretations, 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 so rendered in good faith.

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

§ 4.2.20 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, ~~with the Construction Manager's recommendation~~ Architect. The Architect will review and respond in writing to the Construction Manager to requests for information about the Contract Documents. ~~The Construction Manager's recommendation and the Architect's response to each request~~ 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.

PAGE 21

§ 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 other Multiple Prime Contractors or subcontractors of other Multiple Prime Contractors. The term "Subcontractor" shall also include material and equipment suppliers, which may also be called "Supplier". Each and every Subcontractor shall be understood to have named the Owner and Construction Manager as a third party beneficiary to its subcontract with Contractor and the Owner and Construction Manager shall enjoy all third party beneficiary rights permitted by law.

...

§ 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 Construction Manager for review by the Owner, Construction Manager and Architect the names of persons or entities. Within seven (7) days after award of the Contract, the Contractor shall submit in writing to the Construction Manager, for review by the Owner, Architect and Construction Manager, (1) the name, trade and subcontract amount for each Subcontractor and (2) the names of all persons or entities proposed as manufacturers of the products identified in the Specifications (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Construction Manager may reply within 14 days and, where applicable, the name of the installing Subcontractor. The Construction Manager will promptly reply to the Contractor in writing stating (1) whether or not the Owner, the Construction Manager or the Architect, after due investigation, has reasonable objection to any such proposed person or entity or, (2) that the Construction Manager, Architect or Owner requires additional time for review. Failure of the Construction Manager, Owner, or Architect to reply within the 14-day period shall constitute notice of no reasonable objection entity.~~

...

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager 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. The Contract Sum shall be amended by either of the following at the Owner's sole discretion: (1) the difference between the subcontract amount proposed by the person or entity recommended by the Contractor and the subcontract amount proposed by the person or entity accepted or designated by the Owner and the Construction Manager; or (2) the amount by which the subcontract amount proposed by the person or entity accepted or designated by the Owner and Construction Manager exceeds the amount set forth in the Schedule of Values that is applicable to the Work covered by such subcontract. 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, Construction Manager or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner, the Architect and the Construction Manager of any proposed Subcontractor substitution a minimum of 10 (ten) days prior to such proposed change.

...

~~By appropriate agreement, written where legally required for validity, written agreement, 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 responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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.

PAGE 22

§ 5.4.2 Upon such assignment, if the Work If the Work in connection with a subcontract has been suspended for more than ~~30 days~~, thirty (30) days after termination of the Contract by the Owner pursuant to Paragraph 14.2 or Paragraph 14.4 and the Owner accepts assignment of such subcontract, the Subcontractor's compensation shall be equitably adjusted for ~~increases in cost resulting from the suspension~~, any increase in direct documented costs necessarily incurred by such subcontractor as a result of the suspension. In no event will such an adjustment include any consequential damages or indirect costs such as extended home office overhead or lost profit.

§ 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.~~

§ 5.5 Contractor and Subcontractors' Warranty Acknowledgement. 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 Acknowledgement before a Certificate of Final Completion is issued:

Warranty Acknowledgement

(Name of Subcontractor) ("Subcontractor") warrants that all of its Work complies with requirements of the Contract Documents. If, within the time period Contractor is responsible for warranties under the Contract Documents, any of Subcontractor's Work is found to be not in accordance with the requirements of the Contract Documents, Subcontractor shall correct the Work and its sole expense promptly after receipt of written notice from the Owner.

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which may include persons or entities under separate contracts not administered by the Construction Manager, and Manager. The Owner further reserves the right to award other 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. 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 elsewhere in the Contract Documents and any time extension or adjustment in Contract Sum will be governed by the applicable provisions of the Contract. The Contractor shall be responsible for coordination the Work with the work of the other Contractors, including the Owner's own forces or separate contractors, so as to complete the Work in accordance with the Project time schedule.

PAGE 23

§ 6.1.3 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 12.12, as amended.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a separate contractor or to other Multiple Prime Contractors 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 delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces or other Multiple Prime Contractors.~~

§ 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, Construction Manager, separate contractors, or other Multiple Prime Contractors as provided in Section 10.2.5. Should a claim be made that the Contractor wrongfully delayed or caused damage to the Work or property of another contractor, the Contractor shall promptly settle the dispute with such other contractor. If a separate contractor sues the Construction Manager or Owner on account of any delay or damage alleged to have been caused by the Contractor, the Construction Manager will notify the Contractor who shall defend such proceedings at the Contractor's sole expense. If any judgment or award against the Construction Manager or Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Construction Manager or Owner for all costs, including attorney's fees and court costs which either may have incurred.

§ 6.2.5 ~~The Owner and other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.~~

...
If a dispute arises among the Contractor, other ~~Multiple Prime Contractors~~ and the Construction Manager and/or 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 Construction Manager, with notice to the Architect, will allocate the cost among those responsible.~~ rubbish as described in Section 3.15, the Owner or Construction Manager may clean up and allocate the cost among those responsible as the Construction Manager, in consultation with the Architect, determines to be just. 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. Refer to Project Manual Section 01550 – Clean Up and Final Cleaning.

...
§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, ~~Construction Change Directive~~ Notice to Proceed, 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. Refer to Project Manual Section 01250 – Changes in the Work.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor; a ~~Construction Change Directive~~ Notice to Proceed requires agreement by the Owner, Construction Manager 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.

§ 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~~ Notice to Proceed or order for a minor change in the Work. Except as permitted in paragraph 7.3, an increase in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any claim for an increase in any amounts due under the Contract Documents or for a change in any time period provided for in the Contract Documents.

PAGE 24

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

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

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change. Any impact such change may have on the unchanged Work, including but not limited to claims for acceleration, stacking, inefficiency, ripple effect, disruption, compression, interference, delay and cumulative impact, and any and all adjustments to the Contract Sum and the Schedule. In the event a Change Order increases the Contract Sum, the Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.3 Construction Change Directive-Notice To Proceed

§ 7.3.1 A Construction Change Directive-Notice to Proceed is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager 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-Notice to Proceed, 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.

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

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

...

.4 As provided in Section 7.3.7.

However, the contract time shall be adjusted only if the Contractor demonstrates to the Owner and Construction Manager that the changes in the Work required by the Notice to Proceed adversely affect the critical path of the Work.

§ 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-Notice to Proceed 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.

§ 7.3.5 Upon receipt of a Construction Change Directive-Notice to Proceed, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager and 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.

§ 7.3.6 A Construction Change Directive-Notice to Proceed 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 Construction Manager shall determine 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, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager 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 of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance;

- ~~2~~ 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 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 Construction Manager and 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 Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.~~

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

PAGE 25

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. All Work shall be completed in sufficient time to allow for clean-up and preparation for Owner move-in prior to the date of Substantial Completion of the Work.

§ 8.2.4 Without altering the applicability and obligations of Section 8.2.3, the Contractor shall prosecute the Work undertaken in a prompt and diligent manner wherever such Work, or any part of it, becomes available, or at such other times as the Owner and/or Construction Manager 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 of any other contractor, the Owner, Construction Manager or the Architect. Any supplies, materials, tools and/or equipment that are to be furnished by the Contractor hereunder shall be furnished in sufficient time to enable the Contractor to perform and complete its Work within the time or times provided for herein. If the Contractor, through its negligence or failure, including the negligence or failure of its Subcontractors or suppliers, thus to furnish the necessary labor and/or supplies, materials, tools and/or equipment to meet 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 the Contractor fails to take such action necessary to bring its part of the Work up to schedule within twenty-four hours of receiving notice from the Owner or Construction Manager, then the Owner, at its sole option, may supplement the Contractor's forces, materials and/or equipment or remove the Contractor from the Project, and the Owner may complete part or all of the remainder of the Contractor's Work, either utilizing in the Owner's sole discretion its own forces, new contractors chosen by the Owner or any Subcontractor or supplier of the Contractor, which may include fixed price supplemental work time and materials supplemental work, or any combination thereof, which in Owner's sole discretion will most quickly and completely cure the failure of the Contractor. The Contractor shall be responsible for any and all costs of performing or completing the Work that are incurred by the Owner or any Contractor, Subcontractor, Supplier, or other entity on the Owner's behalf. The Contractor shall pay the Owner for such costs within ten (10) days of the date of demand. If not paid within ten (10) days, the amount will be withheld from the Contractor and paid to the Owner from the next payment due the Contractor under the Contract. Exercise of such rights shall in no way limit or jeopardize the Owner's right to any other remedy, including but not limited to, a claim against the Performance

Bond of the Contractor.

PAGE 26

§ 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, Owner's own forces, Construction Manager, Architect, any of the other Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, adverse weather conditions not reasonably anticipated, 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, based on the recommendation of the Construction Manager, litigation, or by other causes which the Construction Manager determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension in the Contract Time under the Contract Documents. The Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay is not caused, or could not have been anticipated or prevented by the Contractor, could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, and is of a duration not less than one (1) day.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. Any claim for extension of time shall be made in writing to the Construction Manager in the manner and time specified by Paragraph 4.7; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide a written estimate of the probable effect of such delay on the progress of the Work.

§ 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. Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted under Subparagraph 8.3.1, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work; (2) hindrance or obstruction in the performance of the Work; (3) loss of productivity or acceleration; or (4) other similar claims (collectively referred to in this Subparagraph 8.3.3 as "Delays") whether or not such Delays are foreseeable, unless a Delay is caused by the Owner's active interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. 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 Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling, or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

Where the Contract is based on a Stipulated Sum or Guaranteed Maximum Price, the Contractor shall submit to the Construction Manager, before the first Application for Payment, within seven (7) days after award of contract, 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 Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. In the event there is one Contractor, the Construction Manager shall forward to the Architect the Contractor's schedule of values. If there are Multiple Prime Contractors responsible for performing different portions of the Project, the Construction Manager shall forward the Multiple Prime Contractors' schedules of values only if requested by the Architect.

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 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, Construction Manager 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. See Project Manual Section 01290 – Payment Procedures for Contractor's obligations in relation to Applications for Payment.

§ 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, Notice to Proceed, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

PAGE 27

§ 9.3.1.3 The Contractor shall provide supporting data substantiating the Contractor's right to payment as the Owner, Architect and Construction Manager may require.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall Payment will not 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 or equipment stored on or off site unless the requirements set forth in Project Manual Section 01290 regarding materials stored off site are met to the satisfaction of Construction Manager and Owner.

§ 9.3.3 The Contractor warrants that title to all Work (including materials and equipment) 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 (hereinafter collectively referred to as "Liens") 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.

§ 9.3.3.1 The Contractor further expressly undertakes to defend, indemnify and hold harmless the Indemnitees, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against the Indemnitees as a result of Liens filed against the Work, the site of the Work, the Project site and any improvements on it, payments due the Contractor, or any portion of the property of any of the Indemnitees. The Contractor agrees to defend, indemnify and hold the Indemnitees harmless from and against any such Liens and agrees to pay any judgment resulting from any such actions, lawsuits, or proceedings.

§ 9.3.3.2 The Owner shall release any payments withheld due to a Lien if the Contractor obtains security acceptable to the Owner or a lien bond that is (1) issued by a surety acceptable to the Owner that is licensed and admitted in the state; (2) in form and substance satisfactory to the Owner; and (3) in an amount not less than One Hundred Fifty Percent (150%) of such Lien. By posting a lien bond or other acceptable security, however, the Contractor shall not be relieved of any responsibilities or obligations under this Paragraph 9.3, including, without limitation, the duty to defend and indemnify the Indemnitees. The cost of any premiums incurred in connection with such bonds and security shall be the Contractor's responsibility and shall not be part of, or cause any adjustment to, the Contract Sum.

§ 9.3.3.3 Notwithstanding the foregoing, the Owner reserves the right to settle any disputed Lien by making payment to the lien claimant or by such other means as the Owner, in the Owner's sole discretion, determines is the most economical or advantageous method of settling the dispute. The Contractor shall promptly reimburse Owner, upon demand, for any payments so made.

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either issue to the Owner a Certificate for Payment. The

Architect will, after the receipt of the Project Application for Payment with the recommendations of the Construction Manager, review the Project Application for Payment and will either issue a Project Certificate for Payment to the Owner with a copy to the Construction Manager, Manager for such amount amounts as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification reasons for withholding a Certificate as provided in Subparagraph 9.5.1. Such notifications will be forwarded to the Contractor by the Construction Manager.

§ 9.4.2 Where there are Multiple Prime Contractors performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives the Multiple Prime Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Multiple Prime Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Multiple Prime Contractors' application with information from similar applications for progress payments from other Multiple Prime Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Multiple Prime Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect. The issuance of a separate Certificate for Payment or a Project Certificate for Payment will constitute representations made separately by the Construction Manager and Architect to the Owner, based on their individual observations at the site and the data comprising the Application for Payment submitted by the Contractor, that the Work has progressed to the point indicated and that, to the best of the Construction Manager's and Architect's knowledge, information and belief, 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 minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Construction Manager or Architect. The issuance of a separate Certificate for Payment or a Project Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and 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.

§ 9.4.3 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.4 The Construction Manager's certification of an Application for Payment or, in the case of Multiple Prime Contractors, a Project Application and Certificate for Payment shall be based upon the Construction Manager's evaluation of the Work and the information provided as part of the Application for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information and belief, the Work has progressed to the point indicated and the quality of the Work is in accordance with the Contract Documents. The certification will also constitute a recommendation to the Architect and Owner that the Contractor be paid the amount certified.

§ 9.4.5 The Architect's issuance of a Certificate for Payment or in the case of Multiple Prime Contractors, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and information provided as part of the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified.

~~§ 9.4.6 The representations made pursuant to Sections 9.4.4 and 9.4.5 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 Construction Manager or Architect.~~

~~§ 9.4.7 The issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's 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.~~

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.4 and 9.4.5 9.4.2 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.3-9.4.1. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

PAGE 28

.5 damage to the ~~Owner~~ Owner, Construction Manager or a separate contractor;

...

.7 repeated failure to carry out the Work in accordance with the Contract Documents;
.8 or any other default or breach under the Contract Documents.

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§ 9.5.4 Should the Subcontractor be in debt to the Owner for any reason, whether in connection with this Contract or a separate contract on this, or another Project, then Owner shall have the right to apply funds from this Contract against the debt owed.

§ 9.5.5 If the Contractor disputes any determination by the Owner, Architect, or Construction Manager 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.

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project 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 Construction Manager and Architect. The Owner shall either forward payments for the preceding month's Work to the Contractor directly, or forward payments for the preceding month's Work to the Construction Manager for distribution to Contractors. As agent of the Owner, Construction Manager shall forward payment to Contractor following verification of Owner's disbursement checks.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner or Construction Manager 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 Construction Manager will, on request, Manager, on request, and in the Construction Manager's discretion, may furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect 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, Construction Manager 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. However, if either Owner, Construction Manager or Architect has cause for concern of whether all payments have been made or will be made as required to subcontractors, laborers or suppliers or creditors of the Subcontractor, Owner, Construction Manager or Architect, in their sole discretion, and without limiting other remedies, after seventy-two (72) hours notice to Contractor, have the right to issue payments either by joint check, payable to both Contractor and the subcontractor, laborer, supplier or creditor, or directly to the subcontractor, laborer, supplier or creditor. Such payments shall be applied against the Contract Sum to the same extent as if the payment were made solely to the Contractor. The Owner's, Construction Manager's or Architect's rights to issue joint checks or direct payments shall in no event create an obligation on the part of the Owner, Construction Manager or Architect to exercise this right on behalf of a subcontractor, laborer, supplier or creditor.

PAGE 29

§ 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 Suppliers shall be held by the Contractor for those Subcontractors or suppliers 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.

§ 9.6.8 Subject to applicable law, if a petition in bankruptcy or any other arrangement or proceeding regarding insolvency, assignment for the benefit of creditors, trust, chattel mortgage, or similar state or federal proceeding, whether voluntary or involuntary, shall be filed with respect to the Contractor, the Owner may withhold the final balance, or any other payments, whether or not an application for progress payment has been properly filed, until expiration of the period of any guarantee or warranties required for the contractor, and the Owner may pay out such funds the amount necessary to satisfy any claims or costs that otherwise would have been covered by such guarantee or warranties.

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's 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 Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner, Construction Manager 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. § 9.7.1 If the Construction Manager should fail to issue recommendations within fourteen (14) days of receipt of the Contractor's Application for Payment, or if, through no fault of the Contractor, the Architect does not issue a Project Certificate for Payment within fourteen (14) days after the Architect's receipt of the Project Application for Payment, or if the Owner does not pay the Contractor within fourteen (14) days after the date established in the Contract Documents any amount certified by the Architect or awarded by litigation, then the Contractor may, upon fourteen (14) additional days' written notice to the Owner, the Architect and the Construction Manager, stop Work until payment of the amount owing has been received. The Contract Sum shall be increased by

the amount of the Contractor's reasonable costs of shut-down, delay and start-up, which shall be accomplished as provided in Article 7.

§ 9.7.2 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

PAGE 30

§ 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 notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect through the Construction Manager a comprehensive list of items to be completed or corrected prior to final payment, corrected. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. The Contractor shall then submit through the Construction Manager a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which 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 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. 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. In no case shall the Contractor's final completion of the Work and contract closeout (see Project Manual Section 01700 - Contract Closeout) exceed sixty (60) days from the date of issuance of the Certificate of Substantial Completion. In the event Contractor fails to complete the Work within the sixty (60) day period, the Owner may, in addition to all of its other rights and remedies under the Contract and at law and/or equity, complete the Contractor's Work at the sole expense of Contractor. Owner shall be entitled to deduct from the final payment all costs and expenses incurred in completing the Work, including additional Construction Management and Architecture fees and costs. In the event the costs exceed the amounts being withheld by Owner for final payment, the Contractor or its surety shall make the excess payment within five (5) days of demand by the Owner.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 list, which is not sufficiently complete in accordance with the requirements of 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, through the Construction Manager, a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work or designated portion thereof is substantially complete, the Construction Manager-Architect will prepare, and the Construction Manager and Architect shall execute 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 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.

PAGE 31

§ 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, reserves the right to occupy the whole or any portion of the premises at any time prior to completion of the Work provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 Subparagraph 11.3.11 and authorized by public authorities having jurisdiction over the Project, the Work. It is understood and agreed that the right to use the premises is part of the Contract and the Contractor has taken this possibility into account when preparing its bid, and that the Contractor shall proceed with the Work in such a manner as may be directed and shall cooperate with the Owner to limit interruptions to the Owner's routine operations. 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 and Construction Manager shall jointly prepare and submit a list to the Architect through the Construction Manager, 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 after consultation with the Construction Manager.

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§ 9.9.4 Any agreement as to the acceptance of non-conforming Work not complying with the requirements of the Contract Documents, shall be in writing in the form of a Change Order, acceptable to the Owner's authorized representative and signed by all parties.

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the Construction Manager's recommendations, to the Architect who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment or Project 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. All warranties and guarantees and specified closeout documents required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Construction Manager as part of the final Application for Payment (Refer to Project Manual Section 01700 – Contract Closeout, Section 01720 – Project Record Documents, Section 01730 – Operations and Maintenance Data, Section 01740 – Warranties and Guarantees, and Section 01750 – Systems Demonstration, Training and Start Up). The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees and other specified closeout documentation have been received and accepted by the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or Construction Manager 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 required by the ~~Owner~~, Owner or Construction Manager, other data establishing payment or satisfaction of obligations, such as 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~~, Owner or Construction Manager. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner and Construction Manager to indemnify the Owner and Construction Manager against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner and/or Construction Manager all money that the Owner and/or Construction Manager may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees, (6) 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, (7) 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, (8) a general release executed by the Contractor on a form provided by the Construction Manager.

PAGE 32

- .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 payment;
- .5 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~~ Supplier shall constitute a waiver of all claims by that payee against Owner, Architect, and Construction Manager except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. If Contractor fails to submit a final Application for Payment or a final conditional waiver within a reasonable time after request by Construction Manager, and in no event later than sixty (60) days after the issuance of the Certificate of Substantial Completion, the Owner and Construction Manager may unilaterally determine the balance due to the Contractor and the Contractor shall be bound by such determination.

The Contractor shall be solely responsible to the Owner and Construction Manager for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other ~~Contractors~~.

~~The Contractors.~~ The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to ~~direct control over or charge of the acts or omissions of the Contractors, Subcontractors, Suppliers, agents or employees of the Contractors or Subcontractors, or Subcontractors or Suppliers, or any other persons performing portions of the Work and not directly employed by the Construction Manager.~~ the Work, as these obligations are the sole responsibility of the Contractor. Contractor shall be responsible for payment of all fines levied against Owner, Architect or Construction Manager and all costs (including attorney's fees and litigation/dispute resolution costs) incurred as a result of such fines arising from or relating to conduct of Contractor's Work.

PAGE 33

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

- .1 employees on the Work and all employees involved in the Project and all other persons who may be affected thereby;
- .3 other property at the site or adjacent thereto, such as ~~as~~, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and

- .4 construction or operations by the ~~Owner-Owner, Construction Manager,~~ or other Contractors.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, ~~reasonable all necessary or appropriate~~ 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. The Contractor shall also be responsible, at the Contractor's sole cost and expense, for all measures necessary to protect any property and improvements adjacent to the Project. Any damages to such property or improvements shall be promptly repaired by the Contractor. Without limiting the indemnity provisions elsewhere in the Contract Documents, the Contractor shall defend, indemnify and hold harmless the Owner and Construction Manager from and against any and all actions or damages arising out of or resulting from damage to such property or improvements.

§ 10.2.4 ~~When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. Use of explosives is not permitted. When use or storage of hazardous substances or equipment, or unusual construction methods are necessary, Contractor shall give Owner, Construction Manager and Architect reasonable advanced notice. When driving or removing piles, wrecking, performing excavation work or other similar potentially dangerous work, the Contractor shall provide protection and exercise utmost care, under supervision of properly qualified personnel, so as not to endanger life or property. Contractor is fully responsible for any and all damages, claims and for defense of all actions against Owner, Construction Manager and Architect resulting from prosecution of such work in connection with or arising out of the Contract.~~

§ 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, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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, Construction Manager and Architect.~~ Owner and Construction Manager.

§ 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, load or permit any part of the structure or site to be loaded with a weight that will endanger the structural integrity of the structure or site or the safety of workmen or any other persons on or about the Work. When required law or for the safety of the Work, the Contractor shall shore up, brace, underpin, and protect foundations and other portion or existing structures that re in any way affected by the Work. Before commencement of any part of the Work, the Contractor shall serve any and all notices required to be given to adjoining land and/or property owners or other parties.~~

§ 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. When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause.~~

§ 10.3 Hazardous Materials

§ 10.2.9 The Contractor shall promptly report by telephone and in writing to the Owner, Construction Manager and Architect all accidents arising out of or in connection with the Work that cause death, personal injury, or property damage, giving full details and observations of any witnesses. See Project Manual Section 00810 – Safety Program

§ 10.2.10 Injury or Damage to Person or Property

If Contractor suffers injury or damage to person or property because of an act or omission of the Owner, or of others for whose acts the Owner is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the Owner 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's failure to do so shall be an irrevocable waiver of any claim against the Owner arising out of such injury or damage. Injury or damage to persons or property suffered by the Owner because of an act or omission of the Contractor or others for whose acts the Contractor is legally responsible shall be subject to the limitations provisions established by Michigan law. § 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, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area. In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB), or any other hazardous material, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner, Construction Manager and Architect in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner and Contractor if in fact the material is asbestos, polychlorinated biphenyl (PCB) or any other material deemed a Hazardous Material, and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or any other Hazardous Material, or when it has been rendered harmless, by written agreement of the Owner and Contractor, or in accordance with final determination by the Architect on which litigation has not been demanded, or by litigation under Article 4. The term "rendered harmless" shall be interpreted to mean that levels of asbestos, polychlorinated biphenyls, and other Hazardous Materials are less than any applicable exposure standards set forth in OSHA regulations or other applicable state regulations. In no event, however, shall the Owner, Construction Manager or Architect have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any Supplier, or any entity for whom any of them is responsible. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or made up of any items that are hazardous or toxic. Refer to Project Manual Section 00840 – Hazardous Materials.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify a 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, Construction Manager 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, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resumed 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.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their 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 (other than the Work itself), except to the extent that such damage, loss or expense is not due to the fault or negligence of the party seeking indemnity.

§ 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.

§ 10.3.2 The Contractor shall not, nor shall it permit any member of the construction team to bring on, keep, store, use, release or dispose of any hazardous or potentially Hazardous material on, in or about the Project site except Permitted Materials and as required by section 10.3.8., subject to the requirements of §10.3.9.

§ 10.3.3 The Contractor shall cause the presence, use, storage and/or disposal of Permitted Materials by any member of the construction team to be in strict (not substantial) compliance in every respect with all applicable laws and shall promptly notify the Owner if any amount of Permitted Materials or any other Hazardous Materials are released on the Project site at any time in a quantity that would have to be reported or remediated under any applicable laws.

.1 the Contractor shall at its expense, without recovery from the Owner, under the Contract Sum or otherwise, fully and promptly remediate each and every release of Permitted Materials and any other Hazardous Materials in full compliance with all applicable laws, to the most stringent standards available under all applicable laws, and in cooperation with the Owner, except to the extent of contamination (i) that existed before Work began at the Project site and neither the Contractor nor any other member of the construction team has exacerbated such preexisting contamination after recognizing the presence and general location of such contamination, or (ii) was caused directly by the Owner, the Architect, a separate contractor of the Owner who is not a member of the construction team, or any third party. The Contractor shall be responsible if and to the extent, after recognizing the presence and general location of Hazardous Materials that were preexisting at the site, or after it should have recognized such presence and general location, it exacerbates such contamination.

§ 10.3.4 The Contractor shall at its expense, without recovery from the Owner, under the Contract Sum or otherwise, be solely responsible to the Indemnitees for and shall defend, indemnify and hold harmless the Indemnitees and the Project site from and against all claims, damages costs, fines, judgments and liabilities, including attorneys fees and costs, arising out of or in connection with the generation, release, transportation, storage, use, disposal or presence of Permitted Materials or Hazardous Materials at the Project site by or due to any member of the construction team or for any noncompliance with section 10.3 by any member of the construction team. The indemnity in the previous sentence and in section 10.3.4 does not include claims, damages, costs, fines, judgments or liabilities, to the extent they arise from (i) contamination that existed before Work began at the Project site which was not exacerbated by the Contractor or any member of the construction team (after it recognized or should have recognized the presence and general location of such contamination) or (ii) contamination that was caused directly by the Owner, the Architect, a separate contractor of the Owner who is not a member of the construction team, or any third party.

§ 10.3.5 The Contractor's responsibility under the foregoing indemnification shall include any and all governmentally mandated removal and/or clean up of any such Permitted Materials or Hazardous Materials.

§ 10.3.6 If the Contractor shall receive any notice, whether oral or written, of any inquiry, test, investigation, enforcement proceeding, environmental audit or the like by or against the Contractor, any member of the construction team, or the Work with regard to any permitted or Hazardous Materials at or emanating from the Project site, the Contractor shall immediately notify the Owner, Construction Manager and Architect.

§ 10.3.7 If any member of the construction team encounters on the Project site material, which it believes is a Hazardous Material in any form (other than Permitted Materials being used in an appropriate manner or asbestos, asbestos containing materials or polychlorinated biphenyl (PCBs) which have been rendered harmless), the Contractor shall (i) immediately stop Work in the area affected, (ii) report the condition to the Owner, Construction Manager and Architect as expeditiously as possible, and (iii) clear all persons from the area of exposure. The Work in the affected area shall not be resumed until the Hazardous Material has been removed or rendered harmless as evidenced by written agreement of the Owner and the Contractor. The term 'rendered harmless' shall be interpreted to mean that the levels are less than any applicable exposure standards set forth in OSHA regulations or other applicable state regulations and all applicable laws. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by any member of the construction team. Except for the Permitted Materials, no member of the construction team shall use any fill or other materials to be incorporated into the Work, which are Hazardous Materials, toxic or comprised of any items that are Hazardous Materials or toxic.

§ 10.3.8 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Construction Manager, Architect, Contractor, Subcontractors, and agents, officers, directors, affiliates and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising out of or resulting from performance of the Work in an area affected by Hazardous Materials (excluding Permitted Materials and other Hazardous Materials brought to the site by the Contractor or persons for whom it is responsible and excluding all claims, damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising out of or resulting from any exacerbation of preexisting contamination after the Contractor recognized or should have recognized the presence or general location of such preexisting contamination), if (i) in fact, the material presents the risk of bodily injury or death 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, but only to the extent that such damage, loss or expense is not due to the negligence of the person seeking indemnity.

§ 10.3.9 The Contractor shall not be required to cause performance without its consent any Work relating to asbestos or PCB or other Hazardous Materials, except as otherwise required under this section 10.3. The Contractor agrees to excavate and stockpile on site soils with levels of contamination such that it can be safely and lawfully handled without special protective equipment if the Owner so requests. In such a circumstance, the Contractor shall comply with all applicable laws, shall be fully responsible for any non-compliance with all applicable laws, and shall indemnify, defend and hold harmless the Owner, Architect and Construction Manager for any and all claims damages, losses and expenses, including but not limited to attorney fees and litigation costs, arising from Contractor's failure to comply with applicable laws.

§ 10.3.10 The Contractor shall take care to minimize the use of any Hazardous Materials to the extent consistent with the orderly conduct of the Work. To the maximum extent practical, the Contractor shall cause Permitted Materials which contain Hazardous Materials (and any explosive materials which are not Hazardous Materials) to be stored off the Project site and off Owner's premises. Except for Permitted Materials, all Hazardous Materials used, stored or generated at the Project site by the construction team shall be used, stored, transported and disposed of in strict (not substantial) conformity with applicable laws, codes, rules, regulations, guidelines and orders of governmental authorities having jurisdiction. The Contractor shall maintain — and provide promptly to Owner upon demand — appropriate and complete documentation evidencing the Contractor's compliance with all such laws, codes, rules, regulations, guidelines and orders.

The Contractor shall not permit inclusion of asbestos, polychlorinated biphenyls or urea formaldehyde in any construction materials. The Contractor shall be responsible for the removal and cleanup of all Hazardous Materials and wastes brought to the Project site or generated at the pProject site by any member of the construction team. The Contractor shall indemnify and defend the Indemnitees against and hold them harmless from all claims, suits, damages, losses, fines, penalties, costs and expenses, including attorneys' fees and litigation expenses, arising from or in connection with or otherwise relating to, the use, generation, storage, release, transporting and disposal of any Hazardous Materials or waste in connection with the Work excluding such items as are Owner's responsibility as set forth in § 10.3.8.

PAGE 36

§ 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 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 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 which are applicable to the Work to be performed;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
4. Claims for damages insured by usual personal injury liability coverage;
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; and
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. Reference Project Manual Section 00500 – Insurance for the insurance provisions applicable to Contractor under this Contract.

§ 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 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 submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. 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. 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 shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Construction Manager, the Construction Manager's consultants, the Owner, the Architect, and the Architect's 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.

PAGE 37

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles, unless the loss was caused Contractor or a party for whom the Contractor is responsible, in which case Contractor shall be responsible for the applicable deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit. 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.

§ 11.3.1.6 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.

§ 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. The Owner, Architect and Construction Manager, "Barton Malow Company", shall be named as an additional insured on all property and liability policies. Refer to Project Manual 00500 – Insurance.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of 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. Before an exposure to loss may occur, the Owner shall file with the Construction Manager 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.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with 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. Waivers of Subrogation. Reference Project Manual Section 00500 – Insurance for the insurance provisions applicable to Contractor under this Contract. § 11.3.7 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary, through the Construction Manager, 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.

§ 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 Construction Manager, 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 the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, Owner's 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.

§ 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. 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.

§ 11.3.9 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. 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.

§ 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 distribution of insurance proceeds in accordance with the direction of the arbitrators.

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. Bonds shall be executed by a responsible surety licensed and admitted in the state where Work is located, listed in the latest version of the Department of the Treasury's Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," with the bond amount less than or equal to the underwriting limitation; and with an AM Best's rating of no less than A- VII or better. Bonds shall meet all other requirements set forth in Section 0500 - Bonds - of the Project Manual.

PAGE 38

The Contractor shall promptly correct Work rejected by the Construction Manager or 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 uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If any portion of the Work is determined by the Owner, Construction Manager or Architect, either during performance of the Work or

during any applicable warranty period, to be defective or not in compliance with the requirements therefor, the Construction Manager or Owner shall notify the Contractor in writing that such Work is rejected. Thereupon, the Contractor shall immediately replace and/or correct such Work by making the same comply strictly with all the requirements therefor. The Contractor shall bear all costs of correcting such rejected Work, including work of other Subcontractors and including compensation for the Architect's and Construction Manager's additional services and any delay or related damaged to the Owner made necessary thereby. The Construction Manager shall have the right to charge the Contractor for any compensation payable for the Architect's or Construction Manager's additional services required by the Contractor's rejected Work and deduct the payment from the next payment due the Contractor.

...

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one 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 correct it promptly after receipt of written notice from the Owner or Construction Manager to do so unless the Owner or Construction Manager 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, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.4. Section 2.4., without affecting the surety(ies) obligations under the Bonds. Refer to the Project Manual Section 01740 - Warranties and Guarantees.

PAGE 39

§ 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.

...

§ 12.2.6 Unless the Owner authorizes otherwise, Substantial Completion shall not commence the correction period for any equipment or systems that:

- .1 Are not fully operational (equipment or systems shall not be considered fully operational if they are intended to provide service to any portion of the building which the Owner has not accepted as substantially complete); or
- .2 Are not accepted by the Owner

§ 12.2.7 The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Failure to correct Work deficiencies and/or punch list items in a timely fashion shall be a material breach, and the Owner may terminate the Contract. Whether or not the Contract is terminated, if the Contractor fails to make corrections in a timely fashion, such Work may be corrected by the Owner, in its sole discretion, at the Contractor's expense and the Contract Sum may be adjusted by backcharge accordingly. The Contractor shall promptly notify the Construction Manager in writing when Work deficiencies and/or punch list items are completed. If upon review of the Work by the Construction Manager, after such notification by the Contractor, Work deficiencies and/or punch list items shall continue to exist, the Contractor shall reimburse the Owner for any costs incurred by the Owner, plus ten percent (10%) overhead and profit, as well as the Construction Manager's and Architect's fees for reinspections of the 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 will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The acceptance of nonconforming Work by the Owner shall be by written Change Order signed by the Owner's

authorized representative. Acceptance of nonconforming Work may only occur pursuant to such written Change Order.

PAGE 40

§ 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.~~ The Contractor shall not assign the Contract as a whole or part without written consent of the other. If either party-Owner. If Contractor attempts to make such an assignment without such consent, that party-it and its surety(ies) 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.~~ Project. The Contractor shall execute all consents reasonably required to facilitate such assignment.

...

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 courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or 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. Owner or Construction Manager as Owner's Agent, may, at their option, serve notice on the Contractor by faxing a copy of the notice to the Contractor at its last known facsimile number and subsequently mailing the notice to the Contractor's last known business address.

...

§ 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, Documents or applicable law, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses shall be at the Contractor's expense, services and expenses. The Contractor also agrees that the cost of testing services required for the convenience of the Contractor in its scheduling and performance of the Work, and the cost of testing services required for the convenience of the Contractor in its scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

PAGE 41

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, not bear interest

...

The Owner and the Contractor shall commence all claims and causes of action, 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 within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and the Contractor waive shall commence all claims and causes of action in accordance with Michigan law, regardless of time frames identified in this Agreement. The Contractor shall commence all claims and causes of action not commenced in accordance with this Section 13.7 in accordance with the Contract and in accordance with Michigan law.

§ 13.7.2 Regardless of any provisions to the contrary, the statute of limitations with respect to any defect 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 Except where otherwise expressly required by the terms of the Contract, 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 rights or remedy. Further, pursuit of such a right or remedy without prior notice to or approval or surety shall in no way compromise, limit or bar any claim by the Owner against a surety bond of the Contractor.

...

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of ~~30~~ 90 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:

...

- ~~.3 Because the Construction Manager has not certified or 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, 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. Documents subject to justifiable withholding of payment as described herein or in the Contract Documents.~~

PAGE 42

§ 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, Construction Manager 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.

§ 14.1.4 If the Work is stopped for a period of ~~60 consecutive days~~ 90 consecutive days or if repeated suspensions, delays, or interruptions by the Owner as described in Paragraph 14.3 constitute in the aggregate the lesser of an amount equal to the Contract time or One Hundred Twenty (120) days in any one (1) year period 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, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

...

- ~~.1 repeatedly~~ refuses or fails to supply enough properly skilled workers or proper materials;
- ~~.3 repeatedly~~ 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;~~
- ~~.5 is petitioned bankrupt, or makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of the Contractor's insolvency;~~
- ~~.6 breaches any warranty made by the Contractor under or pursuant to the Contract Documents;~~
- ~~.7 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's~~

- ability to complete the Work in compliance with all the requirements of the Contract Documents; or
.8 fails after commencement of the Work to proceed continuously with the construction and completion
of the Work for more than ten (10) days, except as permitted under the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Construction Manager, and upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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' seventy-two (72) hours~~ written notice, terminate employment of the Contractor and ~~may, subject to any prior rights of the surety, may;~~

...

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner in pursuing termination and completion of the Work, including actual attorney and legal fees and costs, and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the 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, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

PAGE 43

§ 14.4.1 The Owner ~~may, at any time, terminate the Contract for the Owner's convenience and without cause reserves the right to terminate the Contract, or any portion thereof, for convenience and without cause, even though the Contractor has not failed to perform any part of the Contract. Termination of the Work hereunder shall be effected by written notice to the Contractor. Upon receipt of such notice, the Contractor shall, unless the notice otherwise directs:~~

- .1 Immediately discontinue the terminated portion of the Work and the placing of all orders and subcontracts in connection with the terminated portion of the Work;
- .2 Immediately cancel all of the existing orders and subcontracts in connection with the terminated portion of the Work;
- .3 Immediately transfer to the Owner all materials, supplies, Work in progress, appliances, facilities, machinery and tools acquired by the Contractor in connection with the performance of the terminated portion of the Work, and take such action as may be necessary or as the Owner or Construction Manager may direct for protection and preservation of the Work relating to this Contract; and
- .4 Deliver all plans, drawings, specifications and other necessary information to the Owner through the Construction Manager.

§ 14.4.2 ~~Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall~~If the Owner terminates the Contract for convenience, the following shall be the Contractor's exclusive remedies:

- ~~.1 cease operations as directed by the Owner in the notice;~~
14.4.2.1 Reimbursement of all actual expenditures and costs approved by the Owner through the Construction Manager and Architect as having been made or incurred in performing the terminated Work.
- ~~.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.~~
14.4.2.2 Reimbursement of expenditures made and costs incurred with the Owner's prior written approval in settling or discharging outstanding commitments entered into by the Contractor in performing the Contract; and

14.4.2.3 Payment of profit, insofar as profit is realized hereunder, of an amount equal to the estimated profit on the entire Contract at the time of termination multiplied by the percentage of completion of the Work. In no event shall the Contractor be entitled to anticipated fees or profits on Work not required to be performed.

§ 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. All obligations of the Contractor under the Contract with respect to completed Work, including but not limited to all warranties, guarantees, indemnities, insurance and bonds shall apply to all Work completed or substantially completed by the Contractor prior to a convenience termination by the Owner. Notwithstanding the above, any convenience termination by the Owner or payments to the Contractor shall be without prejudice to any claims or legal remedies that the Owner may have against the Contractor for any cause.

§ 14.4.4 Upon a determination that a termination of this Contract, other than a termination for convenience under this Paragraph 14.4, was wrongful or improper for any reason, such termination shall automatically be deemed converted to a convenience termination under this Paragraph 14.4, and the Contractor's remedy for such wrongful termination shall be limited to the recoveries specified under Subparagraph 14.4.2.

§ 14.4.5 Contractor is required to include a termination for convenience clause in all of its Subcontractor and Supplier contracts, in substantially similar form as set forth in this Paragraph 14.4, and that limits the Subcontractors and Suppliers to exclusive remedies no greater than those set forth in Subparagraph 14.4.2 that are available to Contractor. Contractor shall bear all costs arising or related to its failure to include such clause in its Subcontracts.

...

§ 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. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract-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 Construction Manager and Architect, if the Construction Manager and/or Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated-Contractor must be made within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant-Contractor first recognizes the condition giving rise to the Claim, whichever is later-is later, provided, however, that the Contractor shall use its best efforts to furnish the Construction Manager, Architect, and the Owner, as expeditiously as possible, with notice of any Claim including, without limitation, those in connection with concealed or unknown conditions, as soon as such Claim is recognized. Contractor shall cooperate with the Construction Manager, Architect, and the Owner in any effort to mitigate the alleged or potential damages, delay or other adverse consequences arising out of the condition that is the cause of the Claim. Claims must be made by written notice. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted in a timely manner.

PAGE 44

§ 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. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3. A Project delay shall not be a basis for a Claim for additional costs. Delays may be remedied only through an extension of time per Section 15.1.5.

...

~~§ 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.~~

§ 15.2.1 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 initial ~~decision-interpretation~~. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial ~~decision-interpretation~~ shall be required as a condition precedent to ~~mediation of any Claim-litigation of any Claim brought by the Contractor against the Owner~~ 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-interpretation~~ having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not ~~decide-interpret~~ 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. Within ten (10) days or written request, the Contractor shall make available to the Owner or its representative all of its books, records, or other documents in its possession or to which it has access relating to a Claim and shall require its Subcontractors and Suppliers, regardless of tier, to do the same.

§ 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-an interpretation~~. 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-will, based on its interpretation,~~ either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial ~~decision-interpretation~~ approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial ~~decision-interpretation~~ shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect and Construction Manager, if the Architect or Construction Manager 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-subject to the parties' agreed upon dispute resolution process.~~

§ 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. Notwithstanding anything herein to the contrary, claims of the Owner shall be governed in accordance with the statute of limitations periods under Michigan Law.~~

~~§ 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-Owner, Architect or initial Decision Maker 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 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.~~

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:43:53 on 08/24/2011 under Order No. 4038040027_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A232™ – 2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

**BARTON MALOW COMPANY
CONTRACTOR
INSURANCE REQUIREMENTS**

For agency work
March 10, 2008

1. As a condition of performing work under the Agreement, Contractor will keep in force, at all times during performance of the Work, policies of insurance covering all Basic Insurance Requirements and any applicable Supplemental Insurance Requirements. The requirements identified below are minimum requirements. If the Agreement or other Contract Documents impose additional or higher standards, Contractor shall meet those as well. Where a Controlled Insurance Program ("CIP") is specified in the Contract Documents, these insurance requirements shall not apply to coverages supplied by the CIP, but shall apply to coverages which Contractor is required to carry outside the scope of the CIP.
2. **Basic Insurance Requirements**
 - 2.1. Workers' Compensation covering Contractor's statutory obligations in the State(s) in which the Work is to be performed or Federal statutory obligations, if applicable to the Project, and Employers' Liability insurance with limits of liability of \$1,000,000 EL Each Accident, EL Disease – Each Employee, and EL Disease – Policy Limit. Where applicable, a US Longshore and Harborworker's Compensation Act endorsement must be included.
 - 2.1.1. If Contractor employs the services of leased employees for the Work or for a portion of the Work, it will be required to submit evidence, to the satisfaction of Barton Malow Company, that such leased employees are fully covered by the minimum limits of Workers' Compensation and Employers' Liability Insurance. Such evidence shall include, but not be limited to, submission of the applicable leasing agreement.
 - 2.2. Automobile Liability insurance with the limit of \$1,000,000 per accident covering Contractor's owned, non-owned and hired automobiles.
 - 2.3. Commercial General Liability insurance written on the 1988 ISO OCCURRENCE policy form or subsequent versions with limits of liability as follows:

General Aggregate	\$ 2,000,000
Products-Completed Operations Aggregate	\$ 2,000,000
Personal/Advertising Injury	\$ 2,000,000
Each Occurrence	\$ 2,000,000

This coverage shall include coverage for premises-operations, independent contractors' protective, products and completed operations, personal injury and broad form property damage (including coverage for explosion, collapse, and underground hazards), and Contractual Liability protection with respect to Contractor's indemnification obligations under the Contract Documents. Products-completed operations coverage must be maintained for at least two years after final completion of the Project.
3. **Supplemental Insurance Requirements**
 - 3.1. Watercraft Protection and Indemnity Liability insurance if any of the Work is on or over navigable waterways or involves use of any vessel. Limits are to be approved by Barton Malow Company in writing.
 - 3.2. Aircraft Liability insurance if any aircraft is used in performance of the Work. Limits are to be approved by Barton Malow Company in writing.
 - 3.3. Railroad Protective Liability insurance if any of the Work is on or within 50 feet of any railroad or affects railroad property, including but not limited to tracks, bridges, tunnels, and switches. Limits are to be approved by Barton Malow Company in writing.
 - 3.4. Professional Liability insurance, if Professional Services are provided, with limits of liability as follows:

Each Claim	\$ 5,000,000
Aggregate	\$ 5,000,000

Provided, however, that if the Subcontract Price is \$10,000,000 or less, then the following limits of liability shall apply:

Each Claim	\$ 2,000,000
Aggregate	\$ 2,000,000

Contractor shall keep such Professional Liability insurance in force during the Agreement, and for three years after final completion of the Project.
 - 3.5. Pollution Liability insurance, which must be on an occurrence basis, if Environmental Services are provided. "Environmental Services" means any abatement, removal, remediation, transporting, or disposal of a Hazardous Material, or any assessments or consulting relating to same. Limits of liability for Pollution Liability insurance shall be as follows:

Each Occurrence	\$ 5,000,000
Aggregate	\$ 5,000,000
4. **General Provisions**
 - 4.1. Every policy must be written by an insurance company licensed in the state where work is being done and is reasonably acceptable to Barton Malow Company and Owner.
 - 4.2. Limits for Employer's Liability, Commercial General Liability and Automobile Liability may be attained by a combination of an underlying policy with an umbrella or excess liability policy.

- 4.3. "Barton Malow Company," Owner, and all other entities as required in the Contract Documents shall be endorsed as additional insureds on Contractor's liability insurance (including general liability, excess liability, automobile liability and pollution liability, where applicable) with respect to liability arising out of activities, "operations" or "work" performed by or on behalf of Contractor, including Barton Malow Company's general supervision of Contractor, products and completed operations of Contractor, and automobiles owned, leased, hired or borrowed by Contractor. The coverage provided by the additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, Form B CG 20 10 11 85 or CG 20 26 11 85. Forms that do not provide additional insured status for completed operations will not be accepted. In no case shall any additional insured endorsement exclude coverage for Barton Malow Company's or Owner's own negligence nor limit coverage for Barton Malow Company or Owner only to potential liability incurred solely as a result of Barton Malow Company's or Owner's acts or omissions. Furthermore, nothing in the additional insured endorsement shall limit Barton Malow Company's or Owner's products-completed operations coverage to only those liabilities arising from Contractor's "ongoing operations".
- 4.4. Contractor will furnish, before any work is started, certificates of insurance and copies of any additional insured endorsements for Contractor's liability policies showing the required coverages. Receipt by Barton Malow Company of a non-conforming certificate of insurance without objection, or Barton Malow Company's failure to collect a certificate of insurance, shall not waive or alter Contractor's duty to comply with the insurance requirements. Modifications to these insurance requirements will not be effective unless made in a writing executed by an authorized representative of Barton Malow Company. Upon written request by Barton Malow Company, Contractor will provide copies of its insurance policies.
- 4.5. Evidence of the required insurance is to be provided to Barton Malow Company on ACORD Certificate Form 25-S and must indicate:
- 4.5.1. Any coverage exclusions or deviations from the 1988 ISO commercial general liability form or subsequent versions;
- 4.5.2. A Best's rating for each insurance carrier at A minus VII or better;
- 4.5.3. That the issuing insurance company will provide thirty (30) days written notice of cancellation to the certificate holder and the words "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" do not apply or have been removed;
- 4.5.4. That additional insured endorsements have been provided as required under the Contract Documents; and
- 4.5.5. Any deductibles over \$10,000 applicable to any coverage.
- 4.6. All coverage must be primary and not excess over or contributory with any other valid, applicable, and collectible insurance or self-insurance in force for Barton Malow Company, Owner, or other additional insureds.
- 4.7. Contractor will provide full coverage for all of Contractor's equipment, property and tools used in the Work.
- 4.8. Contractor shall waive, and shall require (by endorsement or otherwise) its insurers providing the coverage required by these insurance requirements to waive, subrogation rights against Barton Malow Company, Owner, and all other additional insureds for losses and damages incurred and/or paid under the insurance policies required by these insurance requirements or other insurance applicable to Contractor or its Subordinate Parties, and will include this same requirement in contracts with its Subordinate Parties. If the policies of insurance referred to in this paragraph require an endorsement to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed.
- 4.9. Contractor will send or fax a copy of these insurance requirements to its agent when an insurance certificate is requested to assure that the policies comply with the insurance requirements.
- 4.10. If Contractor requires its Subordinate Parties to provide additional insured endorsements in favor of Contractor, those endorsements shall be extended to Barton Malow Company, Owner and all other required additional insureds.
- 4.11. Contractor's duty to provide the insurance coverage set forth in these insurance requirements is a severable obligation from Contractor's indemnification obligations under the Contract Documents. Nothing in these insurance requirements shall be deemed to limit Contractor's liability under the Agreement.
- 4.12. If these insurance requirements are used in conjunction with a Project where an Affiliated Company of Barton Malow Company is acting as Construction Manager, Design Builder or otherwise (the "Construction Entity"), the term "Barton Malow Company" as used in these insurance requirements shall be deemed to be replaced with the name of the Construction Entity, and the additional insured requirements of Section 4.3 above shall be amended to include "Barton Malow Company", and all partners and/or members of the Construction Entity as applicable. "Affiliated Company" means any entity in which Barton Malow Company has an ownership interest.

DRAFT AIA® Document A132™ - 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«New Haven Community Schools»
«30375 Clark Street
P.O. Box 482000
New Haven, MI 48048
Troy School District
4400 Livernois
Troy, MI 48098»
«Telephone Number: 248-823-4000/586-749-5123»
«Fax Number: 248-823-4013/586248-749-6307»

and the Contractor:
(Name, legal status, address and other information)

« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

«Troy School District – 2013 Bond Program
New Haven Community Schools»
« »
« »

The Construction Manager:
(Name, legal status, address and other information)

«Barton Malow Company»
«24200 F.V. Pankow Blvd.
Clinton Township, MI 48036»
« »
« »

The Architect:
(Name, legal status, address and other information)

«TMP Architecture Inc
1191 West Square Lake Road
Bloomfield Hills, MI 48302
Fanning-Howey»
«28001 Cabot

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

This document is intended to be used in conjunction with AIA Documents A232™-2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™-2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™-2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

AIA Document A232™-2009 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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Suite 110
Novi, MI 48377»
«Telephone Number: 248-338-4561 248 848 0123»
«Fax Number: 248-338-0223 248 848 0133»

The Owner and Contractor agree as follows.



TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS
10	INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

<< >>

If, prior to the commencement of the Work, the Owner requires time to file mortgages, mechanics' liens and other security interests, the Owner's time requirement shall be as follows:

<< >>

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than << >> (<< >>) days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

<< >>

Portion of the Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

<< >>

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

☒ [☒] Stipulated Sum, in accordance with Section 4.2 below

☐ [☐] Cost of the Work plus the Contractor's Fee without a Guaranteed Maximum Price, in accordance with Section 4.3 below

☐ [☐] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below

(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below. Based on the selection above, also complete either Section 5.1.4, 5.1.5 or 5.1.6 below.)

§ 4.2 Stipulated Sum

§ 4.2.1 The Stipulated Sum shall be ☐ [☐] (\$ ☐ [☐]), subject to additions and deletions as provided in the Contract Documents.

§ 4.2.2 The Stipulated Sum is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

<<
>>

§ 4.2.3 Unit prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.2.4 Allowances included in the Stipulated Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Allowance
------	-----------

§ 4.3 Cost of the Work Plus Contractor's Fee without a Guaranteed Maximum Price

§ 4.3.1 The Contract Sum is the Cost of the Work as defined in Exhibit A, Determination of the Cost of the Work, plus the Contractor's Fee.

§ 4.3.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

←→

§ 4.3.3 The method of adjustment of the Contractor's Fee for changes in the Work:

←→

§ 4.3.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

←→

§ 4.3.5 Rental rates for Contractor-owned equipment shall not exceed percent (%) of the standard rate paid at the place of the Project.

§ 4.3.6 Unit prices, if any:

(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.3.7 The Contractor shall prepare and submit to the Construction Manager for the Owner, in writing, a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the items in Section A.1 of Exhibit A, Determination of the Cost of the Work.

§ 4.4 Cost of the Work Plus Contractor's Fee with a Guaranteed Maximum Price

§ 4.4.1 The Contract Sum is the Cost of the Work as defined in Exhibit A, Determination of the Cost of the Work, plus the Contractor's Fee.

§ 4.4.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

←→

§ 4.4.3 The method of adjustment of the Contractor's Fee for changes in the Work:

←→

§ 4.4.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

←→

§ 4.4.5 Rental rates for Contractor-owned equipment shall not exceed percent (%) of the standard rate paid at the place of the Project.

§ 4.4.6 Unit Prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.4.7 Guaranteed Maximum Price

§ 4.4.7.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed (\$), subject to additions and deductions by changes in the Work as provided in the Contract Documents. Such maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

(Insert specific provisions if the Contractor is to participate in any savings.)

§ 4.4.7.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

§ 4.4.7.3 Allowances included in the Guaranteed Maximum Price, if any:
(Identify and state the amounts of any allowances, and state whether they include labor, materials, or both.)

Item	Allowance

§ 4.4.7.4 Assumptions, if any, on which the Guaranteed Maximum Price is based:

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon certification of the Project Application and Project Certificate for Payment or Application for Payment and Certificate for Payment by the Construction Manager and Architect and issuance by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

«the 15th day of each month. All rough drafts are due on or before the 10th day and Three originals, sworn statements and insurance certificates are due on or before the 15th day of each month. NO EXCEPTIONS TAKEN.

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§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the «15th» day of a month, the Owner shall make payment of the certified amount in the Application for Payment to the Contractor not later than the «5th» day of the «second» month following submission. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment shall be made by the Owner not later than «Eighty» («80») days after the Construction Manager receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- 1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of «Ten» percent

- («10 » %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Section 7.3.9 of the General Conditions;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of «Ten » percent («10 » %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions.

§ 5.1.4.4 The progress payment amount determined in accordance with Section 5.1.4.3 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to «Ninety » percent («90 » %) of the Contract Sum, less such amounts as the Construction Manager recommends and the Architect determines for incomplete Work and unsettled claims; and
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.4.5 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.4.3.1 and 5.1.4.3.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price

§ 5.1.5.1 With each Application for Payment, the Contractor shall submit the cost control information required in Exhibit A, Determination of the Cost of the Work, along with payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed (1) progress payments already received by the Contractor; less (2) that portion of those payments attributable to the Contractor's Fee; plus (3) payrolls for the period covered by the present Application for Payment.

§ 5.1.5.2 Applications for Payment shall show the Cost of the Work actually incurred by the Contractor through the end of the period covered by the Application for Payment and for which the Contractor has made or intends to make actual payment prior to the next Application for Payment.

§ 5.1.5.3 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take the Cost of the Work as described in Exhibit A, Determination of the Cost of the Work;
- .2 Add the Contractor's Fee, less retainage of « » percent (« » %). The Contractor's Fee shall be computed upon the Cost of the Work described in that Section at the rate stated in that Section; or if the Contractor's Fee is stated as a fixed sum, an amount which bears the same ratio to that fixed sum Fee as the Cost of the Work bears to a reasonable estimate of the probable Cost of the Work upon its completion;
- .3 Subtract retainage of « » percent (« » %) from that portion of the Work that the Contractor self-performs;
- .4 Subtract the aggregate of previous payments made by the Owner;
- .5 Subtract the shortfall, if any, indicated by the Contractor in the documentation required by Article 5 or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and
- .6 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or withdrawn a Certificate for Payment as provided in Section 9.5 of AIA Document A232™, 2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition.

~~§ 5.1.5.4 The Owner, Construction Manager and Contractor shall agree upon (1) a mutually acceptable procedure for review and approval of payments to Subcontractors and (2) the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.~~

~~§ 5.1.5.5 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and shall not be deemed to represent that the Construction Manager and Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Article 5 or other supporting data; that the Construction Manager and Architect have made exhaustive or continuous on-site inspections; or that the Construction Manager and Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.~~

~~§ 5.1.5.6 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.~~

~~§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price~~

~~§ 5.1.6.1 With each Application for Payment, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner or Architect to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed (1) progress payments already received by the Contractor; less (2) that portion of those payments attributable to the Contractor's Fee; plus (3) payrolls for the period covered by the present Application for Payment.~~

~~§ 5.1.6.2 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.~~

~~§ 5.1.6.3 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Contractor on account of that portion of the Work for which the Contractor has made or intends to make actual payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.~~

~~§ 5.1.6.4 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:~~

- ~~1. Take that portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values. Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.10 of AIA Document A232-2009;~~
- ~~2. Add that portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work, or if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing;~~
- ~~3. Add the Contractor's Fee, less retainage of percent (%). The Contractor's Fee shall be computed upon the Cost of the Work at the rate stated in Section 4.4.2 or, if the Contractor's Fee is stated as a fixed sum in that Section, shall be an amount that bears the same ratio to that fixed sum fee as the Cost of the Work bears to a reasonable estimate of the probable Cost of the Work upon its completion;~~
- ~~4. Subtract retainage of percent (%) from that portion of the Work that the Contractor self-performs;~~
- ~~5. Subtract the aggregate of previous payments made by the Owner;~~

- ~~.6 Subtract the shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.6.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and~~
- ~~.7 Subtract amounts, if any, for which the Construction Manager or Architect have withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A232-2009.~~

~~§ 5.1.6.5 The Owner and the Contractor shall agree upon a (1) mutually acceptable procedure for review and approval of payments to Subcontractors and (2) the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.~~

~~§ 5.1.6.6 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and shall not be deemed to represent that the Construction Manager or Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Section 5.1.6.1 or other supporting data; that the Construction Manager or Architect have made exhaustive or continuous on site inspections; or that the Construction Manager or Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.~~

~~§ 5.1.6.7 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.~~

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2 of AIA Document A232-2009, and to satisfy other requirements, if any, which extend beyond final payment;
- ~~.2 the Contractor has submitted a final accounting for the Cost of the Work, pursuant to Exhibit A, Determination of the Cost of the Work when payment is on the basis of the Cost of the Work, with or without a Guaranteed Maximum payment; and~~
- ~~.3~~ a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:

«Per Manual »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A232-2009, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A232-2009, the method of binding dispute resolution shall be as follows:

(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A232-2009.

[☒] Litigation in a court of competent jurisdiction.

[☐] Other: (Specify)

« »

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009.

~~§ 7.2 Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price~~

~~§ 7.2.1 Subject to the provisions of Section 7.2.2 below, the Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009.~~

~~§ 7.2.2 The Contract may be terminated by the Owner for cause as provided in Article 14 of AIA Document A232–2009; however, the Owner shall then only pay the Contractor an amount calculated as follows:~~

- ~~.1 Take the Cost of the Work incurred by the Contractor to the date of termination;~~
- ~~.2 Add the Contractor's Fee computed upon the Cost of the Work to the date of termination at the rate stated in Sections 4.3.2 or 4.4.2, as applicable, or, if the Contractor's Fee is stated as a fixed sum, an amount that bears the same ratio to that fixed sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion; and~~
- ~~.3 Subtract the aggregate of previous payments made by the Owner.~~

~~§ 7.2.3 If the Owner terminates the Contract for cause when the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, and as provided in Article 14 of AIA Document A232–2009, the amount, if any, to be paid to the Contractor under Section 14.2.4 of AIA Document A232–2009 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed the amount calculated in Section 7.2.2.~~

~~§ 7.2.4 The Owner shall also pay the Contractor fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Contractor that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 7.2.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Contractor shall, as a condition of receiving the payments referred to in this Article 7, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Contractor, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or purchase orders.~~

~~§ 7.2.5 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009; in such case, the Contract Sum and Contract Time shall be increased as provided in Section 14.3.2 of AIA Document A232–2009, except that the term "profit" shall be understood to mean the Contractor's Fee as described in Sections 4.3.2 and 4.4.2 of this Agreement.~~

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2009 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

« 0 » % «Zero »

§ 8.3 The Owner's representative:

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User Notes:

(1748318584)

(Name, address and other information)

«Ken Miller
1140 Rankin Dr.
Troy, MI 48083→
«30375 Clark Street
P.O. Box 482000
New Haven, MI 48048»

« »
« »
« »
« »

§ 8.4 The Contractor's representative:
(Name, address and other information)

« »
« »
« »
« »
« »
« »

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

«NONE»

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A132–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition.

§ 9.1.2 The General Conditions are, AIA Document A232–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
Refer to Attachment "A"			

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

« »

Section	Title	Date	Pages
Refer to Attachment "A"			

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

« »

Number	Title	Date
Refer to Attachment "A"		

§ 9.1.6 The Addenda, if any:

Number	Date	Pages
Refer to Attachment "A"		

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

~~§ 9.1.7 Additional documents, if any, forming part of the Contract Documents are:~~

- ~~.1 AIA Document A132™ 2009, Exhibit A, Determination of the Cost of the Work, if applicable.~~
~~.2 AIA Document E201™ 2007, Digital Data Protocol Exhibit, if completed, or the following:~~



- ~~.3 AIA Document E202™ 2008, Building Information Modeling Protocol Exhibit, if completed, or the following:~~



- .41 Other documents, if any, listed below:

(List here any additional documents which are intended to form part of the Contract Documents. AIA Document A232–2009 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

~~«Post Bid Review dated:
Attachment "A" dated: »~~

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ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A232–2009.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A232–2009.)

Type of Insurance or Bond	Limit of Liability or Bond Amount (\$0.00)
Refer to Project Manual	

This Agreement is entered into as of the day and year first written above.

OWNER (Signature)

CONTRACTOR (Signature)

« »« »

(Printed name and title)

« »« »

(Printed name and title)

SECTION 00810
ON-SITE PROJECT SAFETY AND LOSS CONTROL PROGRAM

1 SUBCONTRACTOR'S SAFETY REQUIREMENTS

1.01 Generally the Subcontractor

- 1.01.1 is responsible for its own Safety Program for Work on this Project that is at least as stringent as the requirements set forth in this section of the Project Manual.
- 1.01.2 shall provide a safe workplace and shall otherwise take all precautions for the safety of Subordinate Parties and persons and property in or near the premises where Work is being performed.
- 1.01.3 shall comply with all applicable federal, state and local laws, rules and regulations, including, but not limited to, applicable provisions of the Occupational Safety and Health Act ("OSHA") and/or the governing state law.
- 1.01.4 shall comply with all requirements stated in the Site Specific Safety Instructions (SSSI) form or elsewhere in the Contract Documents.
- 1.01.5 shall ensure that its employees understand and comply with applicable safety and health programs, rules, and regulations.
- 1.01.6 will assign an individual to act as Safety Representative who will have the responsibility of resolving safety matters, and act as a liaison among Subcontractor, CM and the Owner. The Safety Representative must be a person who is capable of identifying existing and predictable hazards in surroundings that are unsanitary, hazardous or dangerous to employees, and has the authority to take prompt corrective measures to eliminate them. The Safety Representative must meet the standards for a Competent Person under applicable law when required (scaffolding, confined spaces, etc.). The Safety Representative must be on site full time. The Safety Representative or an alternate must attend periodic safety meetings as directed by CM. The safety representative must have completed the OSHA 30 hour Construction Training Course.
- 1.01.7 shall ensure that its site supervisors and/or Safety Representative attend a pre-construction meeting where planning for safe execution of the project will be addressed.
- 1.01.8 is fully responsible for all Hazardous Materials it creates or releases in connection with, or brings to, the Project. Subcontractor shall immediately report to CM any Hazardous Materials that it discovers or which are released at the Project.
- 1.01.9 Minimum training for on-site employees shall include basic safety orientation, task-specific safety instruction, weekly Tool Box Talks, and other periodic safety meetings. Subcontractor shall document all such training.
- 1.01.10 shall self-inspect its areas of control to assure compliance with the safety requirements.
- 1.01.11 All on-site employees of either Subcontractor] or its Subordinate Parties are required to report any unsafe act or condition and any work-related injuries or illness immediately to a supervisor. If the act or condition can be safely and easily corrected, the employee or supervisor should make the correction.
- 1.01.12 shall notify CM immediately of all injuries requiring clinical attention and all property damage potentially in excess of \$1,000.
- 1.01.13 shall have emergency procedures to deal with the immediate removal and treatment, if necessary, of any employee who may be injured or become ill. Subcontractor] shall keep on the Project site a first-aid kit supplied according to current regulations, and shall have on-site a person trained to administer first aid.
- 1.01.14 shall inform CM of the arrival of any federal or state inspector or compliance officer prior to touring the site. Any reports, citations, or other documents related to the inspection shall be provided promptly to Barton Malow.

- 1.01.15 shall have a written Substance Abuse Policy. The use or possession of illegal drugs or the use of alcohol while performing Work on the Project are strictly prohibited and will lead to immediate removal from the Project.
- 1.01.16 shall be responsible for payment of all safety-related citations, fines and/or claims arising out of or relating to its Work levied against the Owner, Architect, CM, or their employees or affiliates.
- 1.01.17 CM has the right to require that Subcontractor H submit monthly its hours worked and incident rates for the Project.
- 1.02 Additional CM Requirements
 - 1.02.1 Work crews shall conduct a Job Hazard Analysis (JHA,) discussion (i.e. Huddle) to plan for safe performance before beginning any work task. Subcontractor is required to prepare a written record of each JHA.
 - 1.02.2 All workers, management, and visitors shall wear approved hard hats while on site, outside the trailers. Cowboy-style hard hats are prohibited. Hardhats must not be removed to use welding shields. Welding shields must attach to hardhats or be hand held.
 - 1.02.3 Sleeved shirts (minimum of four inches), long pants, and durable work boots are required minimum clothing.
 - 1.02.4 Personal cell phones are not to be used on construction sites except to report an emergency or on approved break time. Use of business cell phones must not interfere with jobsite safety.
 - 1.02.5 Personal radios or music players are not permitted.
 - 1.02.6 All persons working at elevations of six feet or greater must have 100% continuous fall protection. Engineering controls are preferred, but personal fall arrest systems are also permissible. An exception is permitted for safe use of ladders up to 24 feet long.
 - 1.02.7 Subcontractor is responsible to repair or restore any barricade that it modifies or removes.
 - 1.02.8 Class II III (household) stepladders are prohibited; metal ladders are strongly discouraged.
 - 1.02.9 All scaffolds must be inspected daily and before each use for safety compliance. Scaffold inspection tags must be used. Scaffolds shall never be left in an unsafe condition and must be removed/disabled immediately if not to be used again.
 - 1.02.10 All persons operating cranes must be certified as crane operators by the National Commission on the Certification of Crane Operators (NCCCO), Crane Institute Certification (CIC) or Operating Engineers Certification Program (OCEP). Daily written crane inspection reports must be prepared by the operator and kept with the crane, available for inspection.
 - 1.02.11 Riding the headache ball is prohibited.
 - 1.02.12 All dozers, loaders, tractors and end loader backhoes must have functioning backup alarms.
 - 1.02.13 Keep equipment at least 15 feet from energized power lines.
 - 1.02.14 Electrical, pneumatic, and other energy systems that could be accidentally energized or started up while work is in process must be locked out (not merely tagged out).
 - 1.02.15 Only fire retardant materials may be used to build shanties or other temporary enclosures inside of buildings finished or under construction. Shanties shall be continually policed by their occupants to prevent the accumulation of waste or other combustibles.
 - 1.02.16 Engineering controls must be used to restrain silica dust per applicable law. Dry cutting without engineering controls is prohibited.
 - 1.02.17 The Contractor is required to design and implement a Stretch and Flex program for their employees. The purpose of the program is to gently condition the muscles and tendons for the workers before they engage in their duties in order to avoid injury. All contractors of any tier shall ensure that all employees participate in stretching exercises at the beginning of the work

day. It is recommended that you consult with your insurance carrier, licensed physician or other medical personnel to develop suitable stretches for your work crew.

- 1.02.18 The Contractor is required to implement a glove program. All workers performing construction work must wear appropriate protective work gloves. When not performing work gloves must be kept available for immediate use. Cut resistant work gloves are required for any operation with sharp material or cut potential.

2 Subcontractor's SAFETY SUBMITTALS

- 2.01 Subcontractors shall provide copies of the following written safety submittals to CM at the times indicated:

Submittal	Timing
Contractor Safety Certificate, Barton Malow form SAF 6.3.3.3	Before on-site work begins
Site-specific Safety Program, including substance abuse policy, hazard communication program, and Material Safety Data Sheets (MSDS)	Before on-site work begins
Tool Box Talk Reports	Weekly
Incident Reports (OSHA form 301 or equivalent)	Within 24 hours of incident
Hours worked and incident rates	Monthly
Stretch and Flex program	Before on-site work begins

- 2.02 Barton Malow's receipt of the Safety Program or other submittals from Subcontractor does not constitute approval of the Program or submittal or permission to deviate from the requirements of the Contract Documents and applicable law.
- 2.03 Subcontractor will allow inspection of, and CM may request copies of, any and all safety-related documents and records in its possession relating to the Project.

3 CM RIGHTS

- 3.01 **Safety Hazard Notifications** may be issued to the Subcontractor when an unsafe act or condition is reported or observed. CM shall not be required to supervise the abatement or associated reprimand of unsafe acts or conditions within a Subcontractor's scope of work as this is solely the responsibility of Subcontractor. Nevertheless, CM has the right, but not the obligation, to require Subcontractor to cease or abate any unsafe practice or activity it notices, at Subcontractor's sole expense.
- 3.02 Contractor/Subcontractor's failure to comply with the contract safety requirements will be considered a default of the Agreement, and may result in remedial action including, but not limited to, withholding of payment of any sums due or termination.
- 3.03 CM's failure to require the submission of any form, documentation, or any other act required under this Section, 00810, of the Project Manual shall not relieve the Subcontractor from any of its safety obligations.
- 3.04 Nothing in this Section or in this Agreement makes CM responsible or liable for protecting Subcontractor's employees and other Subordinate Parties or assuring or providing for their safety or preventing accidents or property damage.
- 3.05 All requirements referenced in this Section 00810 are binding on Subcontractor and all of its Subordinate Parties, even where such requirements may exceed the standards of applicable law.

END OF SECTION 00810

SECTION 00840
HAZARDOUS MATERIALS

1. DEFINITION OF HAZARDOUS MATERIALS

- 1.1. A “Hazardous Material”, as used in this Project Manual means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.

2. AWARENESS OF HAZARDOUS MATERIALS

- 2.1. Each Contractor shall be constantly aware of the possible discovery of Hazardous Materials. Should Contractor encounter any Hazardous Material or suspected Hazardous Material, the Contractor shall immediately stop Work in the area affected and report the condition to CM.
- 2.2. If the Contractor encounters any Hazardous Material or suspected Hazardous Material, the Contractor agrees to immediately initiate the required procedures of the Environmental Protection Agency (EPA), and/or state or local agencies having jurisdiction to protect any and all persons exposed to the affected areas or adjacent areas affected thereby
- 2.3. Contractor is fully responsible for all Hazardous Materials it creates or releases in connection with, or brings to, the Project
- 2.4. Each Contractor shall be responsible to bind ALL of its personnel and its Subordinate Parties to the provisions in the contract documents related to hazardous materials and to instruct each employee of its own duty to report any and all suspected Hazardous Materials and to comply with all applicable laws.
- 2.5. ABSOLUTELY NO MATERIAL SHALL BE BROUGHT ON OR TO THE PROJECT SITE THAT DOES NOT HAVE A MANUFACTURER'S LABEL STATING CONTENTS.
- 2.6. The Contractor shall comply with all applicable federal and state laws, rules, ordinances and regulations regarding transportation, storage, spills, releases and disposal of Hazardous Materials.
- 2.7. No asbestos or asbestos-containing material will be brought to the jobsite or incorporated into the Work by Contractor or its Subordinate Parties.

END OF SECTION 00840

SECTION 00870 LABOR RELATIONS

1. PREVAILING WAGES

- 1.1. In any Agreement entered into pursuant to this advertisement, the Contractor shall comply with the provisions of the PREVAILING WAGE LAW.
 - 1.1.1. The Contractor will pay the latest prevailing wages and fringe benefits for all Work as required by State of Michigan/Public Act 166 dated 1965 as amended. The prevailing wage and fringe benefit rates are included immediately behind this Section
- 1.2. Additionally, **Contractor** is required to comply with all other provisions of the governing prevailing wage law, and shall ensure its Subordinate Parties' compliance therewith.
- 1.3. Allegations that individuals working on this Project are not receiving compensation required by law are considered seriously by the Owner and CM. In order to expedite the resolution of prevailing wage complaints related to this Project, the Owner and CM have determined that the Michigan Fair Contracting Center ("MFCC") is the organization best equipped to expedite the investigation of these matters. Any person or entity (the "Complainant") who reasonably believes that a particular contractor, subcontractor, supplier or other person or entity providing labor, materials, goods or services on this Project (each, an "Employer") is not paying prevailing wages as required by applicable law may ask the MFCC to determine whether proper rates are being paid either by completing and submitting to MFCC a request for assistance (the "RFA") or by contacting MFCC by telephone at (734) 462-2330 or (877) 611-6322. The RFA can be downloaded electronically at <http://mifcc.org/Brochures/KnowYourRights.pdf> and delivered to MFCC by facsimile to (734) 462-2318 or by mail to P.O. Box 530492, Livonia, Michigan 48153-0492.
- 1.4. Each and every Employer who is subject to an audit by MFCC pursuant to any RFA shall cooperate and comply fully with all requests, requirements and inquiries of MFCC. If, after investigation, MFCC determines that a Complainant's allegations are meritorious and the Complainant, MFCC and the Employer are unable to resolve the dispute following MFCC's determination, then, under the direction and with the assistance of MFCC, the Complainant shall file a Prevailing Wage Complaint (the "PWC") with the State of Michigan Department of Labor and Economic Growth Wage and Hour Division (the "Wage and Hour Division"). The PWC can be downloaded electronically at <http://mifcc.org/Brochures/PrevailingWageComplaint.pdf> and delivered by facsimile to (517) 322-6352 or by mail to 7150 Harris Drive, P.O. Box 30476, Lansing, Michigan 48909-7076.
 - 1.4.1. Upon commencement of the audit from MFCC, the Owner and/or CM reserves the right to hold all payments, pending the conclusion of the audit. If the Wage and Hour Division determines that the Employer has violated any applicable prevailing wage law, then the Owner and/or Construction Manager shall automatically be entitled to and will (a) withhold from such Employer any and all payments due and owing until the Employer remedies any and all violations cited by the Wage and Hour Division, and (b) backcharge the Employer for all costs actually incurred in MFCC's audit of the Employer.
 - 1.4.2. The Owner and/or CM shall keep a hard copy of these requirements posted at the Project site at all times.
- 1.5. The Contractor shall be financially responsible for the payment of prevailing wages by all Subordinate Parties that are subject to the prevailing wage law for Work on the Project.
- 1.6. If there is a dispute between any Contractor and the unions, the Contractor will be required to meet with CM and the Union involved to try and resolve the issue.
- 1.7. Because Work on this Project is covered by the Michigan Prevailing Wage Act ("Act"), the Contractor and its subcontractors and other Subordinate Parties that are governed by the prevailing wage law shall pay all hours at the prevailing wage rates at the applicable hourly rate; no Work performed by or on behalf of the Contractor on this Project will be paid on a lump sum basis or a piece rate basis in violation of the Act.

- 1.8. The Contractor will pay its workers at wage and fringe benefit rates consistent with the Act regardless of whether the workers are classified as employees or independent contractors.
- 1.9. The Contractor shall not misclassify any work assignments, but shall in each and every case follow proper jurisdictional assignments in compliance with the Act.
- 1.10. The Contractor shall assure that any persons paid at apprentice rates under the Act are properly classified as apprentices by actual participation in a BAT certified program or as may otherwise be permitted by the Act.

END OF SECTION 00870



RICK. SNYDER
GOVERNOR



STATE OF MICHIGAN

Prevailing Wages
PO Box 30476
Lansing, MI 48909
517-322-1825

Informational Sheet: Prevailing Wages on State Projects

REQUIREMENTS OF THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965

The State of Michigan determines prevailing rates pursuant to the Prevailing Wages on State Projects Act, Public Act 166 of 1965, as amended. The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects for which the state or a school district is the contracting agent and which is financed or financially supported by the state. By law, prevailing rates are compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. The official prevailing rate schedule provides an hourly rate which includes *wage and fringe benefit totals* for designated construction mechanic classifications. The overtime rates also include *wage and fringe benefit totals*. Please pay special attention to the overtime and premium pay requirements. Prevailing wage is satisfied when wages plus fringe benefits paid to a worker are equal to or greater than the required rate.

State of Michigan responsibilities under the law:

- The department establishes the prevailing rate for each classification of construction mechanic ***requested by a contracting agent*** prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, ***must*** be obtained ***prior*** to contracts being let out for bid on a state project.
- The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection including certified payroll, as used in the industry, with said contract. This record shall be available for reasonable inspection by the contracting agent or the department.
- Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor.
- A construction mechanic ***shall only*** be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.



RICK. SNYDER
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Informational Sheet: Prevailing Wages on State Projects

General Information Regarding Fringe Benefits

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week).

The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X \$14.00 per hour = \$560/2080 =	\$0.27
Dental insurance	\$31.07 monthly premium X 12 mos. = \$372.84 /2080 =	\$0.18
Vision insurance	\$5.38 monthly premium X 12 mos. = \$64.56/2080 =	\$0.03
Health insurance	\$230.00 monthly premium X 12 mos. = \$2,760.00/2080 =	\$1.33
Life insurance	\$27.04 monthly premium X 12 mos. = \$324.48/2080 =	\$0.16
Tuition	\$500.00 annual cost/2080 =	\$0.24
Bonus	4 quarterly bonus/year x \$250 = \$1000.00/2080 =	\$0.48
401k Employer Contribution	\$2000.00 total annual contribution/2080 =	\$0.96
Total Hourly Credit		\$3.65

Other examples of the types of fringe benefits allowed:

- ③ Sick pay
- ③ Holiday pay
- ③ Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- Legally required payments, such as:
 - ③ Unemployment Insurance payments
 - ③ Workers' Compensation Insurance payments
 - ③ FICA (Social Security contributions, Medicare contributions)
- Reimbursable expenses, such as:
 - ③ Clothing allowance or reimbursement
 - ③ Uniform allowance or reimbursement
 - ③ Gas allowance or reimbursement
 - ③ Travel time or payment
 - ③ Meals or lodging allowance or reimbursement
 - ③ Per diem allowance or payment
- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
 - ③ Industry advancement funds
 - ③ Financial or material loans



STATE OF MICHIGAN
2014 MICHIGAN PREVAILING WAGE RATE SCHEDULE
For Parking Lot, Road, Highway, Bridge & Airport Construction

OPERATING ENGINEERS CLASSIFICATION DESCRIPTIONS

Class I	Asphalt Paver (self-propelled) Asphalt Planer (self-propelled) Asphalt Plant Operator Auto-Grader Blade Grader Operator Batch Plant (concrete-central mix) Backhoe (with over 3/8 yard bucket) Bulldozer Operator Concrete Pump 3" and over Conveyor Loader Operator (euclid type) Crane Operator Dragline Operator Elevating Grader Operator End-loader Operator (1 yard capacity or over) Slip Form Paver Finishing Machine Operator (asphalt) Gradall Operator (and similar type machines) Hoisting Engineer Hydro demolisher (water blaster) Locomotive Operator Mechanic	Paver Operator (5 bags or more) Pump Operator (6" discharge or over, gas, diesel powered, or generator of 300 amp or larger) Pile Driving Operator Roto Mill Roller Operator (Asphalt) Side Boom Tractor (type D-4, equivalent or larger) Self-Propelled or Tractor Drawn Scraper Slurry Machine (asphalt) Swinging Boom Truck (over 12 ton capacity) Shouldering or Gravel Distributing Machine Operator (self-propelled) Shovel Operator Side Boom Tractor (type D-4 or equivalent or larger) Tractor Operator Trenching Machine Operator Tube Finisher (slip form paving) Farm type tractor with attached pan
Class II	Sweeper (wayne type & similar equipment) Screening Plant Operator Washing Plant Operator Crusher Operator Vacuum Truck Operator	Backhoe (with 3/8 yard bucket or less) Side Boom Tractor (smaller than D-4 type or equivalent) Batch Plant (concrete-dry mix)
Class II	Grease Truck	
Class III	Air Compressor Operator (600 cfm or more) Air Compressor (2 or more, less than 600 cfm) Concrete Breaker Tractor Operator (farm type with attachments) Wagon Drill Operator	
Class IV	Boiler Fireman Oiler End-loader Operator (under 1 yard capacity) Roller Operator (other than asphalt) Curing Equipment Operator (self-propelled) Concrete Saw Operator (Over 40 HP) Power Bin Operator Plant Drier Operator (asphalt) Vibratory Compaction Equipment (6' wide or over) Guard Post Driver Operator All Mulching Equipment Boom or Winch Hoist Truck Operator End Dumps	Stump Remover Skid Steer Fireman Mechanic's Helper Trencher (service) Flexplane Operator Cleftplane Operator Grader Operator Self-propelled Fine-Grade or Form (concrete) Finishing Machine Operator (concrete) Concrete Pump (under 3") Farm Type Tractor Operator Mesh Installer (self-propelled)



STATE OF MICHIGAN
2014 MICHIGAN PREVAILING WAGE RATE SCHEDULE
For Parking Lot, Road, Highway, Bridge & Airport Construction

LABORERS CLASSIFICATION DESCRIPTIONS

- Class 1** Asphalt Shoveler or Loader, Asphalt Raker Tender, Asphalt Plant Misc., Railroad Track and Trestle Laborer, Burlap Man, Carpenter's Tender, Top Man, Yard Man, Guard Rail Builder's Tender, Earth Retention Barrier and Wall and Mechanically Stabilized Earthen Wall Installers Tender, Highway and Median Barrier Installer's Tender (including Sound, Retaining and Crash Barrier), Fence Erector's Tender, Dumper (wagon, truck, etc.) Joint Filling Labor, Misc., Unskilled Labor, Sprinkler Labor, Form Setting Labor, Form Stripper, Pavement Reinforcing, Handling and Placing (e.g. wire mesh, steel mats, dowel bars, etc.) Mason's or Bricklayer's Tender on Manholes, Manhole Builder, Headwalls, etc., Waterproofing (other than buildings), Seal Coating and Slurry Mix, Shoring, Underpinning, Bridge Painting, etc. (spray, roller and brush) Sandblasting, Pressure Grouting, and Bridge Pin and Hanger Removal, Material Recycling Laborer, Horizontal Paver (brick, concrete, clay, stone and asphalt) Ground Stabilization and Modification Laborer, Grouting, Waterblasting, Sign Installer and remote control operated equipment.
- Class 2** Mix Operator (less than 5 sacks), Air or Electric Tool Operator (jack hammer, etc.), Spreader, Boxman (asphalt, stone, gravel, etc.), Concrete Paddler, Power Chain Saw Operator, Paving Batch Truck Dumper, Tunnel Mucker (highway work only), Concrete Saw Operator (under 40 H.P.), Dry Pack Machine and Roto-Mill Grounds Person.
- Class 3** Tunnel Miner (highway work only), Finishers Tender, Guard Rail Builder, Highway and Median Barrier Installer, Fence Erector, Bottom Man, Powder Man, Wagon Drill and Air Track Operators, Curb and Side Rail Setters' Tender, Diamond & Core Drills, Earth Retention Barriers, Walls and Mechanically Stabilized Earthen Wall Installer (including sound, retaining and crash barrier), grade checker and certified welder.
- Class 4** Asphalt Raker
- Class 5** Pipe Layers, Oxy-gun
- Class 6** Line-Form Setter for Curb or Pavement and asphalt screed checker/screw man on asphalt paving machines.
- Class 7** Concrete Specialist, finishing and troweling, of cast in place or precast concrete by any and all methods.



STATE OF MICHIGAN
2014 MICHIGAN PREVAILING WAGE RATE SCHEDULE
For Parking Lot, Road, Highway, Bridge & Airport Construction

OVERTIME PROVISIONS FOR Road Builder PREVAILING WAGE RATE SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		4	8	9
9 th Hour	1	5		
10 th Hour	2	6		
Over 10 hours	3	7		

Overtime for Monday thru Friday after 8 hours:

the 1st character is for time worked in the 9th hour (8.1 - 9 hours)

the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)

the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:

the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)

the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)

the 6th character is for time worked in the 10th hour (9.1 - 10 hours)

the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sunday & Holidays

the 8th character is for time worked on Sunday or on a holiday

4 Ten hour days @ Straight Time

The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked between Monday and Friday without paying overtime after 8 hours worked. **To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.**

2. Overtime Indicators Used in the Overtime Provision:

H -means TIME AND ONE-HALF due

D -means DOUBLE PAY due

X means TIME AND ONE HALF due after 40 hours worked

Y means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

N -means NO optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

3. EXAMPLES:

HHHHHHDDY - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (characters 1 - 3) and for all hours worked on Saturday, (characters 4 - 6), except hours worked after 10 hours on Saturday (7th character). Work done after 10 hours must be paid at the double time rate. Work done on Sunday or holidays must be paid double time (character 8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek at regular pay.

HHHHHHHHY means that the 1½ rate must be used for time worked after 8 hours worked Monday thru Friday (characters 1-3); and for any hours worked on Saturdays, Sundays or holidays (characters 4-8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek at regular pay.

XXHXXXHDY this example allows 4 ten hour days Monday thru Saturday to be worked. Hours worked beyond ten Monday thru Saturday OR hours worked after 40 hours in one week must be paid at time and one half. Sunday or holiday hours must be paid at double.



RICK. SNYDER
GOVERNOR



STATE OF MICHIGAN

Prevailing Wages

PO Box 30476

Lansing, MI 48909

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REQUIREMENTS OF THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965

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State of Michigan responsibilities under the law:

- The department establishes the prevailing rate for each classification of construction mechanic ***requested by a contracting agent*** prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, ***must*** be obtained ***prior*** to contracts being let out for bid on a state project.
- The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection including certified payroll, as used in the industry, with said contract. This record shall be available for reasonable inspection by the contracting agent or the department.
- Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor.
- A construction mechanic ***shall only*** be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.



RICK. SNYDER
GOVERNOR



STATE OF MICHIGAN

Prevailing Wages

PO Box 30476

Lansing, MI 48909

517-322-1825

Informational Sheet: Prevailing Wages on State Projects

General Information Regarding Fringe Benefits

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week).

The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X \$14.00 per hour = \$560/2080 =	\$0.27
Dental insurance	\$31.07 monthly premium X 12 mos. = \$372.84 /2080 =	\$0.18
Vision insurance	\$5.38 monthly premium X 12 mos. = \$64.56/2080 =	\$0.03
Health insurance	\$230.00 monthly premium X 12 mos. = \$2,760.00/2080 =	\$1.33
Life insurance	\$27.04 monthly premium X 12 mos. = \$324.48/2080 =	\$0.16
Tuition	\$500.00 annual cost/2080 =	\$0.24
Bonus	4 quarterly bonus/year x \$250 = \$1000.00/2080 =	\$0.48
401k Employer Contribution	\$2000.00 total annual contribution/2080 =	\$0.96
Total Hourly Credit		<u>\$3.65</u>

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- Legally required payments, such as:
 - Unemployment Insurance payments
 - Workers' Compensation Insurance payments
 - FICA (Social Security contributions, Medicare contributions)
- Reimbursable expenses, such as:
 - Clothing allowance or reimbursement
 - Uniform allowance or reimbursement
 - Gas allowance or reimbursement
 - Travel time or payment
 - Meals or lodging allowance or reimbursement
 - Per diem allowance or payment
- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
 - Industry advancement funds
 - Financial or material loans



State of Michigan
DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
MARTHA B. YODER
DIRECTOR

OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		4	8	9
9th Hour	1	5		
10th Hour	2	6		
Over 10 hours	3	7		

Overtime for Monday thru Friday after 8 hours:

the 1st character is for time worked in the 9th hour (8.1 - 9 hours)

the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)

the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:

the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)

the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)

the 6th character is for time worked in the 10th hour (9.1 - 10 hours)

the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sundays & Holidays

The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days

The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked ***between Monday and Friday without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.***

2. Overtime Indicators Used in the Overtime Provision:

H - means TIME AND ONE-HALF due

X - means TIME AND ONE-HALF due after 40 HOURS worked

D - means DOUBLE PAY due

Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

N - means NO an optional 4-day 10-hour per day workweek *can not* be worked without paying overtime after 8 hours worked

3. EXAMPLES:

HHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (*characters 1 - 3*); for all hours worked on Saturday, 1½ rate is due (*characters 4 - 7*). Work done on Sundays or holidays must be paid double time (*character 8*). The N (*character 9*) indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

XXXHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday (*characters 1-3*); for hours worked on Saturday, 1½ rate is due (*characters 4 – 7*). Work done on Sundays or holidays must be paid double time (*character 8*). The Y (*character 9*) indicates that 4 ten-hour days is an acceptable alternative workweek.

LARA is an equal opportunity employer.

Auxiliary aids, services and other reasonable accommodations are available upon request to individuals with disabilities.

Wage & Hour Division

7150 HARRIS DRIVE • P.O. BOX 30476 • LANSING, MICHIGAN 48909

www.michigan.gov/wagehour • Phone : (517) 322-1825

ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS

CLASS I

Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

CLASS II

Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller), Vac Truck.

CLASS III

Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

CLASS IV

Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

HAZARDOUS WASTE ABATEMENT ENGINEERS

CLASS I

Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

CLASS II

Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.

State of Michigan

WHPWRequest@michigan.gov

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

Oakland County

Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 1 of 30

<u>Classification</u>		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision				
Name	Description									
=====										
Asbestos & Lead Abatement Laborer										
Asbestos & Lead Abatement Laborer	MLDC	8/14/2013	\$39.75	\$53.04	\$66.32	H H H X X X X D Y				
4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days										
Asbestos & Lead Abatement, Hazardous Material Handler										
Asbestos and Lead Abatement, Hazardous Material Handler	AS207	9/16/2013	\$39.75	\$53.08	\$66.40	H H H X X X X D Y				
4 ten hour days @ straight time allowed Monday-Saturday,										
Boilermaker										
Boilermaker	BO169	8/14/2009	\$54.70	\$81.08	\$107.45	H H H H H H H D Y				
Apprentice Rates:										
1st 6 months			\$40.31	\$59.49	\$78.67					
2nd 6 months			\$41.45	\$61.21	\$80.95					
3rd 6 months			\$42.57	\$62.88	\$83.19					
4th 6 months			\$43.69	\$64.57	\$85.43					
5th 6 months			\$44.81	\$66.24	\$87.67					
6th 6 months			\$49.53	\$73.40	\$97.26					
7th 6 months			\$49.32	\$73.01	\$96.69					
8th 6 months			\$51.58	\$76.40	\$101.21					

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 2 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				

Bricklayer

Bricklayer, stone mason, pointer, cleaner, caulker	BR1	9/3/2013	\$51.93	\$77.90	\$103.86	H H D H D D D D N
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Between October 1 and April 30, if lost time occurs due to inclement weather, Saturday may be worked as a make-up day @ straight time until forty hours are worked.

Apprentice Rates:

First 6 months	\$31.54	\$47.32	\$63.08
2nd 6 months	\$33.39	\$50.10	\$66.78
3rd 6 months	\$35.24	\$52.87	\$70.48
4th 6 months	\$37.09	\$55.64	\$74.18
5th 6 months	\$38.94	\$58.42	\$77.88
6th 6 months	\$40.79	\$61.20	\$81.58
7th 6 months	\$42.64	\$63.97	\$85.28
8th 6 months	\$44.49	\$66.74	\$88.98

Carpenter

Diver	CA 687 D	10/9/2013	\$63.30	\$91.30	\$119.29	X X H X X H H D Y
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Four 10s allowed M-Sat; double time due when over 12 hours worked per day

Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)	CA1045	11/6/2013	\$48.14	\$68.71	\$89.27	X X H X X X X D Y
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Apprentice Rates:

1st 6 months	\$23.56	\$31.84	\$40.11
2nd 6 months	\$27.57	\$37.85	\$48.13
3rd 6 months	\$29.64	\$40.96	\$52.27
4th 6 months	\$31.69	\$44.03	\$56.37
5th 6 months	\$33.75	\$47.12	\$60.49
6th 6 months	\$35.80	\$50.20	\$64.59
7th 6 months	\$37.86	\$53.28	\$68.71
8th 6 months	\$39.91	\$56.36	\$72.81

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 3 of 30

Classification		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description					
=====						
Carpenter-four 10s allowed Mon-Sat; double time due when over 12 hours worked per day	CA687Z1	10/1/2013	\$53.89	\$77.19	\$100.49	X X H X X H H D Y

Apprentice Rates:

1st year	\$32.92	\$45.74	\$58.55
3rd 6 months	\$35.26	\$49.25	\$63.23
4th 6 months	\$37.58	\$52.73	\$67.87
5th 6 months	\$39.92	\$56.23	\$72.55
6th 6 months	\$42.24	\$59.72	\$77.19
7th 6 months	\$44.57	\$63.22	\$81.85
8th 6 months	\$46.91	\$66.72	\$86.53

Piledriver	CA687Z1P	10/1/2013	\$53.89	\$77.19	\$100.49	X X H X X H H D Y
Four 10s allowed Monday-Saturday; double time due when over 12 hours worked per day						

Apprentice Rates:

1st 6 months	\$32.92	\$45.74	\$58.55
2nd 6 months	\$37.58	\$52.73	\$67.87
3rd 6 months	\$42.24	\$59.72	\$77.19
4th 6 months	\$46.91	\$66.72	\$86.53

Subdivision of county

Cement Mason

Cement Mason	br1cm	9/3/2013	\$49.30	\$70.06	\$90.81	X X H H H H D N
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Apprentice Rates:

1st 6 months	\$28.71	\$38.90	\$49.09
2nd 6 months	\$30.74	\$41.93	\$53.12
3rd 6 months	\$34.79	\$47.99	\$61.19
4th 6 months	\$38.85	\$54.05	\$69.23
5th 6 months	\$40.88	\$57.07	\$73.25
6th 6 months	\$44.93	\$63.11	\$81.30

Cement Mason	CE514	11/10/2011	\$46.30	\$64.89	\$83.48	H H D H H H D N
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Apprentice Rates:

1st 6 months	\$26.77	\$36.07	\$45.36
2nd 6 months	\$28.68	\$38.91	\$49.13
3rd 6 months	\$32.50	\$44.59	\$56.66
4th 6 months	\$36.32	\$50.26	\$64.19
5th 6 months	\$38.24	\$53.11	\$67.98
6th 6 months	\$42.06	\$58.79	\$75.51

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 4 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				
=====					
Drywall					
Drywall Taper	PT-22-D		\$43.16	\$56.14	\$69.11 H H D H D D D Y
Four 10s allowed Monday-Thursday		7/3/2012			
Apprentice Rates:					
First 3 months			\$30.19	\$36.68	\$43.17
Second 3 months			\$32.78	\$40.57	\$48.35
Second 6 months			\$35.37	\$44.45	\$53.53
Third 6 months			\$37.97	\$48.35	\$58.73
4th 6 months			\$39.27	\$50.30	\$61.33
Electrician					
Road Way Electrical Work	EC-17		\$50.53	\$73.30	\$96.06 H H H H H H D Y
Double time due after 16 hours on any calendar day and all hours Sunday.		8/6/2013			
Apprentice Rates:					
1st 6 months			\$32.32	\$45.98	\$59.64
2nd 6 months			\$34.59	\$49.39	\$64.18
3rd 6 months			\$36.88	\$52.82	\$68.76
4th 6 months			\$39.15	\$56.23	\$73.30
5th 6 months			\$41.43	\$59.65	\$77.86
6th 6 months			\$45.97	\$66.46	\$86.94
Inside Wireman	EC-58-IW		\$57.73	\$75.80	\$93.86 H H H H H H D N
		6/26/2013			
Apprentice Rates:					
0-1000 hours			\$36.05	\$43.27	\$50.50
1000-2000 hours			\$37.86	\$45.99	\$54.12
2000-3500 hours			\$39.67	\$48.71	\$57.74
3500-5000 hours			\$41.47	\$51.41	\$61.34
5000-6500 hours			\$45.08	\$56.82	\$68.56
6500-8000 hours			\$48.70	\$62.25	\$75.80
Sound and Communication Installer/Technician	EC-58-SC		\$36.12	\$48.25	\$60.37 H H H H H H D Y
4 consecutive 10s allowed M-TH		9/16/2013			
Apprentice Rates:					
Period 1			\$23.99	\$30.06	\$36.11
Period 2			\$25.21	\$31.88	\$38.55
Period 3			\$26.41	\$33.68	\$40.95
Period 4			\$27.63	\$35.51	\$43.39
Period 5			\$28.84	\$37.33	\$45.81
Period 6			\$30.06	\$39.16	\$48.25

Official Request #: 498

Requestor: Troy School District

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Project Number: Series 1, #3

County: Oakland

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Official 2014 Prevailing Wage Rates for State Funded Projects

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Page 5 of 30

Classification		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description					

Lineman/Technician outside utility and commercial power and high voltage pipe type cable work and electrical underground.	EC-876	11/18/2009	\$47.05	\$68.11	\$89.17	H H H H H H H D Y
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Four 10s allowed Monday-Thursday with Friday makeup or Tuesday-Friday with Monday makeup.

Apprentice Rates:

1st period	\$30.20	\$42.69	\$55.26
2nd period	\$32.32	\$46.02	\$59.70
3rd period	\$34.42	\$49.16	\$63.90
4th period	\$36.53	\$52.33	\$68.12
5th period	\$38.63	\$55.47	\$72.32
6th period	\$40.74	\$58.64	\$76.54
7th period	\$42.84	\$61.79	\$80.74

Subdivision of county Holly Township only

Elevator Constructor

Elevator Constructor	EL 36	8/7/2007	\$56.46	\$94.99	D D D D D D D D Y
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Apprentice Rates:

1st Year Apprentice	\$37.74	\$58.93
2nd Year Apprentice	\$41.90	\$66.94
3rd Year Apprentice	\$43.98	\$70.95
4th Year Apprentice	\$48.14	\$78.96

Glazier

Glazier	GL-357	7/3/2012	\$46.21	\$64.51	\$82.80	H H H H H H H D Y
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If a four 10 hour day workweek is scheduled, four 10s must be consecutive, M-F.

Apprentice Rates:

1st 6 months	\$31.63	\$42.64	\$53.64
2nd 6 months	\$33.09	\$44.83	\$56.56
3rd 6 months	\$36.00	\$49.19	\$62.38
4th 6 months	\$37.46	\$51.39	\$65.30
5th 6 months	\$38.92	\$53.57	\$68.22
6th 6 months	\$40.38	\$55.77	\$71.14
7th 6 months	\$41.84	\$57.95	\$74.06
8th 6 months	\$44.75	\$62.32	\$79.88

Official Request #: 498

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Contract must be awarded by: 7/1/2014

Page 6 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				

Heat and Frost Insulator

Spray Insulation	AS25S	3/5/2007	\$20.14	\$29.14	H H H H H H H N
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Heat and Frost Insulator and Asbestos Worker

Heat and Frost Insulators and Asbestos Workers	AS25	1/29/2014	\$60.25	\$76.00	\$91.74 H H H H H H D Y
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Four 10s must be worked for a minimum of 2 weeks consecutively, Monday thru Thursday. All hours worked in excess of 10 will be paid at double time. All hours worked on the fifth day, Monday thru Friday will be paid at time and one-half.

Apprentice Rates:

1st Year	\$46.08	\$54.74	\$63.40
2nd Year	\$49.23	\$59.46	\$69.70
3rd Year	\$50.80	\$61.82	\$72.84
4th Year	\$53.95	\$66.54	\$79.14

Ironworker

Fence, Sound Barrier & Guardrail erection/installation and Exterior Signage work	IR-25-F1	4/2/2013	\$33.15	\$45.15	\$57.15 X X H X X X H D Y
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Four ten hour work days may be worked during Monday-Saturday.

Apprentice Rates:

60% Level	\$22.75	\$29.95	\$37.15
65% Level	\$24.05	\$31.85	\$39.65
70% Level	\$25.36	\$33.76	\$42.16
75% Level	\$26.65	\$35.65	\$44.65
80% Level	\$27.95	\$37.55	\$47.15
85% Level	\$29.25	\$39.45	\$49.65

Siding, Glazing, Curtain Wall	IR-25-GZ2	4/11/2013	\$44.11	\$55.52	\$66.93 X X H H H H D D Y
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4 tens may be worked Monday thru Thursday @ straight time.

Apprentice Rates:

Level 1	\$27.18	\$33.53	\$39.88
Level 2	\$29.29	\$36.27	\$43.25
Level 3	\$31.41	\$39.03	\$46.64
Level 4	\$33.53	\$41.78	\$50.02
Level 5	\$35.64	\$44.53	\$53.40
Level 6	\$37.76	\$47.28	\$56.78

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Contract must be awarded by: 7/1/2014

Page 7 of 30

Classification		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description					
Pre-engineered Metal Work	IR-25-PE-Z1	6/3/2013	\$44.59	\$54.71	\$64.83	X X H X X X D Y
Apprentice Rates:						
1st Year			\$25.46	\$30.77	\$36.08	
3rd 6 month period			\$27.58	\$33.64	\$39.70	
4th 6 month period			\$29.71	\$36.53	\$43.35	
5th 6 month period			\$31.83	\$39.40	\$46.97	
6th 6 month period			\$33.96	\$42.29	\$50.61	
Reinforced Iron Work	IR-25-RF	6/25/2013	\$54.61	\$81.78	\$108.95	H H D H D D D N
Apprentice Rates:						
Level 1			\$34.66	\$51.56	\$68.45	
Level 2			\$37.11	\$55.23	\$73.35	
Level 3			\$39.54	\$58.70	\$77.84	
Level 4			\$42.16	\$62.80	\$83.45	
Level 5			\$44.76	\$66.71	\$88.65	
Level 6			\$47.38	\$70.64	\$93.89	
Rigging Work	IR-25-RIG	6/25/2013	\$60.28	\$90.26	\$120.24	H H H H H H D N
Apprentice Rates:						
Level 1 & 2			\$34.93	\$52.39	\$69.86	
Level 3			\$37.80	\$56.71	\$75.60	
Level 4			\$40.66	\$60.99	\$81.32	
Level 5			\$43.53	\$65.29	\$87.06	
Level 6			\$46.41	\$69.62	\$92.82	
Decking	IR-25-SD	6/25/2013	\$52.24	\$78.08	\$103.92	X X H H H D D Y
4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.						

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 8 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				
=====					
Structural, ornamental, conveyor, welder and pre-cast	IR-25-STR	6/25/2013	\$60.41	\$90.34	\$120.26 H H H H H D D Y
4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.					

Apprentice Rates:

Levels 1 & 2	\$35.06	\$52.64	\$69.98
Level 3	\$37.89	\$56.52	\$75.14
Level 4	\$40.71	\$60.74	\$80.78
Level 5	\$43.54	\$65.37	\$86.94
Level 6	\$46.37	\$69.24	\$92.10
Level 7	\$49.19	\$73.47	\$97.74
Level 8	\$52.02	\$77.71	\$103.40

Industrial Door erection & construction	IR-25-STR-D	6/27/2013	\$40.97	\$61.13	\$81.29 H H H H H D D Y
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Laborer

Construction Laborer, Demolition Laborer, Mason Tender, Carpenter Tender, Drywall Handler, Concrete Laborer, Cement Finisher tender, concrete chute and concrete Bucket Handler, Concrete Laborer	L1076-A-A	6/13/2013	\$43.54	\$61.94	\$80.33 H H H H H D Y
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If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Apprentice Rates:

0-1,000 work hours	\$37.60	\$53.03	\$68.45
1,001-2,000 work hours	\$38.79	\$54.81	\$70.83
2,001-3,000 work hours	\$39.98	\$56.60	\$73.21
3,001-4,000 work hours	\$42.35	\$60.15	\$77.95

Official Request #: 498

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Page 9 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				
=====					
Signal man (on sewer & caisson work); air,electric or gasoline tool operator (including concrete vibrator operator,acetylene torch & air hammer operator); scaffold builder, caisson worker	L1076-A-B	6/13/2013	\$43.80	\$62.33	\$80.85 H H H H H H D Y

If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Lansing Burner, Blaster & Powder Man	L1076-A-C	6/13/2013	\$44.29	\$63.06	\$81.83 H H H H H H D Y
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If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Furnance battery heater tender, burning bar & oxy-acetylene gun	L1076-A-D	6/13/2013	\$44.04	\$62.69	\$81.33 H H H H H H D Y
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If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Cleaner/ sweeper laborer, furniture laborer	L1076-A-E	6/13/2013	\$38.09	\$53.76	\$69.43 H H H H H H D Y
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If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 10 of 30

Classification			Last Updated	Straight Time and Hourly	a Double Half Time	Overtime Provision
Name	Description					
Expediter man, topman and/or bottom man (blast furnace work or battery work)	L1076-A-F		6/13/2013	\$44.79	\$63.81	\$82.83 H H H H H H D Y

If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Plasterer Tender, Plastering Machine Operator	LPT-1		10/25/2013	\$43.54	\$61.94	\$80.33 X X H H H H H D Y
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If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.

Apprentice Rates:

0 - 1,000 hours	\$37.60	\$53.03	\$68.45
1,001 - 2,000 hours	\$38.79	\$54.81	\$70.83
2,001 - 3,000 hours	\$39.98	\$56.60	\$73.21
3,001 - 4,000 hours	\$42.35	\$60.15	\$77.95

Laborer - Hazardous

Class A Laborer - performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when used of personal protective equipment level "D" is required.	LHAZ-Z2-A		11/1/2013	\$43.54	\$61.94	\$80.33 H H H H H H D Y
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Apprentice Rates:

0-1,000 work hours	\$37.60	\$53.03	\$68.45
1,001-2,000 work hours	\$38.79	\$54.81	\$70.83
2,001-3,000 work hours	\$39.98	\$56.60	\$73.21
3,001-4,000 work hours	\$42.35	\$60.15	\$77.95

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Page 12 of 30

Classification	Name	Description	Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
	Class III - Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40 h.p.).	LAUCT-Z1-3	9/6/2013	\$38.04	\$48.91	\$59.78	X X X X X X D Y

Apprentice Rates:

0-1,000 work hours	\$33.18	\$41.62	\$50.06
1,001-2,000 work hours	\$34.15	\$43.07	\$52.00
2,001-3,000 work hours	\$35.12	\$44.53	\$53.94
3,001-4,000 work hours	\$37.07	\$47.45	\$57.84

Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.	LAUCT-Z1-4	9/6/2013	\$38.22	\$49.18	\$60.14	X X X X X X D Y
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Apprentice Rates:

0-1,000 work hours	\$33.32	\$41.83	\$50.34
1,001-2,000 work hours	\$34.30	\$43.30	\$52.30
2,001-3,000 work hours	\$35.28	\$44.77	\$54.26
3,001-4,000 work hours	\$37.24	\$47.71	\$58.18

Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)	LAUCT-Z1-5	9/6/2013	\$38.47	\$49.56	\$60.64	X X X X X X D Y
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Apprentice Rates:

0-1,000 work hours	\$33.50	\$42.10	\$50.70
1,001-2,000 work hours	\$34.50	\$43.60	\$52.70
2,001-3,000 work hours	\$35.49	\$45.09	\$54.68
3,001-4,000 work hours	\$37.48	\$48.07	\$58.66

Class VI - Dynamite man and powder man.	LAUCT-Z1-6	9/6/2013	\$38.80	\$50.05	\$61.30	X X X X X X D Y
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Apprentice Rates:

0-1,000 work hours	\$33.75	\$42.47	\$51.20
1,001-2,000 work hours	\$34.76	\$43.99	\$53.22
2,001-3,000 work hours	\$35.77	\$45.51	\$55.24
3,001-4,000 work hours	\$37.79	\$48.53	\$59.28

Official Request #: 498

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Project Description: Multiple Elementary Schools - Utilities, Demolition

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County: Oakland

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Issue Date: 4/2/2014

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Page 13 of 30

Classification			Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description						
Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.	LAUCT-Z1-7		9/6/2013	\$32.08	\$39.97	\$47.86	X X X X X X D Y

Apprentice Rates:

0-1,000 work hours	\$28.71	\$34.91	\$41.12
1,001-2,000 work hours	\$29.38	\$35.92	\$42.46
2,001-3,000 work hours	\$30.06	\$36.94	\$43.82
3,001-4,000 work hours	\$31.41	\$38.97	\$46.52

Landscape Laborer

Landscape Specialist includes air, gas, and diesel equipment operator, skidsteer (or equivalent), lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs.	LLAN-Z1-A		7/5/2013	\$28.18	\$38.91	\$49.64	X X H X X X H D Y
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Sundays paid at time & one half. Holidays paid at double time.

Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, material mover, truck driver when seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs	LLAN-Z1-B		7/5/2013	\$23.96	\$32.58	\$41.20	X X H X X X H D Y
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Sundays paid at time & one half. Holidays paid at double time.

Marble Finisher

Marble Finisher	BR1-MF		9/5/2013	\$42.94	\$53.65	\$64.35	H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							

Apprentice Rates:

Level 1	\$18.80	\$24.77	\$30.73
Level 2	\$19.99	\$26.55	\$33.11
Level 3	\$26.67	\$33.52	\$40.36
Level 4	\$28.12	\$35.69	\$43.26
Level 5	\$29.62	\$37.37	\$45.13
Level 6	\$31.22	\$39.37	\$47.51
Level 7	\$32.89	\$41.08	\$49.26
Level 8	\$34.36	\$42.95	\$51.54

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 14 of 30

Classification			Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description					
=====						
Marble Mason						
Marble Mason	BR1-MM			\$49.67	\$63.74	\$77.81 H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			9/5/2013			
Apprentice Rates:						
Level 1				\$24.83	\$32.24	\$39.65
Level 2				\$27.85	\$36.04	\$44.23
Level 3				\$33.00	\$41.45	\$49.90
Level 4				\$35.70	\$45.09	\$54.49
Level 5				\$37.94	\$47.57	\$57.21
Level 6				\$41.55	\$52.91	\$64.27
Level 7				\$42.21	\$53.72	\$65.22
Level 8				\$43.13	\$55.10	\$67.06
Operating Engineer						
Crane with boom & jib or leads 120' or longer	EN-324-A120			\$56.01	\$73.30	\$90.58 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Crane with boom & jib or leads 140' or longer	EN-324-A140			\$56.83	\$74.53	\$92.22 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Crane with boom & jib or leads 220' or longer	EN-324-A220			\$57.13	\$74.98	\$92.82 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Crane with boom & jib or leads 300' or longer	EN-324-A300			\$58.63	\$77.23	\$95.82 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Crane with boom & jib or leads 400' or longer	EN-324-A400			\$60.13	\$79.48	\$98.82 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Compressor or welding machine	EN-324-CW			\$45.16	\$57.02	\$68.88 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			
Forklift, lull, extend-a-boom forklift	EN-324-FL			\$52.47	\$67.99	\$83.50 X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.			8/2/2013			

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County: Oakland

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Page 15 of 30

Classification			Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description						
Fireman or oiler	EN-324-FO		8/2/2013	\$44.13	\$55.48	\$66.82	X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.							

Regular crane, job mechanic, concrete pump with boom	EN-324-RC		8/2/2013	\$55.15	\$72.01	\$88.86	X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.							

Regular engineer, hydro-excavator, remote controlled concrete breaker	EN-324-RE		8/2/2013	\$54.18	\$70.55	\$86.92	X X H H D D D Y
Work in excess of 12 per day shall be paid at double time.							

Apprentice Rates:

0-999 hours	\$43.51	\$54.98	\$66.43
1,000-1,999 hours	\$45.14	\$57.41	\$69.69
2,000-2,999 hours	\$46.79	\$59.89	\$72.99
3,000-3,999 hours	\$48.42	\$62.34	\$76.25
4,000-4,999 hours	\$50.05	\$64.78	\$79.51
5,000-5,999 hours	\$51.70	\$67.26	\$82.81

Operating Engineer - DIVER

Diver/Wet Tender/Tender/Rov Pilot/Rov Tender	GLF D		4/2/2014	\$52.80	\$79.20	\$105.60	H H H H H H D N
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Operating Engineer - Marine Construction

Diver/Wet Tender, Engineer (hydraulic dredge)	GLF-1		2/12/2014	\$65.00	\$84.85	\$104.70	X X H H H H D Y
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Holiday pay= \$124.55 per hour, wages & fringes

Subdivision of county all Great Lakes, islands therein, & connecting & tributary waters

Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2		2/12/2014	\$63.50	\$82.60	\$101.70	X X H H H H D Y
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Holiday pay = \$120.80 per hour, wages & fringes

Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters

Friction, Lattice Boom or Crane License Certification	GLF-2B		2/12/2014	\$64.50	\$84.10	\$103.70	X X H H H H D Y
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Holiday pay = \$123.30

Subdivision of county All Great Lakes, islands, therein, & connecting & tributary waters

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Statewide

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 16 of 30

Classification			Last	Straight	Time and	a Double	Overtime
Name	Description		Updated	Hourly	Half	Time	Provision
=====							
Deck Equipment Operator, Machineryman, Maintenance of	GLF-3			\$59.30	\$76.30	\$93.30	X X H H H H H D Y
Crane (over 50 ton capacity) or Backhoe (115,000 lbs or		2/12/2014					
more), Tug/Launch Operator, Loader, Dozer on Barge,							
Deck Machinery							

Holiday pay = \$110.30 per hour, wages & fringes

Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters

Deck Equipment Operator, (Machineryman/Fireman), (4	GLF-4			\$53.60	\$67.75	\$81.90	X X H H H H H D Y
equipment units or more), Off Road Trucks, Deck Hand,		2/12/2014					
Tug Engineer, & Crane Maintenance 50 ton capacity and							
under or Backhoe 115,000 lbs or less, Assistant Tug							
Operator							

Holiday pay = \$96.05 per hour, wages & fringes

Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters

Operating Engineer Hazardous Waste Class I

Level A - Fully encapsulating chemical resistant suit w/	EN-324-HWCI-Z1A			\$51.84	\$67.86	\$83.87	H H H H H H H D Y
pressure demand, full face piece SCBA or pressure demand		1/20/2012					
supplied air respirator w/ escape SCBA. The highest							
available level of respiratory, skin and eye protection.							

Four 10 hour days may be worked Monday-Thursday with
Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$41.63	\$52.85	\$64.05
2nd 6 months	\$43.23	\$55.25	\$67.25
3rd 6 months	\$44.83	\$57.64	\$70.45
4th 6 months	\$46.43	\$60.04	\$73.65
5th 6 months	\$48.03	\$62.44	\$76.85
6th 6 months	\$49.64	\$64.86	\$80.07

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Project Number: Series 1, #3

County: Oakland

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Page 17 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Half Time	Overtime Provision
Name	Description				
Level B & C protection.	B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCI-Z1B 1/20/2012	\$50.89	\$66.43	\$81.97 H H H H H H D Y

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$40.97	\$51.85	\$62.73
2nd 6 months	\$42.52	\$54.17	\$65.83
3rd 6 months	\$44.07	\$56.50	\$68.93
4th 6 months	\$45.64	\$58.86	\$72.07
5th 6 months	\$47.19	\$61.19	\$75.17
6th 6 months	\$48.74	\$63.51	\$78.27

Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1D 1/20/2012	\$49.59	\$64.48	\$79.37 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$40.06	\$50.49	\$60.91
2nd 6 months	\$41.54	\$52.71	\$63.87
3rd 6 months	\$43.04	\$54.96	\$66.87
4th 6 months	\$44.53	\$57.19	\$69.85
5th 6 months	\$46.02	\$59.42	\$72.83
6th 6 months	\$47.50	\$61.65	\$75.79

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1DCL 1/20/2012	\$49.34	\$64.11	\$78.87 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$39.89	\$50.23	\$60.57
2nd 6 months	\$41.36	\$52.44	\$63.51
3rd 6 months	\$42.83	\$54.64	\$66.45
4th 6 months	\$44.31	\$56.86	\$69.41
5th 6 months	\$45.79	\$59.08	\$72.37
6th 6 months	\$47.27	\$61.30	\$75.33

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Project Number: Series 1, #3

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 18 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				

Operating Engineer Hazardous Waste Class II

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCII-Z1A 1/20/2012	\$47.61	\$61.51	\$75.41	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCII-Z1B 1/20/2012	\$46.66	\$60.09	\$73.51	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1D 1/20/2012	\$45.36	\$58.14	\$70.91	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1DCL 1/20/2012	\$45.11	\$57.76	\$70.41	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 140' or longer

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW140-Z1A 1/20/2012	\$54.49	\$71.83	\$89.17	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 19 of 30

Classification			Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description					
Level B & C protection.	B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW140-Z1B	1/20/2012	\$53.54	\$70.41	\$87.27 H H H H H H D Y

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1D	1/20/2012	\$52.24	\$68.46	\$84.67 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1DCL	1/20/2012	\$51.99	\$68.08	\$84.17 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 220' or longer

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW220-Z1A	1/20/2012	\$54.79	\$72.28	\$89.77 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW220-Z1B	1/20/2012	\$53.84	\$70.86	\$87.87 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1D	1/20/2012	\$52.54	\$68.91	\$85.27 H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 20 of 30

Classification							
Name	Description	Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision	
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1DCL	1/20/2012	\$52.29	\$68.53	\$84.77	H H H H H H D Y	

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with boom

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1DCL	1/20/2012	\$49.69	\$64.63	\$79.57	H H H H H H D Y	
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with Boom Operator

Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1D	1/20/2012	\$50.56	\$65.94	\$81.31	H H H H H H D Y	
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with booms

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWRC-Z1B	1/20/2012	\$51.86	\$67.89	\$83.91	H H H H H H D Y	
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operators and Concrete Pump with booms

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWRC-Z1A	1/20/2012	\$52.81	\$69.31	\$85.81	H H H H H H D Y	
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 21 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Time	Overtime Provision
Name	Description				
=====					
Operating Engineer Steel Work					
Forklift, 1 Drum Hoist	EN-324-ef	6/17/2013	\$57.11	\$75.12	\$93.13 H H D H H H D D Y
Crane w/ 120' boom or longer	EN-324-SW120	6/14/2013	\$59.81	\$79.17	\$98.53 H H D H H H D D Y
Crane w/ 120' boom or longer w/ Oiler	EN-324-SW120-O	6/14/2013	\$60.81	\$80.67	\$100.53 H H D H H H D D Y
Crane w/ 140' boom or longer	EN-324-SW140	6/14/2013	\$60.99	\$80.94	\$100.89 H H D H H H D D Y
Crane w/ 140' boom or longer W/ Oiler	EN-324-SW140-O	6/14/2013	\$61.99	\$82.44	\$102.89 H H D H H H D D Y
Boom & Jib 220' or longer	EN-324-SW220	6/14/2013	\$61.26	\$81.35	\$101.43 H H D H H H D D Y
Crane w/ 220' boom or longer w/ Oiler	EN-324-SW220-O	6/14/2013	\$62.26	\$82.85	\$103.43 H H D H H H D D Y
Boom & Jib 300' or longer	EN-324-SW300	6/14/2013	\$62.76	\$83.60	\$104.43 H H D H H H D D Y
Crane w/ 300' boom or longer w/ Oiler	EN-324-SW300-O	6/14/2013	\$63.76	\$85.10	\$106.43 H H D H H H D D Y
Boom & Jib 400' or longer	EN-324-SW400	6/14/2013	\$64.26	\$85.85	\$107.43 H H D H H H D D Y
Crane w/ 400' boom or longer w/ Oiler	EN-324-SW400-O	6/14/2013	\$65.26	\$87.35	\$109.43 H H D H H H D D Y
Crane Operator, Job Mechanic, 3 Drum Hoist & Excavator	EN-324-SWCO	6/17/2013	\$59.45	\$78.63	\$97.81 H H D H H H D D Y
Apprentice Rates:					
0-999 hours			\$47.09	\$60.51	\$73.94
1,000-1,999 hours			\$49.01	\$63.40	\$77.78
2,000-2,999 hours			\$50.93	\$66.28	\$81.62
3,000-3,999 hours			\$52.85	\$69.16	\$85.46
4,000-4,999 hours			\$54.76	\$72.02	\$89.28
5,000 hours			\$56.68	\$74.91	\$93.12

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 22 of 30

<u>Classification</u>		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description					
Crane w/ Oiler	EN-324-SWCO-O	6/17/2013	\$60.45	\$80.13	\$99.81	H H D H H H D D Y
Compressor or Welder Operator	EN-324-SWCW	6/17/2013	\$52.00	\$67.46	\$82.91	H H D H H H D D Y
Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe	EN-324-SWHO	6/17/2013	\$58.81	\$77.67	\$96.53	H H D H H H D D Y
Oiler	EN-324-SWO	6/17/2013	\$50.59	\$65.34	\$80.09	H H D H H H D D Y
Tower Crane & Derrick where work is 50' or more above first level	EN-324-SWTD50	6/14/2013	\$60.54	\$80.27	\$99.99	H H D H H H D D Y
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first level	EN-324-SWTD50-O	6/14/2013	\$61.54	\$81.77	\$101.99	H H D H H H D D Y
Operating Engineer Underground						
Class I Equipment	EN-324A1-UC1	9/13/2013	\$50.34	\$65.33	\$80.32	H H H H H H H D Y
Apprentice Rates:						
0-999 hours			\$40.75	\$51.25	\$61.74	
1,000-1,999 hours			\$42.24	\$53.48	\$64.72	
2,000-2,999 hours			\$43.75	\$55.75	\$67.74	
3,000-3,999 hours			\$45.24	\$57.98	\$70.72	
4,000-4,999 hours			\$46.74	\$60.23	\$73.72	
5,000-5,999 hours			\$48.25	\$62.50	\$76.74	
Class II Equipment	EN-324A1-UC2	9/13/2013	\$45.61	\$58.24	\$70.86	H H H H H H H D Y
Class III Equipment	EN-324A1-UC3	9/13/2013	\$44.88	\$57.14	\$69.40	H H H H H H H D Y
Class IV Equipment	EN-324A1-UC4	9/13/2013	\$44.31	\$56.29	\$68.26	H H H H H H H D Y
Master Mechanic	EN-324A1-UMM	9/13/2013	\$50.59	\$65.71	\$80.82	H H H H H H H D Y

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Project Number: Series 1, #3

County: Oakland

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 23 of 30

Classification		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description					

Painter

Painter (8 hours of repaint work performed on Sunday shall PT-22-P
be paid time & one half rate) 6/18/2012 \$41.32 \$53.78 \$66.23 H H D H D D D D Y

Four 10s allowed Monday-Thursday with Friday makeup day
if job down due to weather, holiday or other conditions
beyond the control of the employer.

Apprentice Rates:

First 6 months	\$28.87	\$35.10	\$41.33
Second 6 months	\$32.60	\$40.69	\$48.79
Third 6 months	\$33.85	\$42.57	\$51.29
Fourth 6 months	\$35.09	\$44.43	\$53.77
Fifth 6 months	\$36.34	\$46.31	\$56.27
Final 6 months	\$37.58	\$48.17	\$58.75

Pipe and Manhole Rehab

General Laborer for rehab work or normal cleaning and TM247
cctv work-top man, scaffold man, CCTV assistant, jetter-
vac assistant 10/15/2012 \$27.20 \$36.70 H H H H H H H H N

Tap cutter/CCTV Tech/Grout Equipment Operator: unit TM247-2
driver and operator of CCTV; grouting equipment and tap
cutting equipment 10/15/2012 \$31.70 \$43.45 H H H H H H H H N

CCTV Technician/Combo Unit Operator: unit driver and TM247-3
operator of cctv unit or combo unit in connection with
normal cleaning and televising work 10/15/2012 \$30.45 \$41.57 H H H H H H H H N

Boiler Operator: unit driver and operator of steam/water TM247-4
heater units and all ancillary equipment associated 10/15/2012 \$32.20 \$44.20 H H H H H H H H N

Combo Unit driver & Jetter-Vac Operator TM247-5
10/15/2012 \$32.20 \$44.20 H H H H H H H H N

Pipe Bursting & Slip-lining Equipment Operator TM247-6
10/15/2012 \$33.20 \$45.70 H H H H H H H H N

Official Request #: 498

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Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Statewide

Official Rate Schedule

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 24 of 30

Classification		Last Updated	Straight Time and Hourly	a Double Half Time	Overtime Provision
Name	Description				
=====					
Pipefitter					
Pipefitter	PF-636	6/26/2013	\$65.63	\$86.83	\$104.03 H H D H D D D Y
	Apprentice Rates:				
	1st & 2nd periods		\$26.93	\$35.28	\$42.28
	3rd period		\$28.93	\$38.28	\$46.28
	4th period		\$30.18	\$40.16	\$48.78
	5th period		\$31.43	\$42.03	\$51.28
	6th period		\$32.68	\$43.90	\$53.78
	7th period		\$33.93	\$45.78	\$56.28
	8th period		\$34.93	\$47.28	\$58.28
	9th period		\$35.93	\$48.78	\$60.28
	10th period		\$37.36	\$50.92	\$63.14
Plasterer					
Plasterer	BR1P	11/1/2012	\$45.04	\$67.56	\$90.08 H H H H H H D N
	Apprentice Rates:				
	1st 6 months		\$32.11	\$48.17	\$64.22
	2nd 6 months		\$33.40	\$50.10	\$66.80
	3rd 6 months		\$34.69	\$52.04	\$69.38
	4th 6 months		\$37.28	\$55.92	\$74.56
	5th 6 months		\$39.87	\$59.81	\$79.74
	6th 6 months		\$42.45	\$63.68	\$84.90
Plasterer	PL67	9/8/2010	\$44.72	\$60.11	\$75.50 H H H X D D D N
	Apprentice Rates:				
	1st 6 months		\$29.33	\$37.02	\$44.72
	2nd 6 months		\$30.87	\$39.34	\$47.80
	3rd 6 months		\$32.41	\$41.64	\$50.88
	4th 6 months		\$35.49	\$46.26	\$57.04
	5th 6 months		\$38.56	\$51.16	\$63.76
	6th 6 months		\$41.64	\$55.49	\$69.34

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 25 of 30

Classification		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision	
Name	Description						
=====							
Plumber							
Plumber	PL-98	7/18/2013	\$64.45	\$84.87	\$101.29	H H D H D D D D Y	
Apprentice Rates:							
	Period 1		\$19.93	\$26.43	\$32.93		
	Period 2		\$23.90	\$31.40	\$38.90		
	Period 3		\$30.60	\$39.19	\$47.77		
	Period 4		\$31.23	\$40.13	\$49.03		
	Period 5		\$32.39	\$41.87	\$51.35		
	Period 6		\$33.54	\$43.59	\$53.65		
	Period 7		\$34.69	\$45.32	\$55.95		
	Period 8		\$35.86	\$47.07	\$58.29		
	Period 9		\$37.01	\$48.80	\$60.59		
	Period 10		\$38.16	\$50.53	\$62.89		
Roofer							
Commercial Roofer	RO-149-WOM	8/18/2008	\$48.46	\$62.29	\$76.62	H H D H H H D D N	
Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.							
Apprentice Rates:							
	Apprentice 1		\$32.62	\$39.86	\$48.04		
	Apprentice 2		\$36.80	\$44.80	\$53.30		
	Apprentice 3		\$38.22	\$46.93	\$56.14		
	Apprentice 4		\$39.25	\$48.48	\$58.20		
	Apprentice 5		\$40.47	\$50.30	\$60.64		
	Apprentice 6		\$41.87	\$52.40	\$63.44		
Sewer Relining							
Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV system.	SR-I	3/27/2013	\$42.07	\$56.90	\$71.72	H H H H H H H D N	
Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.	SR-II	3/27/2013	\$40.54	\$54.60	\$68.66	H H H H H H H D N	

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

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Page 26 of 30

Classification									
Name	Description		Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision		
=====									
Sheet Metal Worker									
Sheet Metal Worker		SHM-80		\$60.77	\$77.68	\$94.59	H H D X H H H D Y		
A 4 10 schedule may be worked, 4 consecutive days									
Monday thru Friday.									
			8/1/2013						

Apprentice Rates:

1st & 2nd Periods Indentured after 6-1-11	\$38.12	\$45.73	\$53.34
3rd & 4th Periods Indentured after 6-1-11	\$39.82	\$48.28	\$56.74
5th & 6th Periods Indentured after 6-1-11	\$41.50	\$50.80	\$60.10
7th & 8th Periods Indentured after 6-1-11	\$43.19	\$53.34	\$63.48
9th & 10th Periods Indentured before 6-1-11	\$50.86	\$63.38	\$75.90

Siding and decking		SHM-80-SD		\$42.07	\$54.28	\$66.48	H H H H H H H D Y		
			1/13/2014						

Sprinkler Fitter

Sprinkler Fitter		SP 704		\$63.92	\$84.88	\$105.83	H H D H D D D D Y		
4 ten hour days allowed Monday-Friday									
Double time pay due after 12 hours worked M-F									
			1/10/2014						

Apprentice Rates:

1st Period	\$27.77	\$36.15	\$44.53
2nd Period	\$40.87	\$50.30	\$59.73
3rd Period	\$42.97	\$53.45	\$63.93
4th Period	\$45.06	\$56.59	\$68.11
5th Period	\$47.16	\$59.73	\$72.31
6th Period	\$49.25	\$62.87	\$76.49
7th Period	\$51.35	\$66.02	\$80.69
8th Period	\$53.44	\$69.15	\$84.87
9th Period	\$55.54	\$72.31	\$89.07
10th Period	\$57.63	\$75.44	\$93.25

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Issue Date: 4/2/2014

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Page 27 of 30

Classification							
Name	Description	Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision	
=====							

Terrazzo

Terrazzo Finisher	BR1-TRF		\$43.43	\$54.38	\$65.33	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			9/5/2013			

Apprentice Rates:

Level 1	\$18.80	\$24.77	\$30.73
Level 2	\$19.99	\$26.55	\$33.11
Level 3	\$26.67	\$33.52	\$40.36
Level 4	\$28.12	\$35.69	\$43.26
Level 5	\$29.62	\$37.37	\$45.13
Level 6	\$31.22	\$39.37	\$47.51
Level 7	\$32.89	\$41.08	\$49.26
Level 8	\$34.36	\$42.95	\$51.54

Terrazzo Worker	BR1-TRW		\$49.11	\$62.90	\$76.69	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			9/5/2013			

Apprentice Rates:

Level 1	\$24.83	\$32.24	\$39.65
Level 2	\$27.85	\$36.04	\$44.23
Level 3	\$33.00	\$41.45	\$49.90
Level 4	\$35.70	\$45.09	\$54.49
Level 5	\$37.94	\$47.57	\$57.21
Level 6	\$41.55	\$52.91	\$64.27
Level 7	\$42.21	\$53.72	\$65.22
Level 8	\$43.13	\$55.10	\$67.06

Tile

Tile Finisher	BR1-TF		\$42.96	\$53.68	\$64.39	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			9/5/2013			

Apprentice Rates:

Level 1	\$18.80	\$24.77	\$30.73
Level 2	\$19.99	\$26.55	\$33.11
Level 3	\$26.67	\$33.52	\$40.36
Level 4	\$28.12	\$35.69	\$43.26
Level 5	\$29.62	\$37.37	\$45.13
Level 6	\$31.22	\$39.37	\$47.51
Level 7	\$32.89	\$41.08	\$49.26
Level 8	\$34.36	\$42.95	\$51.54

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 28 of 30

Classification			Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description						
Tile Layer	BR1-TL			\$49.06	\$62.83	\$76.59	H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							
			9/5/2013				

Apprentice Rates:

Level 1	\$24.83	\$32.24	\$39.65
Level 2	\$27.85	\$36.04	\$44.23
Level 3	\$33.00	\$41.45	\$49.90
Level 4	\$35.70	\$45.09	\$54.49
Level 5	\$37.94	\$47.57	\$57.21
Level 6	\$41.55	\$52.91	\$64.27
Level 7	\$42.21	\$53.72	\$65.22
Level 8	\$43.13	\$55.10	\$67.06

Truck Driver

on all trucks of 8 cubic yard capacity or less (except dump trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)	TM-RB1			\$41.92	\$37.85		H H H H H H H Y
			8/8/2013				

of all trucks of 8 cubic yard capacity or over	TM-RB1A			\$41.30	\$38.00		H H H H H H H Y
			8/8/2013				

on euclid type equipment	TM-RB1B			\$41.45	\$38.23		H H H H H H H Y
			8/8/2013				

Underground Laborer Open Cut, Class I

Construction Laborer	LAUC-Z1-1			\$37.72	\$48.43	\$59.14	X X X X X X D Y
			9/5/2013				

Apprentice Rates:

0-1,000 work hours	\$32.94	\$41.26	\$49.58
1,001-2,000 work hours	\$33.90	\$42.70	\$51.50
2,001-3,000 work hours	\$34.85	\$44.13	\$53.40
3,001-4,000 work hours	\$36.76	\$46.99	\$57.22

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

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Official 2014 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 29 of 30

Classification			Last Updated	Straight Hourly	Time and Half	a Double Time	Overtime Provision
Name	Description						
=====							
Underground Laborer Open Cut, Class II							
Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.	LAUC-Z1-2	10/25/2013		\$37.83	\$48.60	\$59.36	X X X X X X D Y
Apprentice Rates:							
0-1,000 work hours				\$33.02	\$41.38	\$49.74	
1,001-2,000 work hours				\$33.98	\$42.82	\$51.66	
2,001-3,000 work hours				\$34.95	\$44.27	\$53.60	
3,001-4,000 work hours				\$36.87	\$47.15	\$57.44	
Underground Laborer Open Cut, Class III							
Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodger, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.	LAUC-Z1-3	9/5/2013		\$37.88	\$48.67	\$59.46	X X X X X X D Y
Apprentice Rates:							
0-1,000 work hours				\$33.06	\$41.44	\$49.82	
1,001-2,000 work hours				\$34.02	\$42.88	\$51.74	
2,001-3,000 work hours				\$34.99	\$44.33	\$53.68	
3,001-4,000 work hours				\$36.92	\$47.23	\$57.54	
Underground Laborer Open Cut, Class IV							
Trench or excavating grade man.	LAUC-Z1-4	9/5/2013		\$37.96	\$48.79	\$59.62	X X X X X X D Y
Apprentice Rates:							
0-1,000 work hours				\$33.12	\$41.53	\$49.94	
1,001-2,000 work hours				\$34.09	\$42.99	\$51.88	
2,001-3,000 work hours				\$35.06	\$44.44	\$53.82	
3,001-4,000 work hours				\$36.99	\$47.33	\$57.68	
Underground Laborer Open Cut, Class V							
Pipe Layer	LAUC-Z1-5	9/5/2013		\$38.02	\$48.88	\$59.74	X X X X X X D Y
Apprentice Rates:							
0-1,000 work hours				\$33.16	\$41.59	\$50.02	
1,001-2,000 work hours				\$34.14	\$43.06	\$51.98	
2,001-3,000 work hours				\$35.11	\$44.51	\$53.92	
3,001-4,000 work hours				\$37.05	\$47.43	\$57.80	

Official Request #: 498

Requestor: Troy School District

Project Description: Multiple Elementary Schools - Utilities, Demolition

Project Number: Series 1, #3

County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

State of Michigan

WHPWRequest@michigan.gov

Official Request 69

Requestor: Troy School District

Project Various Elementary Schools - Demolition, Paving, Concrete

Project Number:

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 1 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code									
=====															
Bridge Painter															
Bridge Painter (under 30 feet)		BPT1011	WAGE	\$24.00	\$36.00	\$48.00	H	H	H	H	H	H	H	D	N
		8/6/2013	FRINGE	\$10.59	\$10.59	\$10.59									
Apprentice Rates:															
1st 1,000 hours			WAGE	\$14.40	\$21.60	\$28.80									
			FRINGE	\$10.59	\$10.59	\$10.59									
2nd 1,000 hours			WAGE	\$15.60	\$23.40	\$31.20									
			FRINGE	\$10.59	\$10.59	\$10.59									
3rd 1,000 hours			WAGE	\$16.80	\$25.20	\$33.60									
			FRINGE	\$10.59	\$10.59	\$10.59									
4th 1,000 hours			WAGE	\$18.00	\$27.00	\$36.00									
			FRINGE	\$10.59	\$10.59	\$10.59									
5th 1,000 hours			WAGE	\$19.20	\$28.80	\$38.40									
			FRINGE	\$10.59	\$10.59	\$10.59									
6th 1,000 hours			WAGE	\$20.40	\$30.60	\$40.80									
			FRINGE	\$10.59	\$10.59	\$10.59									
7th 1,000 hours			WAGE	\$21.60	\$32.40	\$43.20									
			FRINGE	\$10.59	\$10.59	\$10.59									
8th 1,000 hours			WAGE	\$22.80	\$34.20	\$45.60									
			FRINGE	\$10.59	\$10.59	\$10.59									

Entire Upper Peninsula
Entire Upper Peninsula

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 2 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
CARPENTERS						
CARPENTERS ZONE 1	RBCZ1	WAGE	\$28.09	\$42.14		X X H X X X H H Y
	6/5/2013	FRINGE	\$24.41	\$32.96		
Apprentice Rates:						
1ST 6 MONTHS		WAGE	\$12.36	\$18.63		
		FRINGE	\$14.84	\$18.61		
2ND 6 MONTHS		WAGE	\$15.45	\$23.30		
		FRINGE	\$16.72	\$21.43		
YEAR 2		WAGE	\$18.26	\$27.52		
		FRINGE	\$18.43	\$23.99		
YEAR 3		WAGE	\$21.07	\$31.76		
		FRINGE	\$20.14	\$26.56		
YEAR 4		WAGE	\$23.88	\$36.00		
		FRINGE	\$21.85	\$29.12		
CARPENTERS ZONE 1						
Wayne, Oakland, Macomb, Sanilac, St. Clair, Monroe and the following townships of Livingston County Brighton, Deerfield, Genoa, Hartland, Osceola and Tyrone						
	comment	For all hours worked on Memorial Day, July 4, Labor Day, Thanksgiving Day, Christmas Day and New Years Day, double time is due				
CARPENTERS ZONE 2	RBCZ2	WAGE	\$25.34	\$38.01		X X H X X X H H Y
	6/5/2013	FRINGE	\$17.47	\$17.47		
Apprentice Rates:						
1ST YEAR		WAGE	\$15.20	\$22.80		
		FRINGE	\$17.47	\$17.47		
2ND YEAR		WAGE	\$17.74	\$26.61		
		FRINGE	\$17.47	\$17.47		
3RD YEAR		WAGE	\$20.27	\$30.40		
		FRINGE	\$17.47	\$17.47		
4TH YEAR		WAGE	\$21.54	\$32.31		
		FRINGE	\$17.47	\$17.47		
CARPENTERS ZONE 2						
The entire state except those counties and townships listed in Zone 1						

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 3 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
CEMENT MASONS						
CEMENT MASONS ZONE 1	RBCMZ1	WAGE	\$29.34	\$44.01		X X H H H H H H Y
	6/5/2013	FRINGE	\$12.39	\$12.39		
Apprentice Rates:						
1ST YEAR		WAGE	\$16.86	\$25.29		
		FRINGE	\$12.39	\$12.39		
2ND YEAR		WAGE	\$20.99	\$31.48		
		FRINGE	\$12.39	\$12.39		
3RD YEAR		WAGE	\$25.13	\$37.70		
		FRINGE	\$12.39	\$12.39		

CEMENT MASONS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw,
Wayne, Livingston and Saginaw Counties.

	comment	OT not required on 4 tens worked Monday thru Saturday				
CEMENT MASONS ZONE 2	RBCMZ2	WAGE	\$27.84	\$41.76		X X H H H H H H Y
	6/5/2013	FRINGE	\$12.39	\$12.39		
Apprentice Rates:						
1ST YEAR		WAGE	\$16.03	\$24.04		
		FRINGE	\$12.39	\$12.39		
2ND YEAR		WAGE	\$19.98	\$29.97		
		FRINGE	\$12.39	\$12.39		
3RD YEAR		WAGE	\$23.95	\$35.92		
		FRINGE	\$12.39	\$12.39		

CEMENT MASONS ZONE 2
All counties not listed in Zone 1

comment OT not required on 4 tens worked Monday thru Saturday

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 4 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
Electrician						
Roadway Electrical Work	EC-17	WAGE	\$35.85	\$53.78	\$71.70	H H H H H H D Y
	8/6/2013	FRINGE	\$14.68	\$19.52	\$24.36	
Apprentice Rates:						
1st 6 months		WAGE	\$21.51	\$32.26	\$43.02	
		FRINGE	\$10.81	\$13.72	\$16.62	
2nd 6 months		WAGE	\$23.30	\$34.95	\$46.60	
		FRINGE	\$11.29	\$14.44	\$17.58	
3rd 6 months		WAGE	\$25.10	\$37.65	\$50.20	
		FRINGE	\$11.78	\$15.17	\$18.56	
4th 6 months		WAGE	\$26.89	\$40.34	\$53.78	
		FRINGE	\$12.26	\$15.89	\$19.52	
5th 6 months		WAGE	\$28.68	\$43.02	\$57.36	
		FRINGE	\$12.75	\$16.63	\$20.50	
6th 6 months		WAGE	\$32.26	\$48.39	\$64.52	
		FRINGE	\$13.71	\$18.07	\$22.42	

Statewide

Make up day allowed comment 4 10s allowed M-Th; F make up day

IRONWORKER

Metal Fence & Guard Rail	IR-55-MF	WAGE	\$19.40	\$29.10	\$38.80	H H D H H H H D Y
	8/1/2013	FRINGE	\$18.52	\$27.78	\$37.04	
Apprentice Rates:						
1st year		WAGE	\$10.67	\$16.00	\$21.34	
		FRINGE	\$7.52	\$11.28	\$15.04	
2nd year		WAGE	\$13.58	\$20.37	\$27.16	
		FRINGE	\$18.52	\$27.78	\$37.04	
3rd year		WAGE	\$15.52	\$23.28	\$31.04	
		FRINGE	\$18.52	\$27.78	\$37.04	
4th year		WAGE	\$17.46	\$26.19	\$34.92	
		FRINGE	\$18.52	\$27.78	\$37.04	

Lenawee

Monroe

Make up day allowed comment Four Tens allowed M-Th. Friday make-up day allowed if M-Th schedule not worked due to weather conditions or holiday.

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 5 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
IRONWORKERS						
IRONWORKERS ZONE 1: Fence,	RBIRZ1	WAGE	\$24.00	\$36.00	\$48.00	X X H X X X H D Y
sound barrier and guardrail	4/2/2013					
erection/installation work, and	4/2/2013	FRINGE	\$9.15	\$9.15	\$9.15	
exterior signage work.						

Apprentice Rates:

60%	WAGE	\$14.40	\$21.60	\$28.80
	FRINGE	\$8.35	\$8.35	\$8.35
65%	WAGE	\$15.60	\$23.40	\$31.20
	FRINGE	\$8.45	\$8.45	\$8.45
70%	WAGE	\$16.80	\$25.20	\$33.60
	FRINGE	\$8.56	\$8.56	\$8.56
75%	WAGE	\$18.00	\$27.00	\$36.00
	FRINGE	\$8.65	\$8.65	\$8.65
80%	WAGE	\$19.20	\$28.80	\$38.40
	FRINGE	\$8.75	\$8.75	\$8.75
85%	WAGE	\$20.40	\$30.60	\$40.80
	FRINGE	\$8.85	\$8.85	\$8.85

IRONWORKERS ZONE 1

Genesee, Oakland, Macomb, Washtenaw and Wayne
Counties

Make up day allowed comment

Four 10 hour work days may be worked Monday-Saturday.

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 6 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
IRONWORKERS ZONE 2: Fence, sound barrier and guardrail erection/installation work, and exterior signage work.	RBIRZ2 4/2/2013	WAGE	\$20.00	\$30.00	\$40.00	X X H X X X H D Y
	4/2/2013	FRINGE	\$9.15	\$9.15	\$9.15	

Apprentice Rates:

60%	WAGE	\$12.00	\$18.00	\$24.00
	FRINGE	\$8.35	\$8.35	\$8.35
65%	WAGE	\$13.00	\$19.50	\$26.00
	FRINGE	\$8.45	\$8.45	\$8.45
70%	WAGE	\$14.00	\$21.00	\$28.00
	FRINGE	\$8.56	\$8.56	\$8.56
75%	WAGE	\$15.00	\$22.50	\$30.00
	FRINGE	\$8.65	\$8.65	\$8.65
80%	WAGE	\$16.00	\$24.00	\$32.00
	FRINGE	\$8.75	\$8.75	\$8.75
85%	WAGE	\$17.00	\$25.50	\$34.00
	FRINGE	\$8.85	\$8.85	\$8.85

IRONWORKERS ZONE 2

The entire state except those counties listed in Zone 1: Genesee, Oakland, Macomb, Monroe, Washtenaw and Wayne and Lenawee

Make up day allowed comment

Four 10 hour work days may be worked Monday-Saturday.

LABORERS

LABORERS CLASS 1 ZONE 1	RBLABC1Z1 6/13/2013	WAGE	\$21.80	\$32.70		X X X X X X X H Y
		FRINGE	\$15.46	\$16.86		

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$16.35	\$24.52
	FRINGE	\$15.46	\$16.86
1001-2000 WORK HOURS	WAGE	\$17.44	\$26.16
	FRINGE	\$15.46	\$16.86
2001-3000 WORK HOURS	WAGE	\$18.53	\$27.80
	FRINGE	\$15.46	\$16.86
3001-4000 WORK HOURS	WAGE	\$20.71	\$31.06
	FRINGE	\$15.46	\$16.86

LABORERS ZONE 1

Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 7 of 22

Construction Mechanic Classification	Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
--------------------------------------	--------------------------	------------------------------	---------------------	---------------

LABORERS CLASS 1 ZONE 2	RBLABC1Z2	WAGE	\$19.95	\$29.93	
	6/13/2013	FRINGE	\$15.26	\$16.59	X X X X X X X H Y

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$14.96	\$22.44
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$15.96	\$23.94
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$16.96	\$25.44
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$18.95	\$28.42
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS CLASS 1 ZONE 3 & 4	RBLABC1Z3	WAGE	\$19.20	\$28.80	
	6/13/2013	FRINGE	\$15.26	\$16.59	X X X X X X X H Y

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$14.40	\$21.60
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$15.36	\$23.04
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$16.32	\$24.48
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$18.24	\$27.36
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 8 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 2 ZONE 1	RBLABC2Z1	WAGE	\$21.93	\$32.90		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$16.45	\$24.68		
		FRINGE	\$15.46	\$16.86		
1001-2000 WORK HOURS		WAGE	\$17.54	\$26.31		
		FRINGE	\$15.46	\$16.86		
2001-3000 WORK HOURS		WAGE	\$18.64	\$27.96		
		FRINGE	\$15.46	\$16.86		
3001-4000 WORK HOURS		WAGE	\$20.83	\$31.24		
		FRINGE	\$15.46	\$16.86		

LABORERS ZONE 1

Genesee, Macomb, Monroe, Oakland, Washtenaw
and Wayne

LABORERS CLASS 2 ZONE 2	RBLABC2Z2	WAGE	\$20.15	\$30.23		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$15.11	\$22.66		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$16.12	\$24.18		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$17.13	\$25.70		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$19.14	\$28.71		
		FRINGE	\$15.26	\$16.59		

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass,
Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham,
Jackson, Kalamazoo, Lapeer, Lenawee, Livingston,
Midland, Muskegon, Saginaw, Sanilac, Shiawassee,
St. Clair, St. Joseph, Tuscola, and Van Buren

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 9 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 2 ZONES 3 & 4	RBLABC2Z4	WAGE	\$19.41	\$29.12		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$14.56	\$21.84		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$15.53	\$23.30		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$16.50	\$24.75		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$18.44	\$27.66		
		FRINGE	\$15.26	\$16.59		
<div style="display: flex; justify-content: space-between;"> <div> LABORERS ZONE 3 Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford </div> <div> LABORERS ZONE 4 Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft </div> </div>						
LABORERS CLASS 3 ZONE 1	RBLABC3Z1	WAGE	\$22.11	\$33.17		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$16.58	\$24.87		
		FRINGE	\$15.46	\$16.86		
1001-2000 WORK HOURS		WAGE	\$17.69	\$26.54		
		FRINGE	\$15.46	\$16.86		
2001-3000 WORK HOURS		WAGE	\$18.79	\$28.18		
		FRINGE	\$15.46	\$16.86		
3001-4000 WORK HOURS		WAGE	\$21.00	\$31.50		
		FRINGE	\$15.46	\$16.86		
LABORERS ZONE 1 Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne						

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 10 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 3 ZONE 2	RBLABC3Z2	WAGE	\$20.39	\$30.59		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$15.29	\$22.94		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$16.31	\$24.46		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$17.33	\$26.00		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$19.37	\$29.06		
		FRINGE	\$15.26	\$16.59		

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass,
Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham,
Jackson, Kalamazoo, Lapeer, Lenawee, Livingston,
Midland, Muskegon, Saginaw, Sanilac, Shiawassee,
St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS CLASS 3 ZONES 3 & 4	RBLABC3Z3	WAGE	\$19.70	\$29.55		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$14.77	\$22.16		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$15.76	\$23.64		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$16.74	\$25.11		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$18.72	\$28.08		
		FRINGE	\$15.26	\$16.59		

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix,
Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand
Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent,
Lake, Leelanau, Manistee, Mason, Mecosta,
Missaukee, Montcalm, Montmorency, Newaygo,
Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa,
Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic,
Houghton, Iron, Keweenaw, Luce, Mackinac,
Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 11 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 4 ZONE 1	RBLABC4Z1	WAGE	\$22.19	\$33.29		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$16.64	\$24.96		
		FRINGE	\$15.46	\$16.86		
1001-2000 WORK HOURS		WAGE	\$17.75	\$26.62		
		FRINGE	\$15.46	\$16.86		
2001-3000 WORK HOURS		WAGE	\$18.86	\$28.29		
		FRINGE	\$15.46	\$16.86		
3001-4000 WORK HOURS		WAGE	\$21.08	\$31.62		
		FRINGE	\$15.46	\$16.86		

LABORERS ZONE 1

Genesee, Macomb, Monroe, Oakland, Washtenaw
and Wayne

LABORERS CLASS 4 ZONE 2	RBLABC4Z2	WAGE	\$20.74	\$31.11		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$15.56	\$23.34		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$16.59	\$24.88		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$17.63	\$26.44		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$19.70	\$29.55		
		FRINGE	\$15.26	\$16.59		

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass,
Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham,
Jackson, Kalamazoo, Lapeer, Lenawee, Livingston,
Midland, Muskegon, Saginaw, Sanilac, Shiawassee,
St. Clair, St. Joseph, Tuscola, and Van Buren

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 12 of 22

Construction Mechanic Classification	Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
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LABORERS CLASS 4 ZONES 3 & 4	RBLABC4Z3	WAGE	\$20.14	\$30.21	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$15.10	\$22.65
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$16.11	\$24.16
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$17.12	\$25.68
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$19.13	\$28.70
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

LABORERS CLASS 5 ZONE 1	RBLABC5Z1	WAGE	\$22.40	\$33.60	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$16.80	\$25.20
	FRINGE	\$15.46	\$16.86
1001-2000 WORK HOURS	WAGE	\$17.92	\$26.88
	FRINGE	\$15.46	\$16.86
2001-3000 WORK HOURS	WAGE	\$19.04	\$28.56
	FRINGE	\$15.46	\$16.86
3001-4000 WORK HOURS	WAGE	\$21.28	\$31.92
	FRINGE	\$15.46	\$16.86

LABORERS ZONE 1

Genesee, Macomb, Monroe, Oakland, Washtenaw and Wayne

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 13 of 22

Construction Mechanic Classification	Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
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LABORERS CLASS 5 ZONE 2	RBLABC5Z2	WAGE	\$20.61	\$30.92	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$15.46	\$23.19
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$16.49	\$24.74
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$17.52	\$26.28
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$19.58	\$29.37
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS CLASS 5 ZONES 3 & 4	RBLABC5Z3	WAGE	\$19.76	\$29.64	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$14.82	\$22.23
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$15.81	\$23.72
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$16.80	\$25.20
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$18.77	\$28.16
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Page 14 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 6 ZONE 1	RBLABC6Z1	WAGE	\$22.70	\$34.05		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$17.02	\$25.53		
		FRINGE	\$15.46	\$16.86		
1001-2000 WORK HOURS		WAGE	\$18.16	\$27.24		
		FRINGE	\$15.46	\$16.86		
2001-3000 WORK HOURS		WAGE	\$19.29	\$28.94		
		FRINGE	\$15.46	\$16.86		
3001-4000 WORK HOURS		WAGE	\$21.56	\$32.34		
		FRINGE	\$15.46	\$16.86		

LABORERS ZONE 1

Genesee, Macomb, Monroe, Oakland, Washtenaw
and Wayne

LABORERS CLASS 6 ZONE 2	RBLABC6Z2	WAGE	\$20.95	\$31.43		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$15.71	\$23.56		
		FRINGE	\$15.26	\$16.59		
1001-2000 WORK HOURS		WAGE	\$16.76	\$25.14		
		FRINGE	\$15.26	\$16.59		
2001-3000 WORK HOURS		WAGE	\$17.81	\$26.72		
		FRINGE	\$15.26	\$16.59		
3001-4000 WORK HOURS		WAGE	\$19.90	\$29.85		
		FRINGE	\$15.26	\$16.59		

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass,
Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham,
Jackson, Kalamazoo, Lapeer, Lenawee, Livingston,
Midland, Muskegon, Saginaw, Sanilac, Shiawassee,
St. Clair, St. Joseph, Tuscola, and Van Buren

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 15 of 22

Construction Mechanic Classification	Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
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LABORERS CLASS 6 ZONES 3 & 4	RBLABC6Z3	WAGE	\$20.19	\$30.29	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$15.14	\$22.71
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$16.15	\$24.22
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$17.16	\$25.74
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$19.18	\$28.77
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

LABORERS CLASS 7 ZONES 2, 3, 4	RBLABC72	WAGE	\$23.52	\$35.28	X X X X X X X H Y
	6/13/2013	FRINGE	\$15.26	\$16.59	

Apprentice Rates:

0-1000 WORK HOURS	WAGE	\$17.64	\$26.46
	FRINGE	\$15.26	\$16.59
1001-2000 WORK HOURS	WAGE	\$18.82	\$28.23
	FRINGE	\$15.26	\$16.59
2001-3000 WORK HOURS	WAGE	\$19.99	\$29.98
	FRINGE	\$15.26	\$16.59
3001-4000 WORK HOURS	WAGE	\$22.34	\$33.51
	FRINGE	\$15.26	\$16.59

LABORERS ZONE 2

Allegan, Barry, Bay, Berrien, Branch, Calhoun, Cass, Clinton, Eaton, Gratiot, Hillsdale, Huron, Ingham, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Midland, Muskegon, Saginaw, Sanilac, Shiawassee, St. Clair, St. Joseph, Tuscola, and Van Buren

LABORERS ZONE 3

Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Ionia, Iosco, Isabella, Kalkaska, Kent, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Newaygo, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon and Wexford

LABORERS ZONE 4

Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Issue Date: 4/2/2014

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Page 16 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
LABORERS CLASS 7 ZONE 1	RBLABC7Z1	WAGE	\$23.77	\$35.66		X X X X X X X H Y
	6/13/2013	FRINGE	\$15.46	\$16.86		
Apprentice Rates:						
0-1000 WORK HOURS		WAGE	\$17.83	\$26.74		
		FRINGE	\$15.46	\$16.86		
10001-2000 WORK HOURS		WAGE	\$19.02	\$28.53		
		FRINGE	\$15.46	\$16.86		
2001-3000 WORK HOURS		WAGE	\$20.20	\$30.30		
		FRINGE	\$15.46	\$16.86		
3001-4000 WORK HOURS		WAGE	\$22.58	\$33.87		
		FRINGE	\$15.46	\$16.86		

LABORERS ZONE 1
Genesee, Macomb, Monroe, Oakland, Washtenaw
and Wayne

OPERATING ENGINEERS						
OPERATING ENGINEERS CLASS I ZONE 1 & 2	RBOEC1Z1	WAGE	\$25.66	\$38.49		H H H H H H H H Y
	6/5/2013					
	6/5/2013	FRINGE	\$25.21	\$27.14		
Apprentice Rates:						
1ST 6 MONTHS		WAGE	\$17.96	\$26.94		
		FRINGE	\$23.20	\$24.55		
2ND 6 MONTHS		WAGE	\$19.24	\$28.86		
		FRINGE	\$23.40	\$24.85		
3RD 6 MONTHS		WAGE	\$20.53	\$30.80		
		FRINGE	\$23.59	\$25.13		
4TH 6 MONTHS		WAGE	\$21.81	\$32.72		
		FRINGE	\$23.78	\$25.42		
5TH 6 MONTHS		WAGE	\$23.09	\$34.64		
		FRINGE	\$23.97	\$25.70		
6TH 6 MONTHS		WAGE	\$24.38	\$36.57		
		FRINGE	\$24.17	\$26.00		

OPERATING ENGINEERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne counties

OPERATING ENGINEERS ZONE 2
The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Page 17 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
OPERATING ENGINEERS CLASS II ZONE 1	RBOEC2Z1	WAGE	\$19.81	\$29.72		H H H H H H H Y
	6/11/2013					
	6/11/2013	FRINGE	\$24.33	\$25.82		

OPERATING ENGINEERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne counties

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS GREASE TRUCK CLASS II ZONE 1	RBOEC2Z1G	WAGE	\$20.94	\$31.41		H H H H H H H Y
	T 6/12/2013					
	6/12/2013	FRINGE	\$24.50	\$26.07		

OPERATING ENGINEERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne counties

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS CLASS 2 ZONE 2	RBOEC2Z2	WAGE	\$19.68	\$29.52		H H H H H H H Y
	6/12/2013					
	6/12/2013	FRINGE	\$24.31	\$25.79		

OPERATING ENGINEERS ZONE 2
The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS GREASE TRUCK CLASS 2 ZONE 2	RBOEC2Z2G	WAGE	\$20.81	\$31.22		H H H H H H H Y
	T 6/12/2013					
	6/12/2013	FRINGE	\$24.48	\$26.04		

OPERATING ENGINEERS ZONE 2
The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 18 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
OPERATING ENGINEERS CLASS III ZONE 1	RBOEC3Z1	WAGE	\$19.32	\$28.98		H H H H H H H Y
	6/12/2013					
	6/12/2013	FRINGE	\$24.26	\$25.71		

OPERATING ENGINEERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne counties

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS CLASS III ZONE 2	RBOEC3Z2	WAGE	\$19.19	\$28.79		H H H H H H H Y
	6/12/2013					
	6/12/2013	FRINGE	\$24.24	\$25.68		

OPERATING ENGINEERS ZONE 2
The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS CLASS IV ZONE 1	RBOEC4Z1	WAGE	\$19.17	\$28.76		H H H H H H H Y
	6/12/2013					
	6/12/2013	FRINGE	\$24.24	\$25.68		

OPERATING ENGINEERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne counties

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

OPERATING ENGINEERS CLASS IV ZONE 2	RBOEC4Z2	WAGE	\$18.91	\$28.37		H H H H H H H Y
	6/12/2013					
	6/12/2013	FRINGE	\$24.20	\$25.62		

OPERATING ENGINEERS ZONE 2
The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Washtenaw
and Wayne

Make up day allowed comment

4 tens allowed M-Th or T-F. If work cannot be performed due to weather during the M-Th schedule, Friday may be worked as a make-up day.

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 19 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
Pipe and Manhole Rehab						
General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant	TM247	WAGE	\$18.99	\$28.49		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment	TM247-2	WAGE	\$23.49	\$35.24		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work	TM247-3	WAGE	\$22.24	\$33.36		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

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Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 20 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated	TM247-4	WAGE	\$23.99	\$35.99		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

Combo Unit driver & Jetter-Vac Operator	TM247-5	WAGE	\$23.99	\$35.99		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

Pipe Bursting & Slip-lining Equipment Operator	TM247-6	WAGE	\$24.99	\$37.49		H H H H H H H H N
	10/15/2012					
	10/15/2012	FRINGE	\$8.21	\$8.21		

Statewide

TRUCK DRIVERS						
TRUCK DRIVERS ZONE 1 EUCLID TYPE EQUIPMENT	TD1	WAGE	\$25.15	\$37.73		H H H H H H H H Y
	8/8/2013					
	8/8/2013	FRINGE	\$16.30	\$0.50		

TRUCK DRIVERS ZONE 1
Genesee, Oakland, Macomb, Monroe, Livingston,
Washtenaw and Wayne

Official Request #: 69
Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 21 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
TRUCK DRIVERS ZONE 2 EUCLID	TD2		WAGE	\$25.05	\$37.58	H H H H H H H Y
TYPE EQUIPMENT	8/8/2013					
	8/8/2013	FRINGE	\$16.30	\$0.50		

TRUCK DRIVERS ZONE 2

The entire state except those counties listed in Zone 1: Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

TRUCK DRIVERS ZONE 1 8 YARD	TD81		WAGE	\$25.00	\$37.50	H H H H H H H Y
CAPACITY OR GREATER	8/8/2013					
	8/8/2013	FRINGE	\$16.30	\$0.50		

TRUCK DRIVERS ZONE 1

Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

TRUCK DRIVERS ZONE 2 8 YARD	TD82		WAGE	\$24.90	\$37.35	H H H H H H H Y
CAPACITY OR GREATER	8/8/2013					
	8/8/2013	FRINGE	\$17.02	\$0.50		

TRUCK DRIVERS ZONE 2

The entire state except those counties listed in Zone 1: Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

TRUCK DRIVERS ZONE 1 ALL	TD91		WAGE	\$24.90	\$37.35	H H H H H H H Y
TRUCKS OF 8 CUBIC YARD	8/8/2013					
CAPACITY OR LESS (except dump	8/8/2013	FRINGE	\$17.02	\$0.50		

trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)

TRUCK DRIVERS ZONE 1

Genesee, Oakland, Macomb, Monroe, Livingston, Washtenaw and Wayne

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a

contract.

Official 2014 Prevailing Wage Rate Schedule for Parking Lot, Road, Highway, Bridge and Airport Construction

Issue Date: 4/2/2014

Contract must be awarded by: 7/1/2014

Page 22 of 22

Construction Mechanic Classification			Straight Time Rate	Time and One Half Rate	Double Time Rate	Overtime Code
=====						
TRUCK DRIVERS ZONE 2 8	TD92	WAGE	\$24.80	\$37.20		H H H H H H H Y
CUBIC YARD CAPACITY OR LESS	8/8/2013					
(except dump trucks of 8 cubic	8/8/2013	FRINGE	\$17.02	\$0.50		
yard capacity or over, tandem axle						
trucks, transit mix and semis,						
euclid type equipment, double						
bottoms and low boys)						

TRUCK DRIVERS ZONE 2

The entire state except those counties listed in Zone
1: Genesee, Oakland, Macomb, Monroe, Livingston,
Washtenaw and Wayne

Official Rate Schedule

Official Request #: 69

Requestor: Troy School District

Project Description: Various Elementary Schools - Demolition, Paving, Concrete

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

**SECTION 00880
REGULATORY REQUIREMENTS**

1. STANDARDS, CODES AND REGULATION

- 1.1. All Work is to comply with the rules and regulations of governing bodies having jurisdiction.
- 1.2. Standards, codes and regulations published by Manufacturer's associations, governmental agencies and other regulatory authorities form a part of these Specifications as minimum requirements. Such references include the latest issue and legal requirements in force.
- 1.3. Where differences occur between the Contract Documents and such standards, the strictest requirements shall take precedence.
- 1.4. Supply all materials and perform all Work in accordance with the Manufacturer's specifications and installation procedures, and in conformance with published Trade and Manufacturers' association standards, unless specifically noted otherwise in the Contract Documents.

2. PERMITS AND FEES

- 2.1. The Troy School District will obtain and pay for the General Building Permit.
- 2.2. Other than the general building permit, Contractor shall provide and pay for all other permits, assessments, governmental fees, bonds, connection charges, licenses and inspection fees and any other charges necessary for the proper execution and completion of the Contractor's Work.
- 2.3. Contractor is to provide, pay for and coordinate all other permits, fees, inspections, and city, county, state, federal and governing authority approvals required for the successful completion of the Work contained within its respective Bid Category and deliver required certificates of inspection and approvals to CM.
- 2.4. This Project is under but not limited to the jurisdiction of the
 - MICHIGAN DEPARTMENT OF LABOR FOR MECHANICAL AND ELECTRICAL
 - STATE OF MICHIGAN FIRE MARSHAL DIVISION
 - MICHIGAN DEPARTMENT OF PUBLIC AND (COUNTY) DEPARTMENT OF PUBLIC HEALTH
 - Site water and sewer utilities are under the jurisdiction of the COUNTY DRAIN/ROAD COMMISSION authorities

3. TAXES

- 3.1. This Project is subject to all applicable state Sales Tax and/or Use taxes, and Bidder must include such taxes in its Bid Proposal. All other taxes applicable to the project at the time of the bid are to be included in the bid amount and will be the responsibility of Bidder.

END OF SECTION 00880

**SECTION 01140
USE OF PREMISES**

1 RULES AND ENFORCEMENT:

- 1.1. Contractor and its Subordinate Parties shall be subject to rules and regulations for the conduct of the Work as stated herein and as the Owner or CM may establish.
- 1.2. Willful disregard of the following will be grounds for requiring the offending person(s) to be removed from the Project, and may subject the Contractor to termination under the Agreement.

2 USE OF PREMISES AND DELIVERIES

2.1. ACCESS TO WORK:

- 2.1.1. Before starting the Work, Contractor shall ascertain from CM what entrances, routes or roadways shall be used for access to the Work, and use only those designated for movement of personnel, materials and vehicles to and from the Project site.
- 2.1.2. Close coordination is required of Contractor with the Owner, CM, other contractors, the city and others having an interest in the Project to assure that Work on the site, access to and from the site and the general conduct of operations is maintained in a safe and efficient manner, and that disruption and inconvenience to existing streets and property is minimized.
- 2.1.3. Contractor is responsible to review the site and be familiar with all existing conditions within and around the Owner's property including local conditions and requirements.

2.2. ENTRANCES AND DRIVES

- 2.2.1. Specific entrances for material deliveries, equipment deliveries and worker access to the Project site will be as designated/directed by CM.
- 2.2.2. Selected entrances to the Project site will remain open for use during normal working hours.
- 2.2.3. At no time are vehicles to be parked, whether attended or not, in the Owner's entrances or drives.
- 2.2.4. Any material delivery which will tie up the Owner's entrances or drives shall be pre-scheduled with the Owner through CM.
- 2.2.5. Owner's deliveries and operations will take precedence over scheduling of construction deliveries.

2.3. ACCESS TO BUILDINGS:

- 2.3.1. Maintain free access to all buildings and areas of the site for designated vehicles, service vehicles and fire fighting equipment, and at no time shall block off or close roadways or fire lanes without providing auxiliary roadways and means of entrance acceptable to the Owner and CM.
- 2.3.2. Maintain a clean and safe passageway for the Owner's operations and personnel in existing areas, and maintain clearances adjacent to and in connection with the Work performed. Fire hydrants must remain accessible at all times.
- 2.3.3. Give the Owner and the local fire department at least forty-eight (48) hours notice of any such changes of routes.

2.4. SITE PARKING:

- 2.4.1. There is on-site parking for Contractors and their Subordinate Parties' employees.
- 2.4.2. Contractor, Subordinate Parties and their personnel will be allowed to park in the Owner's parking area. Each Contractor is responsible for providing transportation to and from the site, if required.

- 2.5. **LOADING OF STRUCTURE:** Each Contractor on behalf of itself and its Subordinate Parties shall not load or permit any part of a structure to be loaded with a weight that will endanger its safety.
- 2.6. **USE OF OWNER'S EQUIPMENT:** Contractors and their Subordinate Parties will not be allowed to use any Owner tools or equipment during the course of the Project .
- 2.7. **USE OF EXISTING ELEVATORS**
 - 2.7.1. Contractor may subject to the approval of CM and Owner, use the existing elevator(s) designated by the Owner within the contract boundaries for movement of personnel and materials to a construction area.
 - 2.7.2. In those cases where an elevator is to be shared with Owner services, the Owner's employees and services take priority over construction activities.
 - 2.7.3. Contractor is responsible for proper conduct with regard to the use of the elevator. Any damage to the elevator due to oversize load, excess weight or other conditions is the individual Contractor's responsibility.
 - 2.7.4. Use of the elevator(s) at times other than normal working hours shall be coordinated with CM and Owner.
- 2.8. **USE OF EXISTING FACILITIES**
 - 2.8.1. Limit the usage of the occupied areas of the facility to that which is absolutely necessary for the installation of the Work. Parts of the facility not in the construction area are "off limits" unless a specific work task is being performed as designated by CM.
 - 2.8.2. Use of the Owner's cafeteria, parking, telephones, toilet facilities, tools, equipment, or any other item or facility belonging to the Owner is not allowed unless specifically authorized by Owner and CM.
 - 2.8.3. Restrict all Work activities associated within an area undergoing renovation to the boundaries indicated by the Contract Documents. Any means of access or egress from the stipulated boundaries shall be coordinated with CM and the Owner.
- 3 **WORK HOURS:**
 - 3.1. Normal working hours are; 7:00 AM to 3:30 PM, Monday through Friday.
 - 3.2. Work operations shall comply with all applicable laws, ordinances, and regulations, and not create a public nuisance nor disturb the peace.
 - 3.3. Compensation to CM for supervisory staff due to abnormal working hours will be at the requesting Contractor's expense.
 - 3.4. Whenever Contractor intends to depart from normal work hours, it shall notify CM in writing at least forty-eight (48) hours in advance. Failure of Contractor to give such timely notice may result in CM directing the removal or uncovering of the Work performed during such abnormal hours at Contractor's expense. Special arrangements can be made for emergency work or shutdowns as may be required.
 - 3.5. Required off-hours work:
 - 3.5.1. Contractors may be requested to work split shifts, weekends, off peak Owner loading periods, etc., to accommodate Owner's utility and service requirements, such as, but not limited to, medical gas systems, electrical power, HVAC systems, storm and sanitary lines.
 - 3.5.2. All Work shall be bid on a straight time basis. Should premium time be required by the Owner, the cost for premium time labor, which may be required, is the Contractor's responsibility and is to be included in the base bid.
- 4 **USE OF EXPLOSIVES:** Is NOT permitted.
- 5 **DUST, DIRT, NOISE:** Each Contractor shall effectively confine or eliminate dust, dirt and noise to the actual construction area and in compliance with all applicable laws, rules and regulations.

- 6 BEHAVIOR AND CONDUCT: The Owner and CM expect Contractors and their Subordinate Parties to exercise common sense and good judgment, and to conduct themselves in a manner which would be a credit to the Owner. Without limiting other applicable provisions of the Contract Documents, Contractor shall not engage in the following:
- 6.1. Conduct that interferes with Work or work of others.
 - 6.2. Conduct that interferes with or is detrimental to safety, well-being of the owner, their operations and/or good reputation.
 - 6.3. Unauthorized use of confidential information.
 - 6.4. Discourtesy toward Owner's staff, visitors and the general public (including abusive, vulgar or other language.)
 - 6.5. Soliciting, canvassing, posting, or distributing literature or materials for any purpose while on the job site.
 - 6.6. Disregard of safety, sanitation, or security laws, rules and regulations.
 - 6.7. Stealing.
 - 6.8. Gambling.
 - 6.9. Possession and/or use of narcotics or intoxicants.
 - 6.10. Threats or abuse of others.
 - 6.11. Disorderly conduct or fighting.
 - 6.12. Playing of loud music.
 - 6.13. Falsification of information.
 - 6.14. Unauthorized travel of Contractor's employees outside the designated project Work areas.
 - 6.15. Discriminating behavior.
 - 6.16. Possession and/or use of weapons or firearms.
 - 6.17. Sexual or Ethnic harassment.
 - 6.18. Smoking: Contractors and their Subordinate Parties shall be responsible for adhering to the smoking policies and regulations of the Owner and the Owner's facilities.
- 7 TEMPORARY PARTITIONS:
- 7.1. Partition construction shall provide a fire-resistant classification approved by the authorities having jurisdiction. Openings in such partitions shall be protected by fire doors consistent with the rating of the partition. Any trade creating penetrations through the temporary partitions shall fire stop openings to match the rating of the wall.
- 8 PROTECTION OF FACILITIES
- 8.1. Each Contractor on behalf of itself and its Subordinate Parties shall be responsible for all damage to the Project including the existing buildings and grounds arising or resulting from its operations under the Agreement. Repair or replacement of damaged items shall be to the satisfaction of the Owner and CM.
 - 8.2. Each Contractor shall provide and maintain proper shoring and bracing for existing underground and aboveground utilities, foundations, structure and systems encountered during its Work and shall
 - 8.2.1. protect the project, or any part thereof, and surrounding areas from collapse or movement, or any other type of damage until such time as they are to be removed, incorporated into the new Work or can be properly supported or backfilled upon completion of new Work.
 - 8.2.2. limit disruptions to a maximum of four (4) hours.

- 8.2.3. prior to beginning any Work that may affect underground facilities, contact MISS DIG and utility companies for the location of all existing underground services.
 - 8.2.3.1. Provide, documentation of such contact to CM.
 - 8.2.3.2. If necessary, Contractor shall pay for layout and locating of existing utilities.
 - 8.3. Utilities and/or other services which are shown, or not shown but encountered, shall be protected by the Contractor from any damage arising or resulting from Work, unless or until they are abandoned. If the utilities or services are damaged from Contractor's Work, Contractor shall immediately repair any damage and restore the utilities and services to an equal or better condition than that which existed prior to the damage. Contractor will be responsible for all liabilities, expenses, lawsuits or claims arising or resulting from such damage and will defend, hold harmless and indemnify Owner and CM from any claims or lawsuits or other expenses.
 - 8.4. Each Contractor on behalf of itself and its Subordinate Parties shall be responsible for all damage to the Project and surrounding areas including the existing building and grounds arising out of or resulting from their performance of the Work. Repair or replacement of damaged items shall be to the satisfaction of the Owner and CM.
 - 8.5. Preservation of existing trees and other vegetation on the site to the maximum extent possible is required.
 - 8.5.1. Each Contractor must plan its Work and instruct its Subordinate Parties to conduct their operations to avoid damage to trees and vegetation (provide barriers as required.)
 - 8.5.2. Indiscriminate driving about the site, disposing of waste, storage of materials upon or against trees or any other activity which is harmful to trees or vegetation will not be tolerated.
 - 8.5.3. Any case of damage to any tree shall be reported to CM immediately so that professional repairs can be made. The cost of such required repairs or treatment shall be charged to the responsible Contractor.
- 9 OWNER'S OPERATIONS & INTERRUPTION OF OCCUPANCY /SEQUENCING
- 9.1. The Owner shall have the option to curtail or delay any activity that affects its operations. Should a Contractor be asked to stop its Work, the Contractor shall do so immediately and proceed with other activities with no additional cost to the Owner or CM.
 - 9.2. The Owner may occupy the premises during the entire period of construction to conduct operations.
 - 9.3. Each Contractor is responsible to plan, coordinate and execute its Work in such a manner that there will be no disruption of or the least disruption to the Owner's operations. If an interruption of operations is unavoidable, then this Work will be scheduled with the Owner through CM.
 - 9.4. Contractors is responsible to provide temporary utilities and systems to maintain services to the facility while Work is being performed.
 - 9.5. No interruptions to Owner's power, lighting, signal, or alarm circuits will be permitted without the express written permission of the Owner through CM. Arrangements for interruptions shall be made with the Owner at least forty-eight (48) hours prior to the interruption and shall be made at such time and duration as authorized by them. Temporary feeders, transformer jumpers, connections, circuits, etc., shall be used as required to accomplish the above at no additional cost to the Owner and CM.
- 10 MATERIAL STORAGE
- 10.1. All Contractors are required to provide and pay for off-site storage facilities as required for their Work.
 - 10.2. All Contractors will not be allowed on-site storage facilities. Material, equipment and tools, shall not be stored on-site in excess of five (5) working days prior to installation or use without CM's approval.
 - 10.3. Storage of combustible materials within or adjacent to the building is prohibited.
 - 10.4. All Contractors shall

- 10.4.1. Stock the job with sufficient materials to maintain progress and schedule and without interfering with the Work or storage of others.
- 10.4.2. Assume full responsibility for the protection and safekeeping of products under their control which are stored on the site.
- 10.4.3. Move any stored products under their control, which interfere with operations of the Owner or separate contractors as directed by CM.
- 10.4.4. Provide sufficient protection for its materials and equipment from damages by weather or construction work or other hazards.
- 10.4.5. Remove all debris and leave the area in a clean and orderly condition during progress of Work and upon completion of the Work.
- 10.4.6. Submit a receipt of shipment for all equipment stored on-site or off-site to CM. No materials or equipment shall be removed from the site without the permission of CM

END OF SECTION 01140

SECTION 01250 CHANGES IN THE WORK

1 SUMMARY

1.01 This section describes the following requirements including:

1.01.1 Types of Change Documentation

1.01.1.1 PCO – Potential Change Order

1.01.1.2 CO – Change Order

1.01.2 Compensation of Overhead and Profit for Changes in the Work

1.01.3 Itemization of Cost of Changed Work

1.02 This section is not intended to include RFI's, ASI's (Architects Supplemental Instructions), or other documents that clarify the work but have no substantive cost or schedule impact to the work.

2 TYPES OF CHANGE DOCUMENTATION

Changes to the work which may involve a change in the contract price or schedule will be accompanied by the Barton Malow form entitled "PCO- Quotation Only". In the event that the timing does not allow the For Quote Only process, then CM will issue its form entitled "PCO-Notice to Proceed."

2.1. PCO- NOTICE TO PROCEED AND FOR PCO- QUOTATION ONLY FORMS

- 2.1.1. A PCO- Notice to Proceed is used when Work must be performed with swiftness and authorization to proceed by Change Order is inappropriate due to time restrictions. In order for a PCO- Notice to Proceed to be valid, it must be signed by CM. The terms for establishing the additional cost and processing of the PCO- Notice to Proceed into a Change Order shall be identified prior to its release by CM.
- 2.1.2. If a change results in a change in cost, CM will issue a PCO with the supporting change documents.
- 2.1.3. Contractor shall prepare a detailed cost quotation for the PCO. This quotation shall include an itemized takeoff of labor, equipment and material with a unit cost for each item together with backup and breakdown documentations satisfactory to CM. The PCO must be returned as directed
- 2.1.4. Contractor shall sign and date the PCO and submit it with proper backup. The PCO will then be reviewed, evaluated, negotiated and then, when acceptable, processed
- 2.1.5. The PCO- Quotation Only is a document used for processing Contractor's quotations and is **not** a Change Order. Therefore, completion of the PCO- Quotation Only does **not** release the Work to begin.
- 2.1.6. PCO's will precede a Change Order. Contractors shall receive an approved PCO- Notice to Proceed or an executed Change Order before starting Work. Any changed Work performed by Contractor without a properly executed PCO- Notice to Proceed or a properly executed Change Order is at Contractor's sole risk and expense. BILLINGS AGAINST CHANGES WILL NOT BE ACCEPTED AFTER A PCO- NOTICE TO PROCEED OR FOR QUOTE ONLY IS ISSUED, BUT ONLY AFTER A CHANGE ORDER HAS BEEN PROCESSED AND SIGNED BY ALL PARTIES.

2.2. CHANGE ORDER

- 2.2.1. Change Orders will be issued by CM. CM will first issue the Change Order to the Contractor for signature. The Change Order will then be returned to CM. Once all appropriate signatures are secured, an executed copy will be sent to the Contractor.
- 2.2.2. Once the Change Order has been processed and signed by all parties, the Contractor may invoice for payment on the completed portion of Work.
- 2.2.3. Agreement on a Change Order shall constitute a final settlement of all matters relating to the changed Work that is the subject of the Change Order.

3. COMPENSATION OF OVERHEAD AND PROFIT FOR CHANGES IN THE WORK

3.1. CONTRACTOR'S OVERHEAD AND PROFIT

- 3.1.1. For changes resulting in increase of cost:
 - 3.1.1.1. Overhead and profit for the Contractor shall not exceed the following when change Work is performed by
 - 3.1.1.1.1. Contractor itself: fifteen percent (15%).
 - 3.1.1.1.2. Contractor subordinate party: five percent (5%)
 - 3.1.1.2. Overhead and profit for the subordinate party shall not exceed the following when change Work is performed by
 - 3.1.1.2.1. Subordinate party itself: fifteen percent (15%)
 - 3.1.1.2.2. Contractor to the subordinate party: five percent (5%)
- 3.1.2. For changes resulting in reduction of cost
 - 3.1.2.1. Deductive costs shall include commensurate deductive credits for overhead and profit based on the percentages stated above.
- 3.1.3. Contractor's and Subordinate Party's overhead and profit shall include cost (at the Project Site, home office and otherwise) of supervision, telephone, travel, copying, administrative services, office, power, light, tools, jobsite vehicles, and all other general expenses including bond premiums. In no event shall these items be charged as cost of the Changed Work.

4. ITEMIZATION OF COST OF CHANGED WORK

4.1. EXTRA WORK TICKETS

- 4.1.1. If extra work is to be completed above and beyond the terms of the contract, as determined by (and approved in advance by) the CM, the Contractor is required to:
 - 4.1.1.1. Provide an Extra Work Order ticket to the CM within three (3) days of completing the work.
 - 4.1.1.1.1. Extra Work Order tickets will be rejected if they are not turned in to the CM within three (3) days of completing the work.
 - 4.1.1.1.2. Extra Work Order tickets are to be completed in triplicate and a copy is to be left with the CM.
 - 4.1.1.1.2.1. The CM will sign all copies of the Extra Work Order tickets and return two (2) to the Contractor in a prompt manner, keeping one for record.
 - 4.1.1.1.3. A copy of the signed ticket(s) must accompany the Request for Change Order(s) quote from the Contractor. A change order will not be processed and the Request for Change Order(s) will be rejected if there is no signature from the CM.

4.1.1.2. Provide the CM with a Request for Change Order for the extra work within ten (10) days of receiving the signed ticket.

4.1.1.2.1. The Request for Change Order must be accompanied by a copy of the signed Extra Work Order ticket from the Contractor.

4.1.1.2.2. The Request for Change Order will be rejected and no PCO or Change Order will not be processed if the quote is not received within ten (10) days of the date signed by the CM.

4.2. CORRELATION WITH CONTRACTOR'S SUBMITTALS

4.2.1. Contractors shall

4.2.1.1. Revise the Schedule of Values and Request for Payment forms to record each Change Order as a separate item of Work, and to record the adjusted contract price.

4.2.1.2. Revise the Construction Schedule to reflect each change in Contract Time approved by a Change Order.

4.2.1.3. Revise sub-schedules to show changes for other items of Work affected by the changes.

4.2.1.4. Enter and revise Record Documents to reflect changes

4.3. COST OF THE CHANGED WORK

4.3.1. The "Cost of the Changed Work" shall be approved by CM and shall mean the costs necessarily incurred by the Contractor in the proper performance of the Changed Work. Such rates shall not be higher than those customarily paid at the place of the Project. The Cost of the Changed Work shall only include those items set forth below.

WAGES OF LABOR	Wages of construction workers directly employed by Contractor to perform the construction of the changed Work at the site
PAYROLL MARKUP	The amount approved by CM and Owner which covers the costs paid by the Contractor for taxes, insurance, contributions, assessments, and benefits required by law or collective bargaining agreements and for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays vacations and pensions, provided that such costs are based on the wages and salaries of labor performing the changed Work.
COST OF EQUIPMENT, MATERIALS, AND SUPPLIES	Costs of materials, equipment and supplies to be incorporated into the changed Work less all savings, discounts, rebates and credits accruing to the Contractor.
RENTAL CHARGES FOR EQUIPMENT NOT OWNED BY CONTRACTOR	Rental charges for equipment not owned by Contractor that is necessary for completion of the Changed Work. Rates and quantities rented must be approved in advance by CM.
TAXES	Sales or use taxes imposed by a governmental authority which are directly attributable to the changed Work and for which the Contractor is liable.
SUBORDINATE PARTY COSTS	Payments made to the Contractors for proper execution of Changed Work, subject to the limits set forth above for overhead and profit.

4.2.2. In no event shall the Cost of Changed Work include:

- 4.2.2.1. Salaries or wages of persons other than those directly performing the changed Work, including Contractor's personnel stationed at the principal office;
- 4.2.2.2. Expenses of the Contractor's principal office and offices other than the site office, except as provided above;
- 4.2.2.3. Overhead and general expenses of any nature, except as set forth above;
- 4.2.2.4. Capital expenses of Contractor, including interest on the Contractor's capital employed for the Changed Work;
- 4.2.2.5. Rental costs for machinery or equipment, except as allowed above, or tools of any kind, unless specifically identified and approved in advance in writing by CM;
- 4.2.2.6. Costs due to the negligence or failure to perform of the Contractor or its Subordinate Parties;
- 4.2.2.7. Costs designated above as being included in Overhead and Profit
- 4.2.2.8. Any cost not specifically described above, or otherwise approved in advance and in writing by CM and Owner.
- 4.2.2.9.** Any bond premiums of portion of increased bond costs directly attributable to the changed Work.

4.3. QUOTATION FORMAT

Based on the above, the following formula will be utilized by all of the Contractors.

Number of PCO _____
 Date of PCO _____
 Description of Change _____

Cost of Changed Work

Labor:

Carpenter	(No. of Hrs. x Rate)	xxx.xx	
Labor	(No. of Hrs. x Rate)	xxx.xx	
Ironworker	(No. of Hrs. x Rate)	<u>xxx.xx</u>	
Subtotal			xxx.xx
OH&P @ 15%			xxx.xx

Equipment, Materials, Supplies:

Ace Hardware	xxx.xx		
Acme Products	xxx.xx		
Concrete Supplier		<u>xxx.xx</u>	
		xxx.xx	
Subtotal			xxx.xx
OH&P @ 15 %			<u>xxx.xx</u>
Subtotal (1)			xxx.xx

Contractor Costs

ABC Welding	xxx.xx		
XYZ Resteel		<u>xxx.xx</u>	
Subtotal			xxx.xx
OH&P @ 5 %			<u>xxx.xx</u>
Subtotal (2)			xxx.xx

TOTAL QUOTATION AMOUNT

Total Quotation (Subtotal 1 plus Subtotal 2)

xxx.xx

END OF SECTION 01250

SECTION 01290 PAYMENT PROCEDURES

1. SUMMARY

1.1. This Section describes the following requirements including:

- 1.1.1. Schedule of Values
- 1.1.2. Application for Payment Process
- 1.1.3. Reduction of Retention
- 1.1.4. Payment for Materials Stored Off-site
- 1.1.5. Waivers of Lien and Sworn Statements

2. PAYMENT PROCEDURES

2.1. SCHEDULE OF VALUES

- 2.1.1. Once the Agreement is awarded, each Contractor must submit a Schedule of Values for its entire Work to CM for approval. This Schedule of Values must be submitted either within fifteen (15) days of award or fifteen (15) days prior to the first payment application deadline (per the Application for Payment Schedule), whichever comes first. The Schedule of Values must include labor and material line items for each portion of the Work (larger portions of Work such as concrete, curtainwall, drywall, mechanical, and electrical shall be broken down by elevation, floor, and areas appropriate), the Contractor shall separate bond costs, and general conditions line items as appropriate.
- 2.1.2. The Schedule of Values will be submitted in a format as prescribed by, and to the level of detail specified by, CM.
 - 2.1.2.1. The sum of the parts of the Schedule of Values shall equal the contract price.
 - 2.1.2.2. The minimum level of breakdown and order on the application for payment will be:
 - 2.1.2.2.1. Bond costs, if applicable
 - 2.1.2.2.2. General conditions line item(s)
 - 2.1.2.2.3. Division 1 cost breakdown as required
 - 2.1.2.2.4. Costs associated with preparation of closeout paperwork and documentation
 - 2.1.2.2.5. Major portions of the Work shall be broken down into labor and material line items for specific areas of the facility
 - 2.1.2.2.6. A listing of approved and executed Change Orders to the Contract, if any, in sequential order.
 - 2.1.2.3. Schedule of Values items shall have a direct and understandable relation to the Project master construction schedule.
 - 2.1.2.4. Overhead and profit shall be listed as a separate line item on the schedule of values.
- 2.1.3. The Schedule of Values, unless objected to by CM, Owner or Architect, shall be the basis for the Contractor's application for payments.
- 2.1.4. CM shall have the right to require the Contractor to alter the value or add/delete categories listed on the Schedule of Values at any time for the following reasons:
 - 2.1.4.1. The Schedule of Values appears to be incorrect or unbalanced.

- 2.1.4.2. A revision of the Schedule of Values is required due to the Contractor revising the sequence of construction or assembly of building components that in turn invalidates the Schedule of Values.
- 2.1.4.3. Change Orders are issued to the Contractor and shall be incorporated into the Schedule of Values as a separate line item at the bottom of the Schedule of Values.
- 2.1.5. The Contractor is required to correlate the documentation for payment of stored materials requested in the application for payment against the agreed upon breakdown of the Schedule of Values as described in Payment for Stored Materials. CM reserves the right to not process the application for payment if this correlation has not been submitted in conjunction with the application.

2.2. APPLICATION FOR PAYMENT PROCESS

2.2.1. Step 1: JOB-SITE INSPECTION - DRAFT PAYMENT REQUEST

- 2.2.1.1. The Contractor shall
 - 2.2.1.1.1. have a representative walk the Project site with CM's representative on or before the tenth (10th) of the month,
 - 2.2.1.1.2. invoice for Work from the tenth (10th) of last month to the tenth (10th) of the present month.
 - 2.2.1.1.3. submit during the review, the itemized rough draft of the Application and Certificate for Payment (AIA Documents G702 and G703 Continuation Sheet) identifying the Work completed, if any, during the current calendar month; shall review same with CM and obtain a preliminary approved copy of the draft for official submission
 - 2.2.1.1.4. Contractor's pay application shall only reflect Work completed through the date of submission. In no event will payments be authorized for forecasted Work.

NOTE: No payment shall be issued to a Contractor for materials stored off-site unless supported by proper documentation as required by CM (upon advance notification of such requests only) as described in Part 3 Payment for Stored Materials.

2.2.2. Step 2: PAYMENT REQUEST PREPARATION/SUBMISSION

- 2.2.2.1. With the information agreed upon in Step 1, the Contractor will prepare a formal application for payment request.
- 2.2.2.2. Three (3) originals of the request and three (3) originals of the sworn statements must be submitted to CM's Site office on or before the fifteenth (15th) of the month.
- 2.2.2.3. Late or incomplete application packets will not be accepted.**
- 2.2.2.4. The payment request will be made on an Application and Certificate for Payment form (AIA documents G702 and G703).
- 2.2.2.5. Before submitting these documents to CM, each request for payment must be signed by a duly authorized agent of the Contractor and notarized.
- 2.2.2.6. The Contractor must include with each request for progress payment a waiver of lien for all previous payments, Contractor's sworn statement and any necessary backup data as described in Part 4, Waivers of Lien and Sworn Statements.
- 2.2.2.7. In addition, at submission of the final pay application Contractor shall provide unconditional final waivers of lien for all Subordinate Parties, as well as all close out documentation and all additional back up data described in Part 4, Waivers of Lien and Sworn Statements.

- 2.2.2.8. In requests for payment which follow the execution of a Change Order in excess of twenty-five percent (25%) of the Agreement price, Contractor must present a bond rider evidencing that the penal sum of any required payment and performance bonds have been increased to one hundred percent (100%) of the adjusted Agreement price, or such other percentage as set forth in Section 00200 of the Project Manual, Instructions to Bidders. Submission of the required back-up data is a condition precedent to payment.

2.2.3. Step 3: CHECK DISTRIBUTION

- 2.2.3.1. CM will issue individual checks to each Contractor. The Contractor will receive the waiver of lien with the check and will be required to sign three (3) originals of the waiver upon receipt of the check each month (see Part 4).
- 2.2.3.2. The Contractor shall provide all supporting documentation substantiating the Contractor's right to payment as the Owner, CM and the Architect may require.

2.3. REDUCTION OF RETENTION

- 2.3.1. CM shall be entitled to withhold ten (10%) percent of each payment due to a Contractor until Substantial Completion of the Contractor's Work.
- 2.3.2. The Contractor, when requesting a reduction of retention, shall submit to CM, an AIA G707, Consent of Surety to Reduction In or Partial Release of Retention form in Section 01600 Forms.
- 2.3.3. Within thirty (30) days after Certificate of Substantial Completion has been issued for all portions of its Work, the Contractor's retention may be reduced to a sum as CM/the Architect may determine is suitable to protect CM and the Owner for all incomplete Work and any unsettled claims.
- 2.3.4. Notwithstanding the foregoing, payment of retention shall be subject to all other conditions precedent that applies to payment as set forth in the Contract Documents.

3. PAYMENT FOR MATERIALS STORED OFF-SITE

3.1. PAYMENT FOR MATERIALS STORED OFF-SITE

- 3.1.1. The Contractor, if intending to use an off-site storage area or facility for stored materials, shall submit a written request to the CM and obtain approval prior to submitting the first application for payment as described in Part 2 Applications for Payment.
- 3.1.2. Payments will be made for materials properly stored off site.
 - 3.1.2.1. "Properly stored" shall mean in an insured warehouse with the Owner and CM being named as insureds, and all material identified as property of the Owner.
 - 3.1.2.2. The Contractor is responsible for all associated off site storage costs, transportation, insurance, including insurance coverage for stored material, while in transit, unless Contractor obtains written documentation that the material is covered during transit under a Builder's Risk Policy applicable to the Project.
 - 3.1.2.3. Contractor shall provide CM and the Owner verification in writing for all material so stored. Such materials shall be protected from diversion, destruction, theft, and damage to the satisfaction of CM, Owner and the Lender (if any), specifically marked for use on the Project, and segregated from other materials at the storage facility.
 - 3.1.2.4. The Contractor bears all risk of loss to materials and equipment stored off site.
- 3.1.3. Contractor is to provide supporting documentation in the form of invoices, insurance policies, and any other pertinent documentation as requested by CM or Owner for items the items stored off-site. Documentation shall include the following:

- 3.1.3.1. Detailed description of the material including quantities that will serve as a material description for the billing and as information to file a claim with an insurance company.
 - 3.1.3.1.1. Stored Materials - Each item must be identified as to manufacturer, model number, and serial number, if applicable, or other identifiers should be listed for each item. Each listing must be accompanied by invoices, shipping tickets, consent of surety, and any other applicable supporting documentation.
 - 3.1.3.1.2. Stored Manufactured Building Materials - Each item must be identified as to type, manufacturer's number or designation, and should also list the number of cartons and the contents therein storage. Each listing must also be accompanied by supporting documents including all invoices, shipping tickets and consent of surety.
 - 3.1.3.1.3. Stored Fabricated Materials - A listing specifying the number of pieces, items, and marks as may be applicable to the particular type of items. Photographs should accompany the request.
- 3.1.3.2. Individual itemized costs of materials and the total cost value, which shall not exceed the Contractor's subcontractor or material supplier cost. The total cost value shall be supported by the Contractor's subcontractor or material supplier invoices for the stored material.
- 3.1.3.3. Estimated cost value for those materials that are fabricated by the Contractor's subcontractor or material supplier.
- 3.1.3.4. The location where the material is physically stored, including the warehouse address and storage location within the warehouse, such as bin number, aisle number or other designation. All material shall be segregated and marked.
- 3.1.3.5. Copies of the insurance policies that cover the stored materials and that name CM and the Owner as insureds. The limit of the insurance policy shall be equal to or greater than the replacement value of the stored materials.
- 3.1.4. When Applications for Payment include products stored off the Project Site or stored on the Project Site but not incorporated in the Project, for which no previous payment has been requested, a complete description of such product shall be attached to the application.
- 3.1.5. Contractor shall submit a certificate of title listing the Owner's ownership in the off-site stored materials equal to the amount paid effective at the time funds are delivered.
- 3.1.6. If the size, quantity, and/or type of material or product is such that a bonded warehouse is deemed unsuitable, then, with CM's approval, the Contractor may elect to prepay its subcontractor or supplier for certain material and products which are to remain on and be stored on that subcontractor/supplier's premises until needed by the Project. In such event, the Contractor shall enter into a security agreement with the subcontractor/supplier under which the Contractor shall be granted a security interest in and to all such material and products fabricated and/or to be supplied by the subcontractor/supplier for this Project and stored on the subcontractor/supplier's premises. This Security Agreement shall be a part of the financing statement, which shall be presented to a filing officer for filing pursuant to the Uniform Commercial Code. All expenses incurred in obtaining this security agreement shall be at Contractor's sole cost and expenses, and shall not accrue to the Owner, CM, Architect, nor the Project. A copy of each and every security agreement shall be filed with CM with the first Application for Payment which requests payment for such material or products.
- 3.1.7. All payment requests for off-site stored materials must be accompanied using the "Payment Request for Stored Materials" and a "Subcontractor Affidavit for Stored Materials." Payment requests for stored materials not complying with the foregoing requirements will not be approved. Contractors are to notify the CM in ample time to conduct verification procedures.

- 3.1.8. Contractors may not apply the cost of materials stored off-site towards a reduction in the retention amount.
- 3.1.9. Representatives of CM and Owner shall have the right to make inspections of the storage areas at any time.

4. WAIVERS OF LIEN AND SWORN STATEMENTS

4.1. WAIVERS OF LIEN

- 4.1.1. The Contractor's first Application for Payment will be based upon 100 percent of the value of Work installed. The first payment, amounting up to 90 percent of application, will be made to the Contractor without supporting documentation. Subsequent Applications for Payment must be accompanied by lien waivers from the Contractor, its Subordinate Parties or receipted invoices covering payment to the Contractor for previous calendar month period. Lien waivers must be unconditional and must show the amount paid.
- 4.1.2. An "Acknowledgment of Payment and Partial Unconditional Release" will be distributed with the check to each Contractor by CM for payment of the previous month's application. The Waiver of Lien is to be signed by an authorized representative of the Contractor. Under no circumstances will payment be released until the completed "Acknowledgment of Payment and Partial Unconditional Release" has been submitted and signed by the Contractor from the previous month.
- 4.1.3. Final payment will not be made until a "Final Release Subcontractor/Materialman has been submitted. This will also be distributed by the CM for Contractor signature and must be returned by the Contractor. The Final Release must be signed by an authorized representative of the Contractor and must be notarized.
- 4.1.4. Final unconditional waivers will be required for all of Contractor's Subordinate Parties listed on Contractor's sworn statement. These final waivers must be submitted along with the final release, before payment can be made.

4.2. SWORN STATEMENTS

- 4.2.1. The appropriate number of original "Sworn Statements" must be completed to the satisfaction of CM, signed and notarized by an authorized representative of the Contractor and submitted with the Contractor's Application for Payment, monthly to the CM.
- 4.2.2. The Contractor's Subcontractor's sworn statements, waivers and other supporting documentation will be required with each pay application.

END OF SECTION 01290

SECTION 01310 MEETINGS

1. GENERAL

1.1. DESCRIPTION OF REQUIREMENTS

- 1.1.1. The CM shall schedule, chair, and administer all periodic meetings throughout the progress of the work for the purpose of coordinating and expediting the Work. Such meetings shall be held at the job site bringing together responsible representatives of active Contractors for the purpose of planning, assessing progress and discussing problems of mutual concern. Each Contractor, and its Subordinate Parties' representative attending the meetings shall be authorized to act on behalf of and make decisions/commitments for the entity each represents, the decisions made at the meetings and each Contractor who should be in attendance will be held responsible for information and directions given at the meeting.
- 1.1.2. The CM will prepare and distribute the minutes of all meetings, if CM determines minutes are required. If the attendees do not object in writing to any part of the meetings within ten (10) days of distribution of the minutes, the minutes shall be accepted as written.
- 1.1.3. The scope of meetings include, but are not limited to:
 - 1.1.3.1. Preconstruction Meeting
 - 1.1.3.2. Job Progress/Coordination Meetings
 - 1.1.3.3. Other Meetings

2. TYPES OF MEETINGS

2.1. PRECONSTRUCTION MEETING (KICK-OFF)

- 2.1.1. A Preconstruction (kick-off) meeting will be conducted with representatives of all the Contractors within fifteen (15) days after the Agreement is awarded at the jobsite or as designated by the CM. The agenda may include:
 - 2.1.1.1. Discussion on major subcontracts and suppliers
 - 2.1.1.2. Major and/or critical work sequencing regarding the project schedule
 - 2.1.1.3. Project coordination and designation of responsible personnel
 - 2.1.1.4. Procedures and processing of field instructions, requests for proposal, submittals, change orders, applications for payment, etc.
 - 2.1.1.5. Quality assurance/control issues
 - 2.1.1.6. Adequacy of distribution of contract documents
 - 2.1.1.7. Procedures for maintaining record documents
 - 2.1.1.8. Use of premises, office, work and storage areas and other CM requirements
 - 2.1.1.9. Construction facilities/temporary utilities
 - 2.1.1.10. Safety and security procedures
 - 2.1.1.11. Other administrative procedures
 - 2.1.1.12. Review of Owner expectations

2.2. JOB PROGRESS/COORDINATION MEETINGS

- 2.2.1. On-site project coordination/progress meetings will be held on a bi-weekly basis or as appropriate throughout the life of the Project. The [CM/Owner] will set the agenda for the Project progress meeting. At a minimum, each Contractor shall be prepared to discuss the following:
 - 2.2.1.1. Actual vs. scheduled progress for the prior two-week period

- 2.2.1.2. Planned construction activities for the next four weeks
- 2.2.1.3. Problems with, revisions to and corrective measures and procedures to regain the construction schedule, if required
- 2.2.1.4. Review of off-site fabrication, delivery schedules
- 2.2.1.5. Document clarification requests
- 2.2.1.6. Coordination items with other Contractors
- 2.2.1.7. Changes in the work affecting cost and/or time
- 2.2.1.8. Submittals and shop drawings
- 2.2.1.9. Field observations, problems, conflicts
- 2.2.1.10. Quality control issues and non-conformance resolutions
- 2.2.1.11. Safety issues

2.3. OTHER MEETINGS

- 2.3.1. QUALITY ASSURANCE MEETINGS - CM may conduct quality assurance/quality control meetings as necessary during the progress of the Work. CM will set the agenda for the quality meeting. At a minimum, the Contractor shall be prepared to discuss the following:
 - 2.3.1.1. Testing and inspection procedures
 - 2.3.1.2. Tolerance requirements
 - 2.3.1.3. Quality samples
 - 2.3.1.4. Reporting of non-conformance items
 - 2.3.1.5. Corrective actions assigned
 - 2.3.1.6. Disposal of non-conforming items
 - 2.3.1.7. Job procedures
- 2.3.2. SAFETY MEETINGS - Refer to Section 00810 Safety and Loss Control Program for more information.
- 2.3.3. INSPECTIONS TOURS - Formal inspections/tours may be made of the Project progress by the Owner, Architect, local, state or federal officials, insurance representatives, or others as the occasion warrants and as scheduled by CM. If requested by CM, each Contractor shall be prepared to show and explain Work throughout the building to the inspecting parties, in addition to providing Work in compliance with these inspections.
- 2.3.4. CHANGE REQUEST MEETINGS - Upon issuance of a major Proposal Request (a.k.a. bulletin), CM may conduct a meeting as necessary with all significant Contractors to review its contents and determine cost, delivery and schedule impacts. At a minimum, the Contractor shall be prepared to discuss the following:
 - 2.3.4.1. Impact of out-of-sequence work
 - 2.3.4.2. Identification of pertinent long-lead material and system impact
 - 2.3.4.3. Alternative recommendations
 - 2.3.4.4. Evaluation of approximate cost magnitude
 - 2.3.4.5. Evaluation of impact on completion
 - 2.3.4.6. Alternate sequencing
 - 2.3.4.7. Due date for Contractor pricing and scheduling impact

END OF SECTION 01310

SECTION 01320 COMMUNICATIONS

1. SUMMARY

1.1. This Section describes the following requirements including:

- 1.1.1. Meetings / Communications
- 1.1.2. Contractor Correspondence
- 1.1.3. Contractor's Daily Report
- 1.1.4. Request for Information (RFI)

2. METHODS OF COMMUNICATION

2.1. MEETINGS (previous Section 01310 – Meetings)

- 2.1.1. The CM shall schedule, chair, and administer all periodic meetings throughout the progress of the work for the purpose of coordinating and expediting the Work. Such meetings shall be held at the job site office bringing together responsible representatives of active Contractors for the purpose of planning, assessing progress and discussing problems of mutual concern. Each Contractor, and its Subordinate Parties' representative attending the meetings shall be authorized to act on behalf of and make decisions/commitments for the entity each represents, the decisions made at the meetings and each Contractor who should be in attendance will be held responsible for information and directions given at the meeting.
- 2.1.2. The CM will prepare and distribute the minutes of all meetings, if CM determines minutes are required. If the attendees do not object in writing to any part of the meetings within ten (10) days of distribution of the minutes, the minutes shall be accepted as written.
- 2.1.3. The scope of meetings include, but are not limited to:
 - 2.1.3.1. Preconstruction Meeting
 - 2.1.3.2. Job Progress/Coordination Meetings
 - 2.1.3.3. Other Meetings
 - 2.1.3.3.1. Quality Assurance
 - 2.1.3.3.2. Safety
 - 2.1.3.3.3. Inspection Tours
 - 2.1.3.3.4. Change Request

2.2. CONTRACTOR CORRESPONDENCE

- 2.2.1. All field and/or construction correspondence and/or communications must be directed through CM,. All correspondence should list the following as appropriate:
 - 2.2.1.1. Project Name: ***Project Name***
 - 2.2.1.2. CM Job#: _____
 - 2.2.1.3. Architect Job#: _____
 - 2.2.1.4. Contractor Contact Information
 - 2.2.1.5. Subject: clearly indicate subject matter of correspondence

2.3. CONTRACTOR'S DAILY REPORT

- 2.3.1. Each Contractor will prepare and distribute daily to CM a comprehensive daily report to include pre-task planning and maintain it during the entire project period. The daily report shall be

submitted to CM's superintendent by the end of the day for that day's Work. Each Contractor is responsible for specifically alerting CM to items which could result in claims or delays.

- 2.3.2. Each Contractor may provide its own daily report if it covers the same issues as addressed in CM's Contractor Daily Report / Pre-Task Plan form. The CM suggested report form will be provided to the Contractor and is in Section 01600 - Forms.

2.4. REQUEST FOR INFORMATION (RFI)

- 2.4.1. The Request for Information (RFI) is in Section 01600 Forms.
- 2.4.2. In the event that a clarification is required due to a question raised by the Contractor pertaining to the Contract Documents, the Contractor shall submit a Request for Information (RFI) to the CM, which will be forwarded to the Architect. The RFI should be sufficiently detailed to accurately describe the problem and provide a possible solution.
- 2.4.3. The Architect will return the RFI to CM as expeditiously as possible with its reply. In some instances, the Architect may issue its reply to the RFI on other documents, in which case, the RFI will simply reference these documents.
- 2.4.4. The RFI will be returned to the Contractor by CM. The Contractor is responsible to give proper notice as set forth in the Contract Documents if a response will cause the Contractor to incur additional expense or expend additional time which could impact the schedule. If extra work or an additional cost may exist due to the clarification, CM may issue a PCO- Quotation Only or PCO-Notice to Proceed to the Contractor.

END OF SECTION 01320

SECTION 01330 SUBMITTALS

1 SUMMARY

1.1. This Section describes the following requirements including:

- 1.1.1. Scope
- 1.1.2. Submittal Register
- 1.1.3. Submittal Requirements
- 1.1.4. Submittal Process and Responsibilities
- 1.1.5. Re-submission Requirements

2 SCOPE

- 2.01 Where requirements of this Section vary from the requirements of the General Conditions, this Section's requirements shall take precedence.
- 2.02 CM will prepare and submit a submittal register/schedule including close-out documentation for Contractor's use in preparing submittals required for the Project. Contractor's shall complete the submittal schedule/register showing the dates for submission, lead times required and their expected delivery dates to maintain and follow the construction schedule. Dates for submission noted by Contractor must assume re-submittals will be required. Submittals received on the date scheduled will be processed as specified. CM/Owner/Architect will not be held responsible for delays due to receiving submittals after the date indicated in the Contractor's submittal schedule.
- 2.03 Submittals shall be submitted based on each technical specification section. Submittals containing information about more than one specification section will be returned for re-submittal.
- 2.04 Contractor is responsible to provide all submittals required under the Contract Documents, whether or not listed in the submittal register.
- 2.05 Furnish approved copies of shop drawings, diagrams, templates, catalog cuts, technical data, etc. to others for the purposes of coordination of this Work.
- 2.06 Coordination: Each Contractor shall coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 2.06.1 The Contractor, by providing the submittal assures the product or system submitted is available and deliverable in accordance with the schedule requirements.
 - 2.06.2 Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2.06.3 Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - 2.06.4 CM reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - 2.06.5 Coordinate each submittal as required with all trades and with all public agencies involved.
 - 2.06.6 Secure all necessary approvals from public agencies and others; signify by stamp or other means that all required approvals have been obtained.
 - 2.06.7 Material Compliance Certificate:
 - 2.06.7.1 The following forms are available upon request from the CM:
 - 2.06.7.1.1 Material Compliance Certificate
 - 2.06.7.1.2 Approved Submittal List for Material Compliance Certificate Use

- 2.06.7.2 Contractors may choose to complete the *Material Compliance Certificate* form which will serve as the Contractor's official submittal document and must meet all general submittal requirements. Only approved submittals listed on the *Approved Submittal List for Material Compliance Certificate Use*, prepared by CM, will be reviewed in this format.
- 2.06.7.3 Items available to utilize the Material Compliance Certificate can include a submittal that establishes a level of quality by complying with the manufacturer and manufacturer's designated identifier as called for in the Contract Documents. The Contractor is committed to using this exact specified component. This Certificate is contractually binding.
- 2.06.7.4 This form can be used for multiple submittal items. The Architect/Engineer will review and approve the Material Compliance Certificate in the same manner as a standard submittal.
- 2.06.7.5 In the event additional information would be required after submission and/or approval of the Material Compliance Certificate, the Contractor must provide this information promptly through the standard revision process.

3. SUBMITTAL REQUIREMENTS

3.1. GENERAL

- 3.1.1. Each submittal shall show Contractor's review stamp, with handwritten signature, certifying review of the submittal, verification of field measurements and compliance with the Contract Documents.
- 3.1.2. Each submittal shall be accompanied with a Submittal Transmittal Form. The following information shall be furnished by the Contractor on the submittal transmittal form:
 - 3.1.2.1. Original Date of submission and Revision Date(s).
 - 3.1.2.2. Project name and Architect's and the CM's project number
 - 3.1.2.3. Names of:
 - 3.1.2.3.1. Contractor
 - 3.1.2.3.2. Second-Tier Contractor (if applicable)
 - 3.1.2.3.3. Supplier
 - 3.1.2.3.4. Manufacturer
 - 3.1.2.4. Identification of product or material
 - 3.1.2.5. Technical Section number, clearly identified. On multiple submittals, a separate transmittal should be completed for each specification section on items being submitted.
 - 3.1.2.6. Reference to construction drawings by drawing number
 - 3.1.2.7. The quantity of each Shop Drawing, Product Data or Sample submitted
 - 3.1.2.8. Notification of deviations from Contract Documents
 - 3.1.2.9. For Shop Drawings, show relationship to adjacent structure or materials
 - 3.1.2.10. For Shop Drawings, show field dimensions, clearly stated as such.
 - 3.1.2.11. Applicable standards such as ASTM or Federal Specifications.
 - 3.1.2.12. Other pertinent data
 - 3.1.2.13. Submittals not so transmitted will be returned un-reviewed. Re-submissions shall be so noted on the transmittal.

3.1.3. Unless noted otherwise on the submittal, all submissions will be considered to be "as specified."

3.2. REQUIRED QUANTITIES OF SUBMITTALS (ELECTRONIC REVIEW VERSION)

3.3.1. In general, all submittals, except color or physical samples, are to be posted electronically in PDF document form for CM and the Architect/Engineer to be electronically reviewed and approved. CM will use Prolog Web as a posting site for the facilitation of this review and approval process. The following number of originals and copies will be required for each type of submittal.

Submittal Type:	Required submit quantities:		
	Paper	Electronic ¹)FTP upload(Other
.1 Shop Drawings – Structural Steel and all MEP	3	1 ²	
.2 Shop Drawings – all other	2	1	
.3 Product Data – Structural Steel and all MEP	3	1	
.4 Product Data – all other	2	1	
.5 Samples			4 ³
.6 Certificates ⁴	1	1	
.7 Warranties / Guarantees ⁴	3	1	
.8 Test Reports ⁴	3	1	
.9 Close-Out Materials : ⁴ O&M Manuals and all Data	3	1	
NOTES : ¹ ALL electronic submittals shall be in PDF format ² Provide on compact disk as well as upload to the FTP site (INSERT IF NECESSARY) ³ Unless amount specified within the technical specifications is greater ⁴ Items #6-9 above are to be submitted together as part of the Close-Out Packet when requested by CM			

3.3.2. All submittals will be reviewed electronically via Prolog Web, an electronic submittal transmittal is required. Reviewed versions will be posted back to Prolog Web. CM will notify Contractor of the posting and availability for Contractor to download the reviewed version. Paper copies will not be returned to the Contractor.

4. TYPES OF SUBMITTALS

4.1. SHOP DRAWINGS

- 4.1.1. Provide Shop Drawings as complete submittals (no partial sets) on original drawings or information prepared solely by the fabricator or supplier. In no instance shall the Contract Drawings be reproduced for Shop Drawing submittals.
- 4.1.2. Sheet sizes shall not exceed the size of the Contract Drawings or smaller than 8-1/2" X 11".
- 4.1.3. Each drawing shall have blank spaces large enough to accept three (3) 3" x 6" review stamps of the Contractor, the CM, and the Architect.

4.2. PRODUCT DATA

- 4.2.1. Modify Product Data sheets to delete information that is not applicable to the Project. Provide additional information if necessary to supplement standard information.
- 4.2.2. Product Data Sheets that are submitted with extraneous information not deleted and/or modified will be returned without review to the Contractor for re-submittal.

4.3. SAMPLES

- 4.3.1. Provide physical Samples to illustrate materials, equipment or workmanship, and to establish standards by which completed work may be judged as required by the technical section.
- 4.3.2. Provide Office Samples in sufficient size or as defined in the technical specifications and quantity to clearly illustrate full range of colors, textures, etc. available and the functional characteristics of the product or material.
- 4.3.3. Erect Field Samples or mock-ups as required by the technical sections and/or CM, at the Project site in a location designated by CM. Construct field samples complete, including Work of all trades required in finishing the Work. Provide Field Samples at the request of the Architect and/or CM where construction materials and/or methods deviate from the requirements of the intent of the Contract Documents or conventional construction practice.
- 4.4. CERTIFICATIONS
 - 4.4.1. Certifications shall clearly identify the materials in reference and shall state that the material and the intended installation methods, where applicable, are in compliance with the Contract Documents for this project. Attach manufacturer's affidavits where applicable.
- 4.5. WARRANTIES/GUARANTEES
 - 4.5.1. Provide warranties and/or guarantees as required by the various technical sections and other Contract Documents on the Contractor's letterhead in accordance with the requirements of the documents.
 - 4.5.2. Refer to Section 01700 for additional close-out information and requirements including the standard CM Contractor's Guarantee Form that must be signed, without modification, in order to receive final payment. A copy of this form is either found in Section 01600 or is available upon request.
- 4.6. OPERATING AND MAINTENANCE MANUALS
 - 4.6.1. Provide operating and maintenance manuals/data as required by the various technical sections in accordance with the requirements of the documents.
- 5. SUBMITTAL PROCESS AND RESPONSIBILITIES
 - 5.1. Contractor's RESPONSIBILITIES
 - 5.1.1. After the CM's and Architect's review, within one (1) week of receipt, Contractor is to distribute copies of the reviewed submittal to any supplier/fabricators, second or lower tier Contractors or other Contractors that must coordinate with this work. Contractor must maintain one copy at the Project Site for reference use.
 - 5.1.2. Do not begin Work which requires submittals until return of submittals with CM's and Architect's stamp and initials indicating review with direction to proceed from either CM or Architect..
 - 5.1.3. Contractor's responsibility for errors and omissions in submittals is not relieved by CM's or Architect's review of submittals.
 - 5.1.4. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by CM's or Architect's review of submittals unless CM and Architect give written acceptance of specific deviations.
 - 5.2. CM'S RESPONSIBILITIES
 - 5.2.1. CM's review is for general administrative purposes only and neither this review, nor any subsequent approval by CM of a submittal, shall relieve Contractor from its obligations to comply fully with the Contract Documents.
 - 5.2.2. CM will make changes or notations directly on the submittals, identify such review with its review stamp, sign and forward acceptable submittals to the Architect.

- 5.2.3. After the Architect's review, CM will forward submittals to the Contractor and retain one copy.

5.3. ARCHITECT'S RESPONSIBILITIES

- 5.3.1. Architect will review submittals within fourteen (14) Days after receipt, checking only for conformance with the design compliance of the Project and compliance with information given in the Contract Documents. If the submission is large and/or requires detailed or lengthy review by the Architect, additional time may be required.
- 5.3.2. Architect will return to CM without review any submittals not bearing the Contractor's or CM's review stamp or not showing that it has been reviewed by the Contractor and CM.
- 5.3.3. Architect will make changes or notations directly on the submittal, identify such review with its review stamp, obtain and record Architect file copy and return the submittal to CM.

5.4. RE-SUBMISSION REQUIREMENTS

- 5.4.1. For Shop Drawings: Review returned CM and/or Architect drawings and resubmit as specified. All changes made must be identified through bubbling or other approved method.
- 5.4.2. For Product Data and Samples Resubmit new data and samples as required.

END OF SECTION 01330



MATERIAL COMPLIANCE CERTIFICATE

This document serves as guarantee by the contractor that all products, devices, materials, etc. used or intended for use in the project are as approved for use in the Specifications issued by _____ **(Architect)** for Bid Package _____. Furthermore, no additional formal shop drawings will be necessary unless specifically requested by _____ **(Owner)**, Barton Malow Company or _____ **(Architect)**. Items listed below are approved products and no substitutions have been made without written permission by _____ **(Architect)** via Barton Malow Company, contractor agrees to provide detailed submittal data if requested at a later date:

Spec Section	Item #	Manufacturer	Model #

By signing this document, the contractor is committed to use products required by the contract documents.

CONTRACTOR: _____

Date: _____

Signature: _____

Printed Name: _____

Title: _____

BARTON MALOW COMPANY

Date: _____

Signature: _____

Printed Name: _____

Title: _____

ARCHITECT: _____

Date: _____

Signature: _____

Printed Name: _____

Title: _____

SECTION 01360
COORDINATION (GENERAL)

1 COORDINATION OF WORK/COOPERATION

- 1.01 All Contractors are required to review, discuss and coordinate their Work with the Work of other contractors, Owner and CM with regard to sequence, timing, built-in Work and equipment, layout, location, compatibility of materials and sizes and required clearances prior to beginning the work to avoid construction delays which impact the Owner's occupancy of the facility.
- 1.02 Each Contractor
- 1.02.1 Coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 1.02.2 Make provisions to accommodate items scheduled for later installation.
 - 1.02.3 Provide to all other trades all information (drawings, diagrams, templates, embedments, etc.) necessary for the coordination of the Work.
 - 1.02.4 Layout and install its Work at such time and in such manner as not to delay or interfere with the carrying forward of the Work of others.
 - 1.02.5 Verification and Acceptance of previous work
 - 1.02.5.1 As Work under each Agreement commences, the condition of preceding Work under other agreements shall be verified and accepted by each subsequent Contractor when appropriate.
 - 1.02.5.2 Report in a prompt manner any interferences, discrepancies or incompatibilities discovered to CM, whose decision as to the Contractor at fault and as to the manner in which the matter may be resolved, shall be binding and conclusive on Contractors involved. CM may direct layout/ location changes as required to make the entire work fit together. Reasonable changes of this nature will not entitle any Contractor to an increase in contract price.
 - 1.02.5.3 Verification may, at CM's discretion, include a joint review by the subsequent Contractor, previous contractor(s), and CM to note any corrective Work required, similar items affecting the Work and particularly items which prevent acceptance by the subsequent contractors.
 - 1.02.5.4 The verification review procedures and findings shall be submitted in writing by subsequent Contractors to the CM.
 - 1.02.5.5 Any corrective work necessary to satisfy requirements of the Contract Documents shall be performed promptly by the previous Contractor to prevent delay to the work under the subsequent Contracts.
 - 1.02.5.6 After corrective work is accomplished the subsequent Contractor shall furnish written acceptance of the work as noted above.
 - 1.02.5.7 CM's participation in a joint review under this paragraph shall in no event be deemed to constitute approval of any layout or other Work that fails to comply with the **Contract Documents**.
 - 1.02.6 Observation of the Work by others shall not relieve Contractor from its responsibility for coordination, supervision, or scheduling and direction of the Work.
 - 1.02.7 Failure of a Contractor to notify others and CM of a potential interference, incompatibility, or discrepancy and any failure to coordinate Work with that of others prior to installation and/or fabrication shall be at the Contractor's risk.

END OF SECTION 01360

SECTION 01370 COORDINATION DRAWINGS

1. GENERAL REQUIREMENTS

- 1.1. Contractor if required by its Work scope, shall be responsible for developing coordination drawings and participating in coordination meetings as defined herein, and shall have included the cost for such Work in its Bid Proposal.
- 1.2. Coordination Drawings shall be utilized to establish installation sequence, resolve trade coordination issues prior to installation and to make the most efficient use of space allocated for systems such as mechanical/electrical/plumbing installations without sacrifice to systems performance. This is also required to determine inter-relationships and possible interference's between all of the trades' Work and the architectural or structural features.
- 1.3. Contractors are required to attend coordination meetings as required by CM. The representative(s) from each Contractor is required to be familiar with the Work and have the expertise and authority to answer questions and make decisions and changes to its systems at these meetings.
- 1.4. The coordination drawings may also be used by Contractor as part of its required shop drawing and as-built drawing submittals.
- 1.5. Each Bidder should anticipate that each floor may require several meetings. However, in the interest of time, multiple floors or areas may be reviewed in one meeting. Development of coordination drawings will be by area and floor with order of priority established by CM.

2. COORDINATION DRAWING PROCESS

- 2.1. CM, after the award of the Agreements, will obtain 1/4" scale, screened mylars of the Structural, Reflected Ceiling and Architectural floor plans of the Project. CM will provide these mylars to the Contractors involved. The Electrical [Contractor, following an HVAC coordination kick-off meeting, shall immediately begin Work and prepare 1/4" scale layout drawings of all ductwork and piping. These drawings shall also show registers, grilles, diffusers, and similar features. Contractor shall include locations of all valves, dampers and shall note any items requiring access for service and maintenance as well as access doors in inaccessible ceilings. Drawings shall also show the size, layout and routing of all metal and flex ductwork, re-heat coils, terminal units, filters, and major hangers and supports. Contractor shall provide notation for diffuser boot sizes and heights and any other special features. Contractor shall provide cross sections and additional details through areas where clearances are tight and further detail as appropriate and/or required. Where piping or ductwork has external insulation, Contractor shall note or show locations and thickness. Contractor shall indicate bottom elevation of duct, pipes and equipment and elevation changes, to be measured to the lowest point including insulation and hangers where applicable.
- 2.2. In areas where no HVAC work occurs, but where other mechanical and electrical installations are installed, the Electrical Contractor will issue or note on transparencies indicating "No HVAC Work Required".
- 2.3. Within fifteen (15) working days of issuance of the mylars, the Electrical Contractor shall have completed layout drawings and provide to CM sixteen (16) prints for the first scheduled area. At this time all Contractors shall attend a Coordination Kick-Off Meeting at which time the first distribution of HVAC prints is made and procedures and schedule are reviewed.
- 2.4. As layout drawings for HVAC Work for subsequent areas are completed, the Electrical Contractor shall provide sixteen (16) prints of the completed layout drawings to CM. CM will in turn distribute two (2) prints to each required Contractor to include Plumbing, Fire Protection and Electrical Work. Respective Contractors shall then layout their own routings on the 1/4" scale mylars previously provided. Drawings shall include other major items such as valves, access panels, switch panels, pull boxes also noting items requiring access for service and maintenance, etc. as well as access doors in inaccessible ceilings.
- 2.5. Information for specific trades is required but not limited to the following:

- 2.5.1. Plumbing - Size, layout and routing of piping, valves, boxes, supports, etc., for all utilities regardless of material size. Show or note all pipe sizes and working clearances around valves, etc. For pitched piping, identify bottom elevations at key points and at least every column line. Note thickness and location of all external insulation. Bottom elevations shall be measured to the lowest point including hangers and insulation where applicable.
 - 2.5.2. Sprinkler Piping - Size, layout and routing of mains and branch piping, hanger and supports, valves, working clearances, and bottom of pipe and bottom of hanger support elevations. Sprinkler head locations shall be shown on ceiling plans. For pitched piping, identify bottom elevation at key points and at least at every column line.
 - 2.5.3. Electrical - Size, layout and routing and size of conduit and wire 2" or larger for normal and emergency power distribution systems, 1-1/2" or larger for communication systems telephone, nurse call, physiological monitoring, etc., include all systems specified, boxes larger than 4" x 4" x 4", hangers, supports, and electrical fixtures including lights, speakers, detectors, sensors, cable trays, raceways, etc. Size and clearance of ceiling and above ceiling mounted items shall be noted as a depth from finished ceiling to top of fixture or top of clear area required. Provide bottom elevations of conduits and equipment. Bottom elevation shall be measured from the lowest point, including hangers.
 - 2.5.3.1. Within four (4) feet of all panels, or areas where more than 4 conduits, regardless of size, are routed or grouped together, identify an easement or right-of-way for the groups of conduit.
 - 2.5.3.2. Also show all wall mounted items located within 12" of the ceiling plane.
 - 2.6. All Contractors, including Electrical Contractor, within ten (10) working days of issuance of HVAC prints, shall be prepared to attend coordination meetings as required by CM. They shall come to meetings with their completed mylars and two prints. Contractors, at the meeting, will work to review and overlay the mylars to identify and resolve interference's and coordination problems. Following the meeting, Contractors shall revise their mylars, if necessary, based upon the agreed changes and be prepared to meet again within five (5) working days of the first coordination meeting as scheduled by CM.
 - 2.7. When the mylars have been fully revised with no exceptions taken by respective Contractors, including the Electrical Contractor, the Contractors shall sign them, indicating their awareness of and agreement with the indicated routings and layouts and their inter-relationship with the adjoining or continuous Work of all Project contracts. Thereafter, no unauthorized deviations from the information provided will be permitted, and if made without the knowledge or agreement of the Architect and CM, this unauthorized Work will be subject to removal and correction at no additional cost to the Owner or the CM.
 - 2.8. Within five (5) Days of the signing of the coordination drawings, each Contractor shall provide CM with one (1) sepia mylar and sixteen (16) prints of the signed mylar. CM will in turn distribute two (2) prints each to the other contractors and retain one set of mylars and two sets of prints on file at the Project site.
3. EXECUTION
- 3.1. In the preparation of all coordination drawings, 1/2" scale details as well as cross and longitudinal sections are required to fully delineate all conditions. Particular attention shall be given to the locations, size and clearance dimensions of equipment items, shafts, corridors and similar features.
 - 3.2. After completion of the final coordination drawings, minor changes in duct, pipe or conduit routings that do not affect the intended function may be made as required to avoid space conflicts, when mutually agreed to by all parties involved. However, items may not be re-sized or exposed items relocated without CM's written approval. No changes shall be made by Contractors in any wall or chase locations, ceiling heights, door swings or locations, windows or other openings, or other features affecting the function or aesthetic effect of the building. If conflicts or interference's cannot be satisfactorily resolved, Contractors shall notify CM who will, in turn, obtain a decision from the Architect.

- 3.3. Other Contractors responsible for supplementary composite drawings, as indicated herein, shall make similar distribution to that described in item 1.03 Paragraph E. All trades desiring additional prints of such drawings, beyond the basic distribution indicated above, shall arrange for and pay the cost of same.
- 3.4. Record copies of final drawings shall be retained by CM and each Contractor as working reference. All shop drawings, prior to their submittal to CM shall be compared with the final drawings and developed accordingly by the Contractor responsible. Any revision to the drawings which may become necessary during the progress of the Work shall be noted to and by all Contractors and shall be neatly and accurately recorded on the record copies. Each Contractor shall be responsible for the up-to-date maintenance of its own record copies of the final drawings, and any subsequent changes thereto shall be utilized by CM and each Contractor in the development of As-Built/Record drawings described in Section 01720 of the Project Manual.
- 3.5. The HVAC drawings need not be submitted as a whole, but they shall be submitted in all cases per CM's project master construction schedule and in ample time to avoid construction delays. The coordination drawings of all trades may lack complete data in certain instances pending receipt of shop drawings, but sufficient space shall be allotted for the affected items. When final information is received, such data shall be promptly inserted on the final drawings.
- 3.6. No extra compensation will be paid for relocating any duct, pipe, conduit, or other material that has been installed without proper coordination between all Contractors involved. If any improperly coordinated Work, or Work installed that is not in accordance with the approved coordination composites, necessitates additional Work by the other Contractors, the costs of all such additional Work shall be solely borne by the Contractor responsible.
- 3.7. All changes in the Scope of Work due to revisions formally issued and approved shall be shown on that trade's final drawings and thoroughly coordinated with the other trades.
- 3.8. All Work on the coordination composite drawings shall be performed by competent draftsmen and shall be clear and fully legible. CM shall be sole judge of the acceptability of the drawings. All drawings shall be drawn dimensionally and graphically correct.
- 3.9. In general and before the first meeting the following guidelines shall be followed:
 - 3.9.1. All trades shall coordinate with the Electrical Contractor for the size, height and clearance requirements for recessed or semi recessed light fixtures, recessed speakers/detectors, and other electrical ceiling devices.
 - 3.9.2. Sprinkler heads shall be centered in the center of lay-in ceiling tiles unless approved shop drawings note otherwise.
 - 3.9.3. All elevations shall be based on height above finished floor using established benchmarks.
 - 3.9.4. Standard suspended ceiling systems requires 3" minimum clearance for materials and installation.
 - 3.9.5. Review of other drawings may be necessary for special structural and suspended equipment requirements.
 - 3.9.6. All trades to hang work as high as possible in above ceiling areas, allowing access to equipment for maintenance, repairs, connections, filters and removal without demolition of other Work.
- 3.10. Coordination drawings submitted during this process are not considered shop drawing submittals. The coordination drawings may be part of the required shop drawing submittal, but are made separate from the distribution specified in this section.

END OF SECTION 01370

SECTION 01400 QUALITY REQUIREMENTS

1. DOCUMENT CONTROL PROCEDURE

- 1.1. Each Contractor is to provide CM its document control procedure to include drawing submittals and surveillance. In the absence of such a procedure, the Contractor will use the following procedure for document control.

“A log is maintained identifying the drawing revision status, issue date and distribution (internal and external). The transmittal issuing the changed documents will indicate what changes are made and indicate that the documents are approved for use. Contractor meetings include a review of approved drawings. The review is documented in the meeting minutes. Superintendent surveillance activities include monitoring Contractor drawing use.”

2. QUALITY CONTROL

- 2.1. Each Contractor is responsible to provide the Owner with a completed quality product for its Work. Each Contractor shall be responsible for any costs associated with re-testing and re-performing the Work as a result of the Contractor's poor performance or workmanship or other failure to comply with the Contract Documents.
- 2.2. All Work shall be done by persons qualified in their respective trades, and the workmanship shall be first-class in every respect. **Each Contractor is responsible for ensuring employees are appropriately trained.** All materials and equipment furnished shall be the best of their respective kinds for the intended use and unless otherwise specified, same shall be new and of the latest design.
- 2.3. The Contractor shall provide CM, Owner and Architect access to the Work in preparation and progress wherever the Work is located at all reasonable times.

Note: CM and the Architect will have the authority to reject Work that does not conform to the Contract Documents or may require special inspection or testing, whether or not such Work is to be then fabricated, installed or completed. The Architect shall make all decisions with respect to questions concerning the quality or fitness of materials, equipment and workmanship.

- 2.4. Failure by a Contractor to conduct its operations, means and methods and coordinate proper sequencing of the Work may cause the Troy School District to withhold payment or any other means deemed necessary to correct non-conforming Work.

3. NOTIFICATIONS AND CORRECTIONS OF NON-CONFORMANCE

- 3.1. CM and the Architect may conduct observations/evaluations of the Contractor's Work. CM and/or Architect's reviews do not relieve the Contractor from compliance with the Contract Documents or necessary corrections for deficiencies thereof. Contractors whose Work does not meet the standards set by the Contract Documents will be notified by representatives of the CM using a Corrective Action Report. The Contractor, upon receipt of the Corrective Action Report, shall complete and return the form and provide the corrective actions necessary in a timely manner as outlined.
- 3.2. The **Corrective Action Report (CAR) (CON 18.2)** is in Section 01600 Forms.

4. CONTRACTOR PERFORMANCE EVALUATION

- 4.1. CM will be evaluating Contractor's performance and will provide feedback during the life of the Project, on Contractor's performance, for the purpose of improving CM's Contractor selection process for future project endeavors.
- 4.2. This Contractor Performance Evaluation form is generated by the CPS Database.

END OF SECTION 01400

SECTION 01450
TESTING AND INSPECTION SERVICES

1. CONTRACTOR'S RESPONSIBILITIES

- 1.1. The testing firm will report directly to the Troy School District. Copies of test and inspection reports will be furnished to the appropriate Contractors. The laboratory and its representatives will be instructed to promptly call to the attention of the Contractor any instance of non-compliance with the requirements of the Contract Documents. Failure to so notify the Contractor shall not relieve the Contractor of any of its responsibilities for compliance or making good workmanship or materials which are not in compliance with the requirements of the Contract Documents.
- 1.2. Each Contractor shall cooperate with the testing firm and provide labor to assist and lifts, ladders or other means to permit full access for testing firm and to assist with sample preparations where applicable.
- 1.3. The Contractor is responsible to pay the cost of additional testing in the event that additional testing of the Contractor's materials, installation, and other Work is required by the independent testing laboratory because of test results not in compliance with the Contract Documents and/or additional testing required as a result of Contractor's negligence or poor workmanship.

2. CONTRACTOR RESPONSIBILITIES

2.1. CONTRACTOR SHALL:

- 2.1.1. Notify CM sufficiently in advance of operations (24-hours minimum) to allow for laboratory assignment of personnel and scheduling of tests.
 - 2.1.1.1. When tests or inspections cannot be performed after such notice, reimburse Troy School District for all expenses incurred arising out of or resulting from Contractor's negligence.
- 2.1.2. When the Contractor is providing the testing and prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time registered engineer and responsible officer. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards (NBS) during most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. RE-TEST RESPONSIBILITY

- 3.1. Where the results of required inspections, tests, or similar services prove unsatisfactory and do not indicate compliance with the requirements of the Contract Documents, the re-tests shall be the responsibility of the Contractor regardless of whether the original test was the Contractor's responsibility.
- 3.2. Re-testing of Work revised or replaced by the Contractor is the Contractor's responsibility where required tests were performed on original Work. All costs and fees for re-testing shall be paid by the Contractor.
- 3.3. Schedule delays and costs which are the result of non-conforming work or remedy will be the responsibility of the offending Contractor.

END OF SECTION 01450

SECTION 01500 INTERIM LIFE SAFETY PLAN

1. PURPOSE AND POLICY

- 1.1. **PURPOSE:** To provide interim life safety measures during a construction Project. To protect Owner personnel, visitors, [patients] and property from fire and injury during remodeling or construction. This policy is used wholly or in conjunction with the safety program in the Project Manual.
- 1.2. **POLICY:** During a construction Project it shall be the responsibility of the Director of Facilities (or designee) and CM (through trade Contractors) to maintain compliance with the Life Safety Code NFPA Section 101. Compliance will be through the implementation of the following:

2. NOTIFICATIONS

- 2.1. Contractor shall communication and coordinate through CM for all changes to Life Safety measures including changes to: egress, the fire suppression system, the fire alarm system or any other Life Safety related changes to the construction site. Contractor is required to simultaneously notify the appropriate Owner personnel / departments: Owner's PM, Security, Facilities, Safety, Local and/or state fire, 911 emergency services, etc.
- 2.2. Advanced notification using the appropriate form shall be submitted not less than twenty-four (24) hours in advance of the work. Forms can be obtained through CM.

SHUTDOWN REQUEST TYPE	FORM NAME [VERIFY WITH OWNER'S REQUIREMENTS]	SUBMIT FORM IN ADVANCE OF PROPOSED WORK BY:	SUBMIT FORM TO:
CHANGE IN EGRESS:	Submit egress plan of existing exiting and proposed change	3 Weeks	CM; CM to schedule a review meeting with the Owner and Architect for final approval
Change in Fire Suppression	Sprinkler Shut-Down Request	1 Week	CM for initial review 5 days prior; upon approval from CM simultaneously submit to CM, Safety, Security, OTHERS
Change in Fire Alarm	Fire Alarm Shut-Down Request	1 Week	CM for initial review 5 days prior; upon approval from CM simultaneously submit to CM, Safety, Security, Owner's Insurance Agency, State and/or Local Fire Department, ,VERIFY OTHERS
Mechanical Piping, HVAC or Electrical Shut-Down	Utility Shut-Down Request	1 Week	CM for initial review 5 days prior; upon approval from CM simultaneously submit to CM, Safety, Facilities, Security, OTHERS

3. INTERRUPTION OF EXIT - EGRESS CORRIDOR

- 3.1. Should construction of temporary structures for egress/exit be necessary:

- 3.1.1. Contractor will review with and obtain approval from CM any changes to the means of egress. This review and approval shall include the Owner and Architect to confirm appropriate travel distances to exits are maintained/established.
- 3.1.2. Contractor shall obtain approval from the appropriate agency for any planned temporary exiting structure prior to construction/implementation.
- 3.1.3. All Contractors shall be responsible for maintaining temporary egress/exits:
 - 3.1.3.1. Each Contractor is responsible to protect, kept free of restrictions or obstructions, and maintain in full use all entrances to and exits from existing buildings and the construction site at all times. The safety and well-being of all persons must be of prime concern.
 - 3.1.3.2. Contractor shall maintain and not disturb any temporary construction, including stairs, ramps, protected walkways, railings, lights and direction signage as required to maintain adequate exiting from the existing building.
- 3.2. Should an alternate egress route be necessary:
 - 3.2.1. Contractor shall submit the appropriate forms to CM so all affected departments will be notified. Contractor shall not begin any work associated with a change in egress until the Owner has verified its internal departments are notified and prepared for the change.
 - 3.2.2. Contractor shall install and maintain temporary exit signage and Contractor shall install and maintain temporary directional signage prior to starting Work associated with the change in egress..
- 4. INTERRUPTION OF THE SPRINKLER SYSTEM
 - 4.1. Refer to the above matrix for advanced notification times and shut-down request distribution.
 - 4.2. Priority will be given to localized interruption of these systems on first shift Monday through Friday when full staff is available when any shut down is necessary:
 - 4.3. Contractor will provide an organized fire watch until the system is fully functional.
- 5. INTERRUPTION OF FIRE/SMOKE DETECTION AND ALARM SYSTEM
 - 5.1. Refer to the above matrix for advanced notification times and shut-down request distribution.
 - 5.2. Contractor shall maintain the operation of the total fire detection/alarm during the construction.
 - 5.2.1. It is acceptable for the Contractor to place a thin plastic cover over the detector head during high dust producing activities with Contractor's prompt removal upon completion of the work.
 - 5.2.2. At all other times the system will be returned to normal operating status.
 - 5.3. Should the fire/smoke detectors and alarms systems be interrupted:
 - 5.3.1. Contractor will provide an organized fire watch until the system is fully functional.
 - 5.3.2. Temporary alarm pull stations will be established as a minimum should the interruption last more than twenty-four (24) hours.
- 6. CONSTRUCTION SITE MAINTENANCE
 - 6.1. For interior construction. Contractor shall:**
 - 6.1.1. Refer to the above matrix for prior notifications.
 - 6.1.2. Maintain existing Fire/Smoke Barriers and compartments.
 - 6.1.3. Provide and maintain temporary partitions adjacent to functioning departments that are a UL rated 2-hour assembly and smoke/dust tight and non-combustible. Provide documentation of the UL rated assembly type to CM prior to constructing this Work.

- 6.1.4. Maintain temporary enclosures, fire-rated dust curtains, and all other necessary materials and equipment as required to prevent introduction of dust, dirt or debris into occupied portions of the building.
 - 6.1.5. Coordinate locking of the construction area with CM and the Owner.
- 6.2. For exterior construction - Contractor shall:
 - 6.2.1. Maintain site clearance for access to the external fire department connections.
- 7. REFERENCES
 - 7.1. All current Life Safety codes

END OF SECTION 01500

**SECTION 01520
TEMPORARY CONSTRUCTION**

1 SUMMARY

1.01 This Section describes the following requirements including:

- 1.01.1 Project Signage
- 1.01.2 Snow Removal
- 1.01.3 Security
- 1.01.4 Temporary Field Office, Facilities and Parking
- 1.01.5 Temporary Fencing
- 1.01.6 Temporary Toilet Facilities
- 1.01.7 Drinking Water/Temporary Water
- 1.01.8 Roof Protection
- 1.01.9 Scaffolding
- 1.01.10 Water Control
- 1.01.11 Temporary Material Hoist/Elevator
- 1.01.12 Fire Precautions and Protection
- 1.01.13 Noxious Odors and Fumes
- 1.01.14 Temporary Stairs, Ladders, Ramps, Runways, and Barricades
- 1.01.15 Temporary Electrical Power and Light
- 1.01.16 Temporary Heating and Weather Protection
- 1.01.17 Temporary Enclosures

2 CONSTRUCTION FACILITIES

2.01 PROJECT SIGNAGE

- 2.01.1 The CM shall provide a project sign. No other signs or advertising shall be displayed on the premises without the approval of the Architect, Owner, and CM. This does not exclude the posting of required trade notice and cautionary signage by Contractors.

2.02 SNOW REMOVAL

- 2.02.1 Contractors performing Work under exposed conditions shall remove snow and ice for the protection and execution of their Work. Keeping public traffic areas and circulation routes free of snow shall be the responsibility of the CM/DESIGNATED CONTRACTOR.

2.03 SECURITY

- 2.03.1 The services of a security guards will not be provided by CM.
- 2.03.2 Each Contractor, at its own cost and expense, may provide security guard, protective service or other means of site security as it deems necessary.
- 2.03.3 Contractors shall advise CM of any theft or damage which might delay the execution of the Work and furnish the Owner and CM with a copy of any theft report filed with local, county or state agencies.
- 2.03.4 Neither CM nor Owner assumes any responsibility for loss, theft or damage to the Contractor's materials or for damage to Work in place before the completion of the construction. In the instance of any such loss, theft or damage, the Contractor shall be responsible to renew, restore or

remedy the Work, tools, equipment and construction in accordance with requirements of the Contract Documents without additional cost to CM.

- 2.03.5 CM is not responsible for damage, liability, theft, casualty or other hazard to the automobiles or other vehicles, nor to injury, including death, to occupants of automobiles or other vehicles on the Owner's property.
- 2.03.6 CM may establish additional security policies and procedures. All Contractors will be required to cooperate with CM in implementing these procedures.
- 2.03.7 Site-parked equipment, operable machinery and hazardous parts of the new construction subject to mischief and accidental operation shall be inaccessible, locked or otherwise made inoperable when left unattended.

2.04 TEMPORARY FIELD OFFICE, FACILITIES AND PARKING

- 2.04.1 The Owner may designate an area for construction trailers. Placement and scheduled duration shall be coordinated by CM. Each Contractor is responsible to verify that all field offices, trailers and storage sheds shall be in accordance with the local Fire Marshal having jurisdiction. Each Contractor shall arrange and pay for its own telephone hookup and use. Each Contractor shall arrange and pay for its own temporary electrical hook-up, water and toilets. The Contractor shall pay for all power used for the Contractor's temporary field office and temporary electrical service. Construction personnel will be allowed to use the existing Owner parking facilities. Designated Contractors will be allowed to have on-site construction trailers. Construction trailers shall be limited to 10' x 30' or smaller.
- 2.04.2 Contractors shall maintain the use of designated space for offices and sheds. This includes removal of weeds, debris, trash and clean-up of the area after removal of such temporary structures.
- 2.04.3 Temporary field offices and sheds shall not be used for living quarters.
- 2.04.4 Offices and sheds shall be of suitable design, maintenance and appearance, and meet the approval of CM and all applicable local codes and ordinances.
- 2.04.5 All temporary offices and sheds including foundations, must be removed within ten (10) days of written notice from CM including restoration of grade. Structures not removed in a timely manner will be removed by CM at Contractor's expense.
- 2.04.6 If a temporary office is built in the building, it must be fire treated in accordance with Section 01510, Fire Precautions and Protection.

2.05 TEMPORARY FENCING

- 2.05.1 The DESIGNATED CONTRACTOR shall provide temporary fencing with gates for required access and remove same at the completion of the Project.
- 2.05.2 The Contractors shall repair or replace fencing damaged as a result of its operation. Contractors shall remove and replace fencing and gates required to provide access for oversized items.
- 2.05.3 Contractor's personnel are not allowed to work outside of the construction fence without permission of CM.

2.06 TEMPORARY TOILET FACILITIES

- 2.06.1 The CM shall provide and maintain temporary toilet facilities for the construction of the Project. The use of the Owner's existing permanent facilities is as described in Section 01140 Use of Premises.
- 2.06.2 During renovation activities, CM may obtain, through the Owner, permission to use designated toilet facilities within the contract boundaries for construction use. The use of the Owner's existing permanent facilities outside the construction boundaries is strictly not allowed.

2.07 DRINKING WATER/TEMPORARY WATER

- 2.07.1 The Owner will pay for water used on this. Each Contractor shall be responsible to provide containers, paper cups, ice, hoses, etc. for its needs.
- 2.07.2 Immediately after award of the Agreement, the Mechanical Contractor shall furnish, install, maintain and subsequently remove a temporary hookup to the Owner's potable water system where directed by CM for construction purposes. The Contractor shall provide all temporary piping and approved backflow prevention as necessary for distribution from the source. Distribution of temporary water will be paid for by Contractors requiring same. A minimum of two (2) hose bibs shall be provided by the Mechanical Contractor as directed by CM.

2.08 ROOF PROTECTION

- 2.08.1 Contractors and their Subordinate Parties, shall be responsible for damages to roofing, sheet metal and roof structure while performing Work. The Roofing Contractor will perform the repair Work at the expense of the Contractor responsible for the damage.
- 2.08.2 All Contractors will protect adjacent existing roof surfaces while performing their Work. No construction materials will be allowed to be placed on existing roof surfaces without prior approval of the Owner through CM.

2.09 SCAFFOLDING

- 2.09.1 Each Contractor is responsible for providing and maintaining any and all ladders, scaffolds and other staging as required to complete its Work. All such ladders, scaffolds and staging equipment shall be erected, maintained and subsequently removed by each Contractor in accordance with all applicable safety laws, rules and regulations.

2.10 WATER CONTROL

- 2.10.1 All pumping, bailing or well point equipment necessary to keep excavations and trenches free from the accumulation of water during the entire excavating and backfilling progress of the Work shall be the responsibility of the Contractor performing said excavations and trenches due to its scope of Work.
- 2.10.2 Each Contractor shall be responsible for keeping the building at grade and below free from water from the time the building backfill is completed until the building is watertight.
- 2.10.3 Dispose of water in such a manner as will not endanger public health or cause damage or expense to public or private property. Abide by the requirements of any public agencies having jurisdiction.

2.11 TEMPORARY MATERIAL HOIST/ELEVATOR

Each Contractor is responsible for its own hoisting and material/ equipment movement costs as required to complete the Work under its Agreement.

- 2.11.1 CM may operate and maintain a permanent elevator until such time as all material hoisting requirements have been met. Elevator requirements in excess of the capacity or size of this elevator shall be provided by each Contractor at its expense. This elevator shall not be used for the placement of concrete, the transporting of workers, or other means inconsistent with its use as directed by CM. The operating cost for all overtime use of the elevator shall be paid by the Contractor requiring such services.
- 2.11.2 The Elevator Contractor shall be obligated to extend warranty and guarantee periods on any permanent equipment used prior to Substantial Completion.
- 2.11.3 Transportation of construction materials through the Owner's facility shall be accomplished in accordance with the requirements described in Section 01140 Use of Premises in such a manner so as to:
 - 2.11.3.1 Not damage any of the existing facility.
 - 2.11.3.2 Not impair the Owner's use of the facility.

2.11.3.3 Not create any type of mess or additional cleaning requirements in Owner occupied areas.

2.11.4 The Owner's lifting equipment is not available for the unloading, conveying or installation of Contractor's materials.

3 FIRE PRECAUTIONS AND PROTECTION

3.01 All Contractors and their Subordinate Parties shall

3.01.1 Assume full responsibility and take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent damage to any construction work, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private.

3.01.2 Conspicuously post the location of the nearest fire alarm pull box and the telephone number of the local fire department within the field offices and on the construction site adjacent to its Work

3.01.3 Take precautions to prevent fire hazards in accordance with all fire protection and prevention laws and codes. No open fires shall be permitted.

3.01.4 Shall not be permitted to perform welding, flame cutting, or other operations involving the use of flame, arcs, or sparking devices without submitting a Hot Work Permit to CM a minimum of 24 hours prior or without adequate protection and shielding. Hot Work Permits can be obtained through CM. All combustible and flammable material shall be removed from the immediate area of the hot work. Material shall be protected with a fire resistant tarpaulin to prevent sparks, flames, or hot metal from reaching materials.

3.01.4.1 Only fire resistant tarpaulins shall be used on this Project.

3.01.5 Provide the necessary personnel and fire fighting equipment to effectively control incipient fires resulting from the hot work.

3.01.6 Provide its own fire extinguishers in the immediate area of the Work.

3.01.7 Review the entire Project at least once a week to make certain it has adhered to the conditions and requirements set forth herein.

3.01.8 Shall not bring into building at any one time more than a one day supply of flammable liquids such as oil, gasoline, paint or paint solvent

3.01.8.1 All flammable liquids having a flash point of 110 degrees F or below, which must be brought into any building, shall be confined to Underwriter's Laboratories' labeled safety cans.

3.01.8.2 The bulk supply of all flammable liquids shall be detached at least 75 feet from the building and from yard storage of building materials.

3.01.8.3 Spigots on drums containing flammable liquids are prohibited on the project site. Drums are to be equipped with approved vent pumps.

3.01.9 Not store or leave overnight within the confines of the permanent building any combustible materials.

3.01.9.1 This includes all internal combustion engines using gas or fuel oil.

3.01.9.2 Hoisting of flammable or combustible materials to the roof shall only be in quantities as needed for immediate use

3.01.10 Agree that, in the event of fire, all its workers anywhere on site will assist in extinguishing the fire

3.01.11 Coordinate with the Owner and CM the permanent fire protection water supply, fire extinguishing equipment, shut down and tie-ins between new and existing fire protection systems shall be installed at the earliest possible date.

- 3.01.11.1 As each sprinkler system is completed and placed in service, the control valve shall be sealed. Permission to break seals and close sprinkler valves shall be given only by CM with approval of the Owner.
 - 3.01.12 Not place shanties of combustible construction inside of any structure.
 - 3.01.12.1 Such shanties shall be detached at least seventy-five (75) feet from the building or as directed by CM with approval of the Owner.
 - 3.01.12.2 Totally incombustible shanties may be, if approved in writing by CM, located inside of the structure
 - 3.01.12.3 Use of only Underwriter's Laboratory approved heaters and/or stoves is permitted in field offices or storage sheds and they shall have fire resistive material underneath and at the sides near partitions and walls. Pipe sleeves and covering shall be used where stove pipe runs through walls or roof
- 3.02 FIRE EXTINGUISHERS
 - 3.02.1 Fire extinguishers shall be "all purpose", and not a water type, to meet the approval of the Fire Underwriter's Laboratory, and will be inspected at regular intervals and recharged if necessary.
 - 3.02.2 In areas of flammable liquids, asphalt or electrical hazards, extinguishers of the 15 lb. carbon dioxide type or 20 lb. dry chemical type shall be provided
 - 3.02.3 **CM** will provide and maintain in working order at all times during construction not less than a fire extinguisher for each 3000 sq feet with travel distance not to exceed 100 feet.
 - 3.02.4 All other required extinguishers shall be provided by the Contractor creating such hazard
- 3.03 NOXIOUS ODORS AND FUMES
 - 3.03.1 Combustion engine equipment, tar kettles and any other items causing noxious odors or fumes, including diesel powered equipment, will NOT be allowed in the building or near air intake louvers or building entrances and exits. If intake louver locations are in doubt, consult with CM.
- 4 TEMPORARY STAIRS, LADDERS, RAMPS, RUNWAYS, AND BARRICADES
 - 4.01 Each Contractor is to provide and maintain all necessary temporary stairs, ladders, ramps, and runways to facilitate conveyance of workers, materials, tools, and equipment for proper execution of its Work. All protection and safety barricades, devices, covers, and all other necessary items shall be provided by each Contractor as it relates to the safe conduct of its Work and protection of people and property in its Work area in accordance with applicable law.
 - 4.02 Any Contractor or Subordinate Party performing excavation Work shall be responsible to furnish, install and maintain temporary barricades and/or fencing of all open excavations until such time as the backfilling is complete. Flasher lights shall be provided on barricades and fencing by the Contractor as requested by CM and in accordance with applicable law. As a minimum, all barricades across roads and walks shall have lights on them in working condition.
 - 4.03 Prior to the removal of all shoring and forms, the DESIGNATED CONTRACTOR shall be responsible for temporary protection at the building floor perimeters and openings. Immediately after the removal of all shoring and forms, the DESIGNATED CONTRACTOR shall furnish, install, and maintain all necessary temporary protections at the building floor perimeters and openings. Protection shall be OSHA 29 CFR Part 1926.502 (B) "Guardrail Systems" and shall include but not be limited to two line rails and toe boards. Each Contractor that disturbs any temporary protection for its Work is responsible to reinstall to its original condition the guardrail or barricade system for the protection of the workers and others until final construction of perimeter exterior wall and/or shaft openings is completed. All other protection and safety barricades, devices, covers, etc., including those at all roof areas, shall be provided by the DESIGNATED CONTRACTOR] Contractor as it relates to the safe conduct of its Work in accordance with all local, state and federal law, rules and regulations and the requirements of the Contract Documents and shall be in accordance with the most stringent requirements.

- 4.04 The DESIGNATED CONTRACTOR shall provide temporary guardrails at the building floor perimeters, interior shafts, all roof areas, or other openings, immediately after the erection of the steel or precast frame and with the installation of metal or decking. Protection shall be OSHA 29 CFR Part 1926.502 (B) "Guardrail Systems" and shall include but not be limited to two line rails and toe boards. This temporary protector shall be left in place after completion of the steel or precast frame for the use of all other Contractors. The DESIGNATED CONTRACTOR shall maintain and remove said guardrails and patch concrete. Each Contractor that disturbs any temporary protection for its Work is responsible to protect the area during its Work and to reinstall to its original condition the guardrail or barricade system for the protection of the workers and others until final construction of perimeter exterior wall and/or shaft openings is completed. All other protection and safety barricades, devices, covers, etc. shall be provided by this Contractor as it relates to the safe conduct of its Work in accordance with all local, state and federal regulations and the requirements of the Contract Documents, and shall be in accordance with the most stringent requirements.
- 4.4. Each Contractor and its Subordinate Parties shall provide and maintain in good repair barricades, overhead protection, guard rails, etc., as required by law or necessary for the protection of the public and personnel engaged in the Work from hazards incidental to performance of the Work. Contractor shall do everything necessary to protect the Owner's employees, the public and workers from injuries and to protect vehicles and other property from damage.

5. TEMPORARY ELECTRICAL POWER AND LIGHT

5.1. Electrical Energy Costs

- 5.1.1. The Owner will pay for electrical energy to operate temporary electrical power and lighting for the duration of the project at designated locations. Temporary power will be provided free of charge.

5.2. Power Source

- 5.2.1. The Electrical Contractor shall provide, install, and pay for labor, equipment and materials required to make connections to the Owner's power source and to provide temporary electrical power and light distribution. The Electrical Contractor shall coordinate the location of the electrical power and lighting as directed by CM.
- 5.2.2. The Electrical Contractor will provide for the CM's construction trailer a 120/208 volt (or 120/240 volt), 100 ampere single phase power source. The cost of hook up and removal of temporary electrical service to other contractor's trailer shall be each Contractor's responsibility.
- 5.2.3. Protection shall be provided for the power supply source complete with disconnect switch and other required electrical devices.

5.3. Rules and Regulations:

- 5.3.1. All temporary equipment and wiring for power, lighting and distribution requirements shall conform to OSHA/NFPA requirements and be in accordance with applicable provisions of governing laws, codes, and ordinances.
- 5.3.2. All temporary wiring and distribution equipment shall be maintained so as not to constitute a hazard to persons or property.

5.4. Temporary Power Distribution:

- 5.4.1. The Electrical Contractor will provide and maintain temporary power distribution as follows:
Construction power shall be 120/208 volts, 3 phase, 4 wire plus ground. Provide the following outlets together with feeders, grounding, protective devices and ground fault interrupting devices.
- 5.4.1.1. Power centers - on each floor of the new building, provide a minimum of two (2) power centers or not less than one (1) per 10,000 s.f. rated not less than 100 amperes at 120/208 volt, 3 phase. 4 wire plus ground. Within the remodeled areas, provide at least one (1) additional similarly rated power center. Locate the power centers such that each will serve approximately equal areas and as far as possible, each be in the center of the respective area served.

- 5.4.1.2. 120 volt duplex outlets - Provide weatherproof, G.F.I. protected, 20 ampere grounded outlets at a minimum rate equal to 1 - duplex outlet per 400 square feet. Outlets may be grouped in clusters of up to six duplex types with corresponding pro-rated increase in area served, provided that every portion of the construction and remodeled premises can be reached from the nearest outlet using a flexible cord no more than 50 feet in length.
- 5.4.2. As partitions are erected, locations of power distribution points shall be added or relocated.
- 5.4.3. Ground Fault Circuit Interrupter (GFCI) protection will be provided on all temporary power receptacles and, where possible, directly on the circuit breaker supplying temporary power as referenced in NEC 305-6(a).
- 5.4.4. The assured equipment grounding conductor program is only to be used on circuits greater than 20 amps as referenced in NEC 305-6(b).
- 5.5. Temporary Electrical Light Distribution:
 - 5.5.1. The Electrical Contractor shall provide and maintain temporary electrical light distribution as follows:
 - 5.5.1.1. Lighting shall be achieved using 120 volt guarded incandescent fixtures, or other suitable fixture types, to Federal or State OSHA required minimum levels of illumination.
 - 5.5.1.2. 120 volt temporary lighting as required in interior work areas. In addition to these minimum requirements provide adequate security lighting at guarded entrances outside storage areas, parking areas, and in areas of Contractor's and Architect's field offices and sheds.
 - 5.5.2. As partitions are erected or other interferences which hamper achieving the minimum levels of illumination, locations of lighting distribution points shall be added or relocated.
 - 5.5.3. Task lighting in addition to OSHA required lighting shall be provided by each Contractor.
- 5.6. Temporary Power and Light for Special Conditions:
 - 5.6.1. Special conditions for temporary electrical power and lighting required by others shall be provided as follows:
 - 5.6.1.1. Each Contractor requiring service of capacity or characteristics other than specified must make arrangements with the Electrical Contractor and pay for their own installation, removal, and service.
 - 5.6.1.2. Where 3 phase power is required, the Contractor must pick up service at the distribution panel located outside the building addition.
 - 5.6.1.3. The necessary grounded portable cords, lamps, light-stands, and fuses from the distribution outlets to points of use shall be provided by each Contractor to suit its own requirements.
 - 5.6.1.4. Temporary power cannot be used for welding operations.
- 5.7. Servicing of Temporary Power and Lighting:
 - 5.7.1. The Electrical Contractor shall be responsible for the following:
 - 5.7.1.1. Servicing, repairing and rearrangement of service equipment, temporary power, temporary lighting, and re-lamping.
 - 5.7.1.2. Removal and disposal of temporary electrical power and lighting at completion of the Project or when so directed by CM and repair of damage caused by installation or removal.
- 5.8. Permanent Electrical Power and Lighting:

- 5.8.1. When permanent electrical power and lighting systems are in operating condition, they may be used for temporary power and lighting for construction purposes provided the Electrical Contractor:
 - 5.8.1.1. Obtains the approval of the Architect and/or Owner through CM.
 - 5.8.1.2. Assumes full responsibility for operation of the entire power and lighting systems.
 - 5.8.1.3. Verifies that warranty dates are established prior to usage of equipment and lamps.
 - 5.8.1.4. Pays costs for operation, maintenance, and restoration of the systems.
- 5.8.2. As permanent power and lighting becomes available, these systems will generally supplant the appropriate portions of the temporary installation.

6. TEMPORARY HEATING AND WEATHER PROTECTION

- 6.1. Temporary heating requirements during the course of construction shall be divided into two categories as follows:
 - 6.1.1. Cold weather protection.
 - 6.1.2. Temporary heating.
- 6.2. Cold Weather Protection:
 - 6.2.1. Heating required during the construction period prior to enclosure of the building shall be classified as "cold weather protection."
 - 6.2.2. Each Contractor shall provide temporary heating and protection, necessary to allow its Work to continue during cold weather to meet the project milestone dates prior to building enclosure, including:
 - 6.2.2.1. The heating of materials (such as water and aggregate) as well as space heating for protection of newly placed or built construction at required temperatures (but not lower than 50 degrees F) and for the time specified.
 - 6.2.2.2. Fire retardant tarpaulins and other materials used for temporary enclosures.
 - 6.2.3. Each Contractor shall provide plan to allow Work to continue without regard to temperature.
 - 6.2.4. Heat shall be provided by smokeless UL approved portable unit heaters, using fuel of types and kinds approved by Underwriter's Laboratories, Factory Mutual, and the Fire Marshal.
 - 6.2.4.1. The Contractor shall provide fuel, power, maintenance, and attendance required for operation of portable heaters.
 - 6.2.4.2. Interior or exterior surfaces damaged by the use of portable heating units shall be replaced with new materials at the responsible Contractor's expense.
 - 6.2.5. It shall be the responsibility of each Contractor to protect its own Work.
- 6.3. Temporary Heating:
 - 6.3.1. Daily construction heat required after the building is enclosed shall be classified as "temporary heating" and will be the responsibility of the Mechanical Contractor to install and maintain.
 - 6.3.2. The building or buildings or any portions thereof shall be considered enclosed when in the opinion of CM:
 - 6.3.2.1. The exterior wall system and temporary interior wall enclosures are in place.
 - 6.3.2.2. Openings in exterior walls are covered to provide reasonable heat retention.
 - 6.3.2.3. The building is ready for interior drywall, masonry and plastering operations.
 - 6.3.2.4. The permanent roof is substantially installed.

The CM shall provide and maintain the temporary interior wall enclosures. If the exterior wall system is not complete in time to provide building enclosure of a portion of the new structure as scheduled, the CM shall provide and maintain temporary exterior wall enclosures of polyethylene and, in addition to exercising all other rights and remedies under the Contract Documents and law, CM shall be entitled to deduct the cost of such enclosures from the moneys due or to become due the Contractor(s) responsible for failure to meet said schedule.

- 6.3.3. In areas of the building or buildings where Work is being conducted, the temperature shall be maintained as specified in the various sections of the specifications, but not less than 50 degrees F for interior rough-in and not less than 60 degrees F during finishes installation. The temperature shall not be allowed to reach a level that will cause damage to any portion of the Work, including materials stored in the building, which may be subject to damage by low temperatures.
- 6.3.4. Until the permanent heating system, or suitable portion thereof, is in operating condition, provide sufficient and UL approved space heaters of suitable capacity to maintain required temperatures in areas where work is being conducted and materials are stored. Include all necessary maintenance, venting and attendance for this temporary heating to meet all applicable laws, rules and regulations.
- 6.3.5. When the permanent heating system, or a suitable portion thereof, is in operating condition, the system may be used for temporary heating, provided the Electrical Contractor:
 - 6.3.5.1. Obtains approval from CM in writing for its use and any special provisions required for its temporary operation.
 - 6.3.5.2. Assumes full responsibility for the entire heating system until final acceptance of the system by the Owner.
 - 6.3.5.3. Uses supply only, not return if temporary heating utilizes the building's ductwork system.
 - 6.3.5.4. Pays all costs for maintenance, attendance and restoration to "like new" condition of the system including final cleaning of equipment and ductwork and all necessary touch-up painting.
 - 6.3.5.5. Turns over satisfactory evidence to CM showing the extended warranties from manufacturers and proper maintenance procedures.
 - 6.3.5.6. Provides and maintains temporary filters, boxes and other parts used for the temporary condition and replaces same with the new permanent filters at time of occupancy consistent with the warranty provisions. The Electrical Contractor shall pay the cost of extending warranty and guarantee periods on any permanent equipment used prior to substantial completion.
- 6.3.6. Electrical power required for temporary heating will be furnished free of charge. The installation and service of the necessary temporary electrical feeders will also be the responsibility of the Electrical Contractor.

6.4. TEMPORARY ENCLOSURES

- 6.4.1. The Carpentry Contractor (or as specified in the Work Scopes) shall provide temporary (insulated) weather-tight closures of openings in exterior surfaces to provide acceptable working conditions and protection for materials, to allow for temporary heating, and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.
- 6.4.2. The Roofing Contractor (or as specified in the Work Scopes) shall provide temporary roofing as required to provide and maintain a watertight enclosure during construction.
- 6.4.3. The Drywall Contractor (or as specified in the Work Scopes) shall provide temporary partitions and ceilings as required to separate Work areas from Owner occupied areas, to prevent penetration of dust and moisture into Owner occupied areas and to prevent damage to Owner's facilities and equipment.

END OF SECTION 01520

SECTION 01530
FIELD ENGINEERING AND LAYOUT

1 LAYOUT OF THE WORK; Each Contractor shall

- 1.1. be responsible for the layout and engineering of its own Work from the established points and lines given by a registered surveyor employed by CM and to coordinate with all other trades.
- 1.2. be responsible for detailed and accurate layout of its own and its Subordinate Parties' Work to dimension from the principal lines.
- 1.3. make provisions to preserve all control points, such as monuments, stakes, bench marks or other datum points and shall replace at its own cost any of these which might be lost or displaced through its neglect.
- 1.4. examine the conditions under which the Work is to be installed, shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Any errors, inconsistencies, omissions, discrepancies or conditions detrimental to proper performance of the Work that are discovered shall be reported to CM at once. Contractors are not to proceed until the required corrections are accomplished.

2. Verification and Documentation

- 2.1. The exactness of grades, elevations, dimensions, or locations given on any Drawings issued by Architect or the work installed by other contractors, is not guaranteed by Owner or CM.
- 2.2. In all cases of interconnection of its Work with existing or other Work, it shall verify all dimensions relating to such existing or other Work. Any errors due to the Contractor's failure to verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner or CM..
- 2.3. As the Work progresses, the Contractor shall prepare lay out drawings showing the exact locations of Work under its Contract as a guide to all trades. Prior to any installation, the separate Contractors shall exchange layout drawings and coordinate the Work and be subject to verification by all subsequent Contractors.
- 2.4. Each Contractor shall be responsible to take such field measurements as may be required to determine the size of ordered material. In the event "guaranteed dimensions" are required, the Contractor shall promptly advise other Contractors through CM by use of drawings, templates or mock-ups of the required conditions.
- 2.5. All Work, and in particular, piping, ducts, conduit and similar items, shall be neatly and carefully laid out to provide the most useful space utilization and the most orderly appearance. Except as otherwise indicated or directed, piping and similar Work shall be installed as close to above ceiling floor slabs and walls as conditions reasonably permit, located to prevent interference with other Work or with the use of the spaces. Before Contractor installs a valve in an exposed location, it must make all efforts to install it in an accessible, concealed location. Contractors shall carefully plan the layout and review any questionable installations with CM.
- 2.6. The Owner or CM may utilize a registered land surveyor to verify alignment and layout of certain portions of the Work. If that Work is out of tolerance or incorrect, the installing Contractor will be responsible for prompt correction of the Work to comply with the Contract Documents, along with all expenses incurred by Owner or CM in such verification process, including, but not limited to, the cost for the surveying services, as well as the additional time expended by CM personnel at standard billing rates.

END OF SECTION 01530

SECTION 01540 CUTTING AND PATCHING

1 INSPECTION

- 1.01 Before cutting , examine surfaces to be cut, including elements subject to damage or movement during cutting and patching work. Report any unsatisfactory or questionable conditions to CM in writing.
- 1.02 Before proceeding, meet at the site with CM and the parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference, conflict and possible effects on the Owner's existing operations. Coordinate procedures, temporary support, methods of dust and water protection, etc. and resolve potential conflicts before proceeding.
- 1.03 When working in and around existing buildings, if any hazardous material is encountered or is suspected to be present, immediately notify CM and stop work in this area as described in Section 00840 Hazardous Materials until further direction is given by CM or the Owner.

2 PREPARATION

- 2.01 Provide adequate temporary support to assure the structural value and integrity of the affected portion of the work. Where specified or required, submit temporary support methodologies for approval.
- 2.02 Provide devices and methods to protect adjacent areas or other portions of the Project from damage including dust protection, water protection, and exposure.
- 2.03 Maintain excavations free of water.

3 EXECUTION

- 3.01 The use of gasoline powered equipment, jackhammers or power actuated tools, explosives is prohibited on this Project.
- 3.02 Each Contractor shall:
 - 3.02.1 On behalf of itself and its Subordinate Parties be responsible for the cutting of all holes and openings through existing walls, partitions, ceilings, floors and roofs as necessary for the installation of its Work. Holes and openings shall be neatly cut and of minimum size to allow the Work to be installed. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs.
 - 3.02.2 Execute work in such a manner as to minimize disruptions to or interference with the Owner's normal operations or functioning in the existing buildings and provide all means necessary to provide safety and convenience of those employed in and about the premises.
 - 3.02.3 Be responsible for patching of all holes and openings it makes. Fit work should be airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces. Patching is to match adjacent surfaces in materials and finish.
 - 3.02.4 Utilize only tradesmen skilled in the specific finish and material involved in making the patches. All patching is to be done in a neat and workmanlike manner to the satisfaction of CM. Defective Work shall be corrected at no cost to the Owner and CM.
 - 3.02.5 Do all necessary cutting and fitting required to make a satisfactory connection where new Work connects with existing so as to leave the entire Work in finished and workmanlike condition. Furnish all labor and materials to this end, whether or not shown or specified. All measurements must be verified at the site.
 - 3.02.6 Employ the original installer and fabricator, when possible, to perform cutting and patching for, weather-exposed or moisture-resistant elements, sight-exposed finished surfaces.
 - 3.02.7 Execute fitting and adjustment or products to provide a finished installation to comply with the specified products, functions, tolerances and finishes.

- 3.02.8 Restore Work which has been cut or removed and shall install new products to provide completed Work in accordance with the Contract Documents. Each Contractor will be responsible to pay the appropriate contractor as designated by CM for restoring any portion of the Project that is disturbed, including but not limited to, slabs, walls, ceilings, fire rated partitions, spray-on fireproofing, and finishes, to their original state as a result of Contractor's action.
- 3.02.9 Refinish entire surfaces as the Contractor's Work scope requires to provide an even finish to match adjacent surfaces and finishes, for continuous surfaces, refinish to nearest intersection, for an assembly, refinish the entire unit.
- 3.02.10 Be held responsible for reckless cutting of holes in slabs, walls or other finishes, or for scraping off areas of fireproofing larger or greater than that which is necessary for installation of its Work.
- 3.03 Removal and replacement of ceilings not scheduled to be replaced shall be the responsibility of the Contractor requiring access.

END OF SECTION 01540

SECTION 01550
CLEAN-UP AND FINAL CLEANING

A. SUMMARY

Execute final cleaning at completion of the Work, as required by this Section. For Contractor's daily clean-up, dust control and rubbish removal operations during construction, refer to Section 01520 Temporary Construction Controls.

a. DISPOSAL REQUIREMENTS

- i. Conduct final cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on Project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.

2 PART 2 - SITE CLEAN-UP/RUBBISH REMOVAL PROCEDURE

2.1. REQUIREMENTS

2.1.1. General. Contractor shall:

- 2.1.1.1. Be responsible for daily, weekly and final clean-up of its Work and the work of its Subordinate Parties as defined herein.
- 2.1.1.2. Comply with applicable labor agreements and jurisdictional rules in the hiring of laborers to perform its clean up obligations under the Contract Documents.
- 2.1.1.3. Control of dust generated by its operations on a daily basis.
- 2.1.1.4. Maintain roadways clear of all debris at all times.
- 2.1.1.5. Only use cleaning materials which will not create hazards to health or property and which will not damage surfaces. Only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned shall be used.
- 2.1.1.6. Only use sweeping compounds that do not leave residue on concrete floor surfaces and that will not affect installation of finish flooring materials

2.1.2. Dumpsters:

- 2.1.2.1. Unless stated otherwise in the Work Scopes, the CM will provide and maintain the job site dumpsters for unidentifiable debris for use as specified below.
- 2.1.2.2. Each Contractor and its Subordinate Parties shall be responsible for daily clean-up, removal and placement in dumpsters of all debris and waste resulting from its operations.
- 2.1.2.3. No overfilling of dumpsters will be allowed. All adjacent areas are to be kept clean. Excavation, demolition, masonry, drywall and hazardous waste materials are NOT to be placed in CM's dumpster.
- 2.1.2.4. Each Contractor will be responsible for removing its own excavation, demolition, masonry, drywall and Hazardous Materials from the site in strict accordance with applicable laws and regulations regarding disposal.
- 2.1.2.5. Contractor shall indemnify, defend and hold harmless the Owner and CM from claims, damages, suits, costs, or expenses of any kind (including attorney's fees and costs) arising out of, resulting from or in connection with Contractor's misuse of dumpsters.

2.1.3. Daily Clean Up, Each Contractor shall:

- 2.1.3.1. Be responsible, DAILY for the clean -up, transport and removal from the site of identifiable debris including but not limited to, bulky debris, packaging, containers, unused materials and equipment, (i.e., masonry and concrete materials, drywall, steel, crates, carton, demolition debris, other packaging, and combustible items).
- 2.1.3.2. Leave no piles of debris in the building overnight. The cost of any overtime premium required to remove debris immediately at the end of each workday shall be included in the Contractor's Work.
- 2.1.3.3. handle materials in a controlled manner so that dust and other contaminants, do not affect the Owner's or other Contractor operations and equipment
- 2.1.3.4. Be responsible to leave its Work and work area in a clean condition. This includes, but is not limited to, removal of all grease, dust, dirt, stains, labels, fingerprints and other foreign matter.
- 2.1.4. Weekly Clean Up: Each Contractor shall:
 - 2.1.4.1. While on site, provide to CM one (1) person for each five tradesmen (or portion thereof) employed at the site, one day per week, for up to four (4) hours, for the exclusive purpose of performing overall project weekly clean-up of unidentifiable debris. The cost of this (these) person(s) shall be included in Contractor's Work.
 - 2.1.4.2. Include sweeping, loading and disposal of miscellaneous debris such as mud tracked through the building, drinking cups, bottles, lunch wrappers and other unidentifiable debris. Trash and debris from this operation shall be placed in the dumpster(s)
- 2.1.5. Final Clean Up:
 - 2.1.5.1. Final clean-up, will be done at a time designated by CM.
 - 2.1.5.2. Normally, Final Clean Up will occur before punchlist inspection or prior Owner Occupancy turnover.
 - 2.1.5.3. The Contractor's duties for Final Cleaning are:
 - 2.1.5.3.1. Prior to final completion or Owner occupancy, whichever occurs first, conduct an inspection of sight-exposed interior and exterior surfaces, and all Work areas, to verify that the entire Work is left in a broom clean condition and that all Final Cleaning as set forth above has been performed.
 - 2.1.5.3.2. Tunnels and closed off spaces shall be cleaned of packing boxes, wood frame members and other waste materials used in the construction.
 - 2.1.5.3.3. Temporary labels, stickers and similar items shall be removed from fixtures and equipment. Unless otherwise directed in the technical specifications, Contractors shall not remove permanent name plates, equipment model numbers, ratings, or other items intended to be permanently affixed to the fixture or equipment.
- 2.1.6. Use of Owner's Facilities: The Owner's facilities are not to be used by Contractor for the disposal of trash or debris from its Work.
- 2.1.7. Failure to perform Clean Up:
 - 2.1.7.1. If any Contractor or its Subordinate Parties fails to maintain a satisfactory clean-up program, CM will issue written notice, to the responsible Contractor, that the necessary clean-up must be performed within twenty-four (24) hours after the notice is given. The establishment of a definite deadline for the removal of debris and rubbish will supersede the necessity for any formal notification that such work must be done.

- 2.1.7.2. If Contractor(s) fail to perform the clean-up, by the deadline, CM may perform clean-up on the Project and back charge the responsible Contractor(s) for the costs. If necessary in order to remove unidentifiable debris beyond what is removed during weekly clean up, CM will perform such clean-up and shall pro-rate the cost among the Contractors in its discretion, based on Contractor(s) type of work and manpower on site. Back charges may be deducted from the monthly invoices of the Contractor(s) and/or final payment.
- 2.1.8. Hazardous Materials: Contractors or Subordinate Parties shall dispose of Hazardous Materials in strict accordance with applicable federal, state, and local laws and regulations. Hazardous Materials may not be placed in dumpsters and/or containers not so designated for such placement.

END OF SECTION 01550

SECTION 01600 FORMS

1 USE OF FORMS

- 1.01 Upon award of the Agreement, the various forms described and referenced in the Project Manual will be provided by CM and therefore are not bound in the Project Manual. Copies of forms are available for inspection at CM Office.
- 1.02 Following is a list of the key forms:
- 00810 Safety and Loss Control Program
 - Trade Contractor Safety Certificate (SAF 6.3.3.3)
 - 01250 Changes in the Work
 - PCO- Notice to Proceed
 - PCO- Quotation Only
 - Change Order Form (CMS.9.1 or CMS.9.2)
 - 01290 Payment Procedures
 - Application and Certificate for Payment (CON.27.1) and Continuation Sheet (CON.27.2)
 - Consent of Surety to Reduction In or Partial Release of Retainage (CON.26.6)
 - Payment schedule (PSI.10.1)
 - Payment Request for Stored Materials Form (CON.26.5)
 - Acknowledgment of Payment and Partial Unconditional Release Form (CON.26.3)
 - Unconditional Final Release and Waiver Subcontractor/Materialman Form (CON.26.4)
 - Sworn Statement Form (CON.26.2)
 - 01320 Communications
 - Trade Contractors Daily/Pre-Task Plan (CON.14.4)
 - Request for Information Form (CON.25.2) (in company approved software, if necessary)
 - 01330 Submittals
 - BMC Submittal Transmittal Form (CON.9.6)
 - 01400 Quality Requirements
 - Corrective Action Report (CAR)/Notice of Non-Conformance (NCR) (CON.18.2)
 - 01700 Contract Close-out
 - Consent of Surety Company to Final Payment Form (CON.26. 7)
 - Consent of Surety to Reduction in or Partial Release of Retainage Form (CON.26.6)
 - Certificate of Contract Completion Form (CLO.7.5)
 - 01720 Project Record Documents
 - Closeout Submittal (CLO.7.2)
 - 01740 Warranties and Guarantees
 - Contractor's Guarantee (CLO.7.3)
 - 01750 Systems Demonstration, Training and Start-up

- Equipment/Systems Acceptance Form (CLO.2.1)
- Owner Training Register (CLO.2.2)

END OF SECTION 01600

**SECTION 01630
PRODUCT SUBSTITUTIONS**

1. WORK INCLUDED

- 1.1. Furnish and install Products specified, under options and conditions for substitutions stated in this Section.

2. BIDDER'S OPTIONS

- 2.1. For products that are specified only by reference standard, select Product meeting that is standard by any manufacturer.
- 2.2. For Products specified by naming several Products or manufacturers, select any one of products and manufacturers named which complies with Specifications.
- 2.3. For Products specified by naming several Products or manufacturers and stating "or equivalent", or "or equal", or "or Architect approved equivalent", or similar wording, submit a request as for substitutions, for any Product or manufacturer which is not specifically named for review and approval by the Architect.
- 2.4. For Products specified by naming only one Product and manufacturer, there is no option and no substitution will be allowed.

3. SUBSTITUTION PROCESS

3.1. SUBSTITUTIONS

- 3.1.1. Base Bid shall be in accordance with the Contract Documents.
- 3.1.2. Substitutions for products may be made during the bidding period by submitting completed Substitution Request Form and substantiating product data/literature a minimum of ten (10) Days prior to Bid date to CM who will then forward to the Architect.
- 3.1.2.1. Architect will consider requests from the Bidder for substitution of products in place of those specified as set forth in this section.
- 3.1.2.2. Those submitted the specified calendar days prior to Bid Date will be included in an addendum if acceptable.
- 3.1.2.3. After the end of the bidding period, requests will be considered only in case of Product unavailability or other conditions beyond the control of Contractor.
- 3.1.2.4. Bid Proposals shall not be based on assumed acceptance of any item which has not been approved by addendum.
- 3.1.3. Bidders are required to submit a separate Substitution Request Form for each proposed substitution. Each substitution request should be accompanied by the following supporting documentation:
- 3.1.3.1. A full explanation of the proposed substitution.
- 3.1.3.2. Complete data substantiating compliance of the proposed substitution with the requirements stated in the Contract Documents.
- 3.1.3.2.1. Product identification, including the manufacturer's name and address.
- 3.1.3.2.2. Manufacturer's literature; identifying:
- 3.1.3.2.2.1. Product description and technical information.
- 3.1.3.2.2.2. Reference standards.
- 3.1.3.2.2.3. Performance and test data.
- 3.1.3.2.2.4. Installation instructions, operating procedures and other like information.
- 3.1.3.2.3. Samples, as applicable.

- 3.1.3.2.4. Names and addresses of similar projects on which product has been used, and date of each installation.
 - 3.1.3.3. Itemized comparison of the proposed substitution with the product specified, listing all significant variations.
 - 3.1.3.4. Data relating to changes in delivery or construction schedule.
 - 3.1.3.5. A list of all effects of the proposed substitution on separate contracts.
 - 3.1.3.6. Accurate cost data comparing the proposed substitution with the product specified.
 - 3.1.3.6.1. Amount of any net change to Contract Sum.
 - 3.1.3.7. Designation of required license fees or royalties.
 - 3.1.3.8. Designation of availability of maintenance services and sources of replacement materials.
 - 3.1.4. Substitutions will not be considered for acceptance when:
 - 3.1.4.1. They are indicated or implied on shop drawings or product data submittals without a formal request from Bidder.
 - 3.1.4.2. Acceptance will require substantial revision of Contract Documents.
 - 3.1.4.3. In judgment of Architect, do not include adequate information necessary for a complete evaluation.
 - 3.1.4.4. If requested after Contract Award directly by a subcontractor or supplier, except for special or unusual circumstances reviewed by the Contractor with CM.
 - 3.1.5. Substitute products shall not be ordered or installed without written acceptance of Architect.
 - 3.1.6. Architect will determine acceptability of proposed substitution.
- 3.2. BIDDER'S REPRESENTATION
- 3.2.1. In making formal request for substitution the Bidder represents that:
 - 3.2.2. It has investigated the proposed product and has determined it is equivalent to or superior in all respects to the product specified.
 - 3.2.3. It will provide same warranties or bonds for the proposed substitution as required for the product specified.
 - 3.2.4. It will coordinate installation of the accepted substitution into the Work, and will make such changes as may be required for the Work to be complete in all respects.
 - 3.2.5. It waives all claims for additional costs caused by or arising from the substitution which may subsequently become apparent.
 - 3.2.6. Cost data is complete and includes related costs under its Agreement, but not:
 - 3.2.6.1. Costs under separate contracts.
 - 3.2.6.2. Architect's costs for redesign or revision of Contract Documents.
 - 3.2.7. Cost data need not be submitted, if request is for inclusion in an addendum. Requests after the Agreement is awarded shall contain a complete cost comparison.
 - 3.2.8. Any modifications necessary as a result of the use of an approved substitute shall be paid by the Contractor proposing the substitution.
 - 3.2.9. Any additional engineering costs required to be performed by the Architect to approve, implement or coordinate the substitution above reasonable review services, shall be paid by the Contractor proposing the substitution.

- 3.2.10. Under no circumstances will the Architect be required to prove that a product proposed for substitution is or is not equal to the quality of the product specified.

3.3. ARCHITECT'S DUTIES

- 3.3.1. Review requests for substitutions with reasonable promptness.
- 3.3.2. Coordinate review/approval of "Architect Approved" substitutions with the Owner prior to notifying the CM.
- 3.3.3. Issue a written instruction of decision to accept the substitution.
- 3.3.4. Substitution requests that are not approved will be returned to the party submitting the request with an explanation for the rejection.

3.4. SUBSTITUTION REQUEST FORM

- 3.4.1. The form is attached to this Section.
- 3.4.2. SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THE ATTACHED FORM IS COMPLETED AND INCLUDED WITH THE SUBMITTAL WITH ALL BACKUP DATA.

SUBSTITUTION REQUEST FORM

TO: Barton Malow Company

We hereby submit for your consideration the following product instead of the specified item for the above Project:

DRAWING NO.: _____ **DRAWING NAME:** _____

SPEC. SECT.	SPEC. NAME	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____	_____

Proposed Substitution:

Attached complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance.

CERTIFICATION OF EQUAL PERFORMANCE AND ASSUMPTION OF LIABILITY FOR EQUAL PERFORMANCE

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted by:

Signature_____
Title_____
Firm_____
Address_____
Telephone_____
Date

Signature shall be by person having authority to legally bind his/her firm to the above terms. Failure to provide legally binding signature will result in retraction of approval.

For use by Architect

☐ Accepted ☐ Accepted as noted
☐ Not accepted ☐ Received too late
☐ Insufficient data received

By: _____

Date: _____

For use by Owner

☐ Accepted ☐ Accepted as noted
☐ Not accepted ☐ Received too late
☐ Insufficient data received

By: _____

Date: _____

Fill in blanks below (attach additional sheets as required):

A. Does the Substitution affect dimensions shown on Drawings?

Yes _____ No _____ If yes, clearly indicate changes: _____

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

Yes _____ No _____ If no, fully explain: _____

C. What affect does substitution have on other contracts or other trades?

D. What affect does substitution have on the delivery and construction schedule? _____

E. Manufacturer's warranties of the proposed and specified items are: Same _____ Different _____

If different, explain on an attachment.

F. Reason for Request: _____

G. Itemized comparison of specified item(s) with the proposed substitution; list significant variations:

H. Accurate cost data comparing proposed substitution with product specified:

I. This substitution will amount to a credit or an extra cost to the Owner of:

_____ Dollars

(\$ _____)

END OF SECTION 01630

SECTION 01700 CONTRACT CLOSE-OUT

1. CLOSE-OUT PROCEDURE

- 1.1. The following procedure and forms will be used to sequentially progress through the contract close-out stage in a productive and timely manner.

1.1.1. PREPARATION FOR CONTRACT CLOSE-OUT

During the course of the Project, the Contractor will thoroughly review the Contract Documents as it relates to the requirements and obligations and gather and submit to CM the proper submittals, shop drawings, material certifications, waivers, certificates of insurance, bonds, and other contractual requirements impacting contract close-out.

1.1.2. INITIATING THE FINAL CLOSE-OUT PROCESS

When nearing 75% completion of the Work, the Contractor will review the status of the Close-Out process with CM. The Contractor's contractual responsibilities will be reviewed and outstanding close-out and other submittals identified.

1.1.3. OBTAINING THE CERTIFICATE OF SUBSTANTIAL COMPLETION

As the Contractor is nearing the completion of the Work and after concurrence with CM, it shall submit a written request for Substantial Completion, all required documentation as outlined, and a listing of all minor deficiencies yet to be completed.

The following documents are the minimum required at the time of request for Substantial Completion. Contractor shall also submit all additional documentation as required in the Contract Documents:

- 1.1.3.1. AIA G704 Certificate of Substantial Completion
- 1.1.3.2. As-built records
- 1.1.3.3. Operation and Maintenance Manuals
- 1.1.3.4. Keys, Maintenance Stock, and Spare Parts
- 1.1.3.5. Test and Start-up/Owner Training Sessions
- 1.1.3.6. Submission of Permits and Approvals (i.e. Fire Marshal, Department of Public Health Approvals, etc.)
- 1.1.3.7. Guarantee and Warranties
- 1.1.3.8. Punchlist (list of work to be completed or corrected)

Once CM has received all required documents they will be forwarded to the Architect and Owner. CM will review the Contractor's request for Substantial Completion; all above documentation, and list of deficiencies, add appropriate comments, and forward to the Architect and/or Owner for review. In conjunction with the Contractor, CM will establish a schedule for the completion of all listed items, which in no event shall exceed any time periods established in the Contract Documents for Final Completion.

When the Architect determine that the Work is substantially complete, the Certificate of Substantial Completion shall be issued to the Contractor.

1.1.4. CONTRACTOR COMPLETES PUNCHLIST WORK

Each Contractor shall submit a letter certifying all punchlist items are completed, in a manner acceptable to the Owner, CM and the Architect.

1.1.5. FINAL INSPECTION NOTICE

Each Contractor is to forward **(written notice and accompanying documentation)** to CM that Work is ready for final inspection and acceptance. CM will forward written notice to the Architect if CM is in agreement that Work is complete. The Architect will perform a final inspection and sign off on the punchlist form if Work is in fact completed. If punchlist work is not found complete, the Contractor shall take action to remedy any insufficiencies and then shall re-submit the written notice and accompanying documentation that Work is ready for **final** inspection and acceptance. If CM and/or Architect are required to perform more than 2 site visits to determine Substantial or Final Completion of Contractor's Work, the costs for such additional inspections shall be charged to Contractor.

The following documents are the minimum required to complete final payment. Contractor shall also submit all additional documentation as required in the Contract Documents:

- 1.1.5.1. Final Payment Request (on G702 & G703).
- 1.1.5.2. Guarantees/Warranties (including subs and suppliers).
- 1.1.5.3. Final Sworn Statements (including subs and suppliers).
- 1.1.5.4. Acknowledgment of Payment and Partial Unconditional Release
- 1.1.5.5. Final Release Subcontractor/Materialman
- 1.1.5.6. Certified Payroll Report (projects governed by prevailing wage laws)
- 1.1.5.7. Verification of Rate Classification and Payment (Federal projects)
- 1.1.5.8. Consent of Surety Company to Final Payment (AIA G707)
- 1.1.5.9. Consent of Surety to Reduction or Partial Release of Retainage (AIA G707A)
- 1.1.5.10. Certificate of Substantial Completion (on G704).
- 1.1.5.11. Completion and acceptance of all punchlist Work.

Items 1.1.5.2 through 1.1.5.5 must always be submitted with the final request for payment.

1.1.6. REVIEW OF FINAL PAYMENT REQUEST

CM and the Architect will review the Contractor's final payment request and Close-Out file. If all administrative documents are attached or have been submitted (i.e. guarantee, warranty, waiver of lien, etc.), all Work is complete, and all other responsibilities are met, the Project Team will forward the Contractor's Application for Final Payment to the Owner and payment shall be processed according to the Owner's regular procedures.

2. FINAL COMPLETION

- 2.1. To attain final completion, the Contractor shall complete activities pertaining to Substantial Completion, and complete Work on punch list items. Only then shall it issue written request to CM to conduct a site visit to determine Final Completion.
- 2.2. When Contractor considers the Work is finally complete, it shall submit written certification that:
 - 2.2.5. Contract Documents have been reviewed.
 - 2.2.6. Work has been inspected for compliance with Contract Documents.
 - 2.2.7. Work has been completed in accordance with Contract Documents.
 - 2.2.8. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 - 2.2.9. Work is completed and ready for final observation.
- 2.3. CM and/or Architect will make an observation to verify the status of completion with reasonable promptness after receipt of such certification.
- 2.4. Should CM and/or Architect consider that the Work is incomplete or defective:

- 2.4.5. CM will promptly notify the Contractor in writing, listing the incomplete or defective Work.
 - 2.4.6. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the CM that the Work is complete.
 - 2.4.7. CM and/or Architect will re-inspect the Work.
 - 2.5. When CM and/or Architect determines that the Work is acceptable under the Contract Documents, it shall request the Contractor to make close-out submittals.
3. CONTRACTOR'S CLOSE-OUT SUBMITTALS
- 3.1. Evidence of compliance with requirements of governing authorities (state, local or federal):
 - 3.1.5. Certificates of Inspection:
 - 3.1.5.1. Mechanical
 - 3.1.5.2. Electrical
 - 3.1.5.3. Others as required
 - 3.2. Project Record Documents: Refer to requirements of Section 01720.
 - 3.3. Operating and Maintenance Data, Instructions to Owner's Personnel: Refer to requirements of Section 01730.
 - 3.4. Warranties and Bonds: Refer to requirements of Individual Sections and Individual Technical Specifications and Section 01740.
 - 3.5. Spare Parts and Maintenance Materials: Refer to requirements of Individual Technical Specifications.
 - 3.6. Evidence of Payment and Release of Liens: Refer to requirements of General and Supplementary Conditions and Section 01290.

END OF SECTION 01700

SECTION 01720
PROJECT RECORD DOCUMENTS

1 SUMMARY

- 1.01 Each Contractor shall be responsible to maintain at the job site one copy of:
 - 1.01.1 Record Contract Drawings
 - 1.01.2 Record Project Manual
 - 1.01.3 Addenda
 - 1.01.4 Reviewed/Approved Shop Drawings
 - 1.01.5 Change Orders
 - 1.01.6 Other modifications to Contract
 - 1.01.7 Field test records
 - 1.01.8 Affidavits
- 1.02 Store documents apart from documents used for construction.
- 1.03 Maintain documents in clean, dry, legible condition.
- 1.04 Do not use project record documents for construction purposes.
- 1.05 Make documents available for inspection by the Owner, CM and the Architect.
- 1.06** Failure to maintain documents up-to-date will be cause for withholding payments to Contractor.
- 1.07 At the outset of the project, obtain from the Architect through the CM, at no charge to the Contractor, one complete set of Contract Documents including:
 - 1.07.1 Technical Specifications with all addenda.
 - 1.07.2 One complete set of prints of all Drawings.

2 RECORDING

- 2.01 Label each document "Project Record."
- 2.02 Keep record documents current.
- 2.03 Do not permanently conceal any work until required information has been recorded.
- 2.04 Contract Drawings:
 - 2.04.1 Contractor may at his option enter required information on a "working set" and then at completion of Project transfer the information to final submitted "Project Record" set.
 - 2.04.2 Contractor shall legibly mark to record actual construction:
 - 2.04.2.1 Depths of various elements of foundation in relation to survey data.
 - 2.04.2.2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2.04.2.3 Location and depths of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 2.04.2.4 Field changes of dimension and detail.
 - 2.04.2.5 Changes made by PCO- Notice to Proceed.

2.04.2.6 Details not on original Contract Drawings.

2.05 Technical Specifications and Addenda:

2.05.1 Contractor shall legibly mark up each section to record:

2.05.1.1 Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.

2.05.1.2 Changes made by PCO- Notice to Proceed.

2.05.1.3 Other items not originally specified.

2.06 Conversion of Schematic Layouts:

2.06.1 Arrangement of conduits, circuits, piping, ducts and similar items are in most cases shown schematically on the Drawings.

2.06.2 Contractor shall legibly mark to record actual construction:

2.06.2.1 Dimensions accurate to within 1" of the center of items shown schematically.

2.06.2.2 Identify each item, for example, "cast iron drain", "galvanized water", etc.

2.06.2.3 Identify location of each item, for example, "under slab", "in ceiling plenum", "exposed", etc.

2.06.3 The Owner, Architect or CM may waive requirements of schematic layout conversion, when in their opinion, it serves no beneficial purpose. Do not, however, rely on waivers being issued except as specifically issued by the CM in written form.

3 SUBMITTAL

3.01 At completion of Project deliver, 1 set of electronic sets of Record Documents, in a format acceptable to the Owner and the Architect, using the Final Document Submittal Form (in Section 01600 Forms), to CM prior to request for final payment.

3.02 Accompany submittal with transmittal letter, in duplicate, containing:

3.02.1 Date

3.02.2 Project title and number

3.02.3 Contractor's name and address

3.02.4 Title and number of each record document

3.02.5 Certification that each document as submitted is complete and accurate.

3.02.6 Signature of Contractor, or his authorized representative.

END OF SECTION 01720

**SECTION 01730
OPERATIONS AND MAINTENANCE DATA**

1. SCOPE

- 1.1. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Contract.
- 1.2. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent sections of the Technical Specifications.
- 1.3. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems in accordance with the requirements in Section 01750 Systems Demonstration, Training and Start-up.

2. QUALITY ASSURANCE

- 2.1. Preparation of data shall be done by personnel:
 - 2.1.1. Trained and experienced in maintenance and operation of described products.
 - 2.1.2. Familiar with requirements of this Section.
 - 2.1.3. Skilled as technical writer to the extent required to communicate essential data.
 - 2.1.4. Skilled as draftsman competent to prepare required drawings.

3. FORM OF SUBMITTALS

- 3.1. Prepare data in the form of an instructional manual for use by Owner's personnel.
- 3.2. Format:
 - 3.2.1. Size: 8-1/2" x 11"
 - 3.2.2. Paper: white, for typed pages.
 - 3.2.3. Text: Manufacturer's printed data, or neatly typewritten.
 - 3.2.4. Drawings:
 - a. Provide reinforced punched binder tab, bind in with text.
 - b. Fold larger drawings to size of text pages.
 - 3.2.5. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - c. Provide typed description of product, and major component parts of equipment.
 - d. Provide indexed tabs.
 - 3.2.6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS." list:
 - e. Title of Project
 - f. Identity of separate structures as applicable.
 - g. Identity of general subject matter covered in the manual.
- 3.3. Binders:
 - 3.3.1. Commercial quality three-ring binders with durable and cleanable plastic covers.
 - 3.3.2. Maximum ring size: 3"
 - 3.3.3. When multiple binders are used, correlate the data into related consistent groupings.

4. CONTENT OF MANUAL

- 4.1. Neatly typewritten table of contents for each volume, arranged in systematic order.

- 4.1.1. Contractor, name of responsible principal, address and telephone number.
- 4.1.2. A list of each product required to be included, indexed to content of the volume.
- 4.1.3. List with each product, name, address and telephone number of:
 - a. Subcontractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Identify area of responsibility of each.
 - d. Local source of supply for parts and replacement.
- 4.1.4. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
- 4.2. Product Data:
 - 4.2.1. Include only those sheets which are pertinent to the specific product.
 - 4.2.2. Annotate each sheet to:
 - e. Clearly identify specific product or part installed.
 - f. Clearly identify data applicable to installation.
 - g. Delete references to inapplicable information.
- 4.3. Drawings:
 - 4.3.1. Supplement product data with drawings as necessary to clearly illustrate:
 - b. Relations of component parts or equipment and systems.
 - c. Control and flow diagrams.
 - 4.3.2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
 - 4.3.3. Contractor may use Project Record Documents as maintenance drawings - coordinate with CM.
- 4.4. Written text, as required to supplement product data for the particular installation:
 - 4.4.1. Organize in consistent format under separate headings for different procedures.
 - 4.4.2. Provide logical sequence of instructions for each procedure.
- 4.5. Copy of each warranty, bond and service contract issued.
 - 4.5.1. Provide information sheet for Owner's personnel, give:
 - a. Proper procedures in event of failure.
 - b. Instances which might affect validity of warranties or bonds.
- 5. MANUAL REVIEW AND PREPARATION SCHEDULE
 - 5.1. Submit two copies of preliminary draft of proposed formats and outlines of contents to CM prior to start of preparation.
 - 5.1.1. Architect will review draft and return one copy with comments.
 - 5.2. Submit 1 set of electronic copy of completed data in final form to the CM at least 2 months before the end of the project, for Owner review.
 - 5.2.1. Copy will be returned after final inspection or acceptance, with comments.
 - 5.3. Submit copies of completed operation and maintenance manuals at least two (2) weeks before execution and have at hand for use in demonstrations and instructions.

- 5.4. Submit specified number of copies of approved data in final form to the CM ten (10) days after final inspection or acceptance.

6. PRODUCTS

6.1. MANUAL FOR MATERIALS AND FINISHES

- 6.1.1. Submit 1 electronic copy of complete manual in final form.
- 6.1.2. Content, for architectural products, applied materials and finishes:
 - 6.1.2.1. Manufacturer's data, giving full information on products.
 - 6.1.2.1.1. Catalog number, size, and composition.
 - 6.1.2.1.2. Color and texture designations.
 - 6.1.2.1.3. Information required for reordering special-manufactured products.
 - 6.1.2.2. Instructions for care, maintenance and preventative maintenance.
 - 6.1.2.2.1. Manufacturer's recommendation for types of cleaning agents and methods.
 - 6.1.2.2.2. Cautions against cleaning agents and methods which are detrimental to product.
 - 6.1.2.2.3. Recommended schedule for cleaning and maintenance.
- 6.1.3. Content, for moisture-protection and weather-exposed products:
 - 6.1.3.1. Manufacturer's data, giving full information on products.
 - 6.1.3.1.1. Applicable standards.
 - 6.1.3.1.2. Chemical composition.
 - 6.1.3.1.3. Details of installation.
 - 6.1.3.2. Instructions for inspection, maintenance and repair.
- 6.1.4. Additional requirements for maintenance data: Reference sections of Technical Specifications.

6.2. MANUAL FOR EQUIPMENT AND SYSTEMS

- 6.2.1. Submit 1 electronic copy of complete manual in final form.
- 6.2.2. Content, for each unit of equipment and system, as appropriate:
 - 6.2.2.1. Description of unit and component parts.
 - 6.2.2.1.1. Function, normal operating characteristics, and limiting conditions.
 - 6.2.2.1.2. Performance curves, engineering data and tests.
 - 6.2.2.1.3. Complete nomenclature and commercial number of replaceable parts.
 - 6.2.2.2. Operating procedures:
 - 6.2.2.2.1. Start-up, break-in, routine and normal operating instructions.
 - 6.2.2.2.2. Regulation, control, stopping, shutdown and emergency instructions.
 - 6.2.2.2.3. Summer and winter operating instructions.
 - 6.2.2.2.4. Special operating instructions.
 - 6.2.2.3. Maintenance and Preventative Maintenance Procedures:
 - 6.2.2.3.1. Routine operations.
 - 6.2.2.3.2. Guide to "trouble-shooting".

- 6.2.2.3.3. Disassembly, repair and re-assemble.
 - 6.2.2.3.4. Alignment, adjusting and checking.
 - 6.2.2.4. Servicing and lubrication schedule.
 - 6.2.2.4.1. List of lubricants required.
 - 6.2.2.5. Manufacturer's printed operating and maintenance instructions.
 - 6.2.2.6. Description of sequence of operation by control manufacturer.
 - 6.2.2.7. Original manufacturer's parts, list, illustrations, assembly drawings and diagrams required for maintenance.
 - 6.2.2.7.1. Predicted life of parts subject to wear.
 - 6.2.2.7.2. Items recommended to be stocked as spare parts.
 - 6.2.2.8. As-installed control diagrams by controls manufacturer.
 - 6.2.2.9. Each Contractor's coordination drawings.
 - 6.2.2.9.1. As-installed color coded piping diagrams.
 - 6.2.2.10. Charts of valve tag numbers, with location and function of each valve.
 - 6.2.2.11. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
 - 6.2.2.12. Other data as required under pertinent sections of specifications.
- 6.2.3. Content, for each electric and electronic system, as appropriate:
 - 6.2.3.1. Description of system and component parts.
 - 6.2.3.1.1. Function, normal operating characteristics and limiting conditions.
 - 6.2.3.1.2. Performance curves, engineering data and tests.
 - 6.2.3.1.3. Complete nomenclature and commercial number of replaceable parts.
 - 6.2.3.2. Circuit directories of panel boards.
 - 6.2.3.2.1. Electrical service.
 - 6.2.3.2.2. Controls.
 - 6.2.3.2.3. Communications.
 - 6.2.3.3. As-installed color coded wiring diagrams.
 - 6.2.3.4. Operating procedures:
 - 6.2.3.4.1. Routine and normal operating instructions.
 - 6.2.3.4.2. Sequences required.
 - 6.2.3.4.3. Special operating instructions.
 - 6.2.3.5. Maintenance and preventative maintenance procedures:
 - 6.2.3.5.1. Routine operations.
 - 6.2.3.5.2. Guide to "trouble-shooting".
 - 6.2.3.5.3. Disassembly, repair and re-assemble.
 - 6.2.3.5.4. Adjustment and checking.
 - 6.2.3.6. Manufacturer's printed operating and maintenance instructions.

- 6.2.3.7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
- 6.2.3.8. Other data as required under pertinent sections of specifications.
- 6.2.4. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.
- 6.2.5. Additional requirements for operating and maintenance data: Reference sections of Technical Specifications.

END OF SECTION 01730

SECTION 01740 WARRANTIES AND GUARANTEES

1 GENERAL

- 1.01 Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

2 WARRANTY REQUIREMENTS

- 2.01 Deliver all written warranties and guarantees required by the Contract Documents with the Owner named as beneficiaries. All warranties shall include labor and materials, shall be signed by the manufacturer or subcontractor as the case may be, and countersigned by the Contractor. All written warranties shall be addressed to the Owner and delivered to CM upon completion of the Project, before or with the submission of Request for Final Payment.
- 2.02 In addition to all other warranties set forth in the Contract Documents or imposed by applicable law, Contractor warrants to Owner and CM that the Work will be free from defects and performed in strict conformity with the requirements of the Contract Documents. This warranty survives the termination of the Agreement and shall only be extinguished by limitation periods imposed by applicable law and shall not be limited by any other provisions contained in the Agreement, including any provisions or time periods related to Contractor's obligation to correct defective Work.
- 2.03 Contractor, upon signing the Agreement, shall obtain and forward to CM any and all Standard Product Warranties for products, materials and systems covered under its Agreement. The Manufacturer's warranties do NOT relieve the Contractor from its warranty obligations under the Contract Documents.
- 2.04 Special Warranties shall become effective on a date established by the Project Team. This date generally shall be the date of Final Completion of the Project or Substantial Completion of the Project or portions thereof as agreed upon by the Project Team. In the case of acceptance of a portion of the Work or Project, separate warranties shall be issued for those specific portions of the Project that were accepted, and shall be dated the date the specific portion was accepted. As additional Work is accepted, separate warranties for those specific portions of the Work shall be issued and properly dated. Issuance of warranties for a portion of the Work shall in no way become the basis for Application for Final Payment.
- 2.05 If for any reason, the Bidder cannot warrant any part of the Work using products, materials, or construction methods that have been specified or shown, it shall notify CM in writing at least ten (10) days before the bid submission date, giving reasons together with the names of products and data on substitutions it can guarantee. Should the Bidder fail to so notify CM within this time period, it will be bound to all warranties and guarantees as set forth in the Contract Documents.
- 2.06 Related Damages and Losses: In correcting Work that has been rejected as defective or otherwise failing to conform to the Contract Documents, whether before or after Substantial Completion, Contractor shall bear all related costs, including, but not necessarily limited to, the cost to correct the Work, the cost to correct all other Work that has been damaged by the defective or non-conforming Work, or that is damaged in the process of correcting the defective or nonconforming Work, and the cost of all additional testing and inspections and compensation for the Architect and/or CM's services and expenses made necessary thereby.
- 2.07 Reinstatement of Warranty: When Work covered by a warranty with a specific time period has failed and has been corrected by Contractor, the warranty shall be reinstated for a time period equal to the original warranty.
- 2.08 Express warranties are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available to the Owner or CM under the law. Express warranty periods shall not be interpreted as limitations on the time in which Owner or CM may enforce Contractor's duties and obligation or their rights and remedies under the Agreement and applicable law.

2.08.1 Rejection of Warranties: The Owner and CM reserve the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

2.09 Where the Contract Documents require a Special Warranty, or similar commitment on the Work or part of the Work, the Owner and CM reserve the right to refuse to accept the Work, until the Contractor presents evidence that the entities required to countersign such commitments are willing to do so.

3 SUBMITTALS

3.01 Submit electronic copies of the warranties to the CM within fourteen (14) days of Substantial Completion using the form found in section 01600-Forms and organizing the warranty documents into an orderly sequence based on the table of contents of the Project Manual. If the project Team's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of CM.

3.02 When the Contract Documents require Contractor, or Contractor and a Subordinate Party to execute a Special Warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the CM for approval prior to final execution.

3.03 Forms for warranties are included in Section 01600-Forms. Prepare a written document utilizing the appropriate form, ready for execution by Contractor and its Subordinate Party(ies). Submit a draft to CM for approval prior to final execution.

END OF SECTION 01740

SECTION 01750
SYSTEMS DEMONSTRATION, TRAINING AND START-UP

2 GENERAL

- 2.01 COORDINATE Procedures for demonstration of equipment operation and instruction of Owner's personnel through CM.

3 QUALITY ASSURANCE

- 3.01 When specified in individual Sections, require manufacturer to provide authorized representative to demonstrate operation of equipment and systems, instruct Owner's personnel, and provide written report that demonstrations and instructions have been completed.
- 3.02 CM will provide list of personnel to receive instructions, and will coordinate their attendance at agreed-upon times.

4 SUBMITTALS

- 4.01 Submit preliminary schedule to CM for Architect's and Owner's approval, listing times and dates for demonstration of each item of equipment and each system, at least two (2) weeks prior to proposed dates.
- 4.02 Submit electronic copies of the reports within one week after completion of demonstrations, that demonstrations and instructions have been satisfactorily completed. Give time and date of each demonstration, and hours devoted to demonstration, with a list of persons present.

5 PREPARATION

- 5.01 Provide substantiating information that verifies equipment has been inspected and put into operation; testing, adjusting, and balancing has been performed; and equipment and systems are fully operational.
- 5.02 Submit copies of completed operation and maintenance manuals at least two (2) weeks before execution and have at hand for use in demonstrations and instructions.
- 5.03 CM will develop a schedule for the system demonstration, training, start-up and turn over of all systems and equipment.

6 DEMONSTRATION AND INSTRUCTIONS

- 6.01 Demonstrate operation and maintenance of equipment and systems to the Owner's, CM's and Architect's personnel two (2) weeks prior to date of final inspection. For equipment requiring seasonal operation, perform instructions for other seasons within six months. Contractor shall document the testing, equipment start-up and training sessions as required using the following forms in Section 01600 Forms:
- 6.01.1 Equipment/System Acceptance - This form will be completed for each piece of equipment or system for each contract that requires operational testing and/or training before acceptance. This will document the date of testing, the equipment tested, names of personnel which witnessed the testing and acceptance.
- 6.01.2 Owner Training Register - This form will be completed for each contract that requires training to be provided to the Owner's personnel. This will document the date of training, type of training, names of the personnel trained and acceptance of the training.
- 6.02 The amount of time required for instruction on each item of equipment and system is that specified in individual sections or as mutually agreed upon between Contractor and CM.
- 6.03 Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- 6.04 Use operation and maintenance manuals as basis of instruction and review the contents of the manuals with personnel in full detail to explain all aspects of operations and maintenance.
- 6.05 Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instructions.

- 6.06 Contractor is responsible for video taping the training sessions. The videotape should be of professional quality and the Owner should be provided with three (3) copies of the videotape.

END OF SECTION 01750

PROJECT MANUAL FOR THE CONSTRUCTION OF:

PROJECT:

SITE VEHICULAR REVISIONS

BID PACKAGE NO. 3

BARNARD ELEMENTARY SCHOOL (13157)
COSTELLO ELEMENTARY SCHOOL (13159)
MARTELL ELEMENTARY SCHOOL (13163)
MORSE ELEMENTARY SCHOOL (13164)
TROY UNION ELEMENTARY SCHOOL (13166)
WASS ELEMENTARY SCHOOL (13167)
WATTLES ELEMENTARY SCHOOL (13168)

OWNER:

TROY SCHOOL DISTRICT
4400 Livernois
Troy, Mi. 48098

TMP PROJECT NO.: 13157, 13159, 13163, 13164, 13166, 13167 and
13168

DATE: April 4, 2014

ISSUED FOR BIDS

ARCHITECT

TMP ARCHITECTURE, INC.
1191 West Square Lake Road
Bloomfield Hills, Michigan 48302-0374

PH (248) 338-4561
FX (248) 338-0223
Email info@tmp-architecture.com

CONSTRUCTION MANAGER

BARTON MALOW COMPANY
26500 American Drive
Southfield, Mi. 48034

PH (248) 436-5000
FX (248) 436-5001
Email info@bartonmalow.com

CIVIL & LANDSCAPE ENGINEER

PROFESSIONAL ENGINEERING
ASSOCIATES, INC.
Engineering Consultants
2430 Rochester Court, Suite 100
Troy, Michigan 48083

PH (248) 689-9090
FX (248) 689-1044

TABLE OF CONTENTSPAGES

TITLE PAGE	1 only
TABLE OF CONTENTS	TC-1 and 2
LIST OF DRAWINGS	LD-1 thru 4
BID REQUIREMENTS	

INFORMATION AVAILABLE TO BIDDERS

Availability of Electronic Files	2 pages
----------------------------------	---------

TECHNICAL SPECIFICATIONS

DIVISION 01 - GENERAL REQUIREMENTS

Sections

013219	Schedule of Required Submittals	013219-1 and 2
013300	Submittal Procedures	013300-1 thru 10
014213	Abbreviations	014213-1 thru 6
014216	Standards and Definitions	014216-1 thru 4
016000	Product Requirements	016000-1 thru 3
017300	Execution Requirements	017300-1 thru 4
017836	Warranties	017836-1 thru 5
017839	Electronic Project Record Documents	017839-1 thru 3

DIVISION 02 – EXISTING CONDITIONS

Sections

024119	Selective Demolition	024119-1 thru 4
--------	----------------------	-----------------

DIVISIONS 03 thru 28 – NOT USED

DIVISION 31 – EARTHWORK

Sections

310516	Soils and Aggregates	310516-1 thru 5
311000	Site Clearing	311000-1 thru 6
312010	Building Earthwork	312010-1 thru 7
312213	Rough Grading	312213-1 thru 4
312316	Excavation	312316-1 thru 3
312317	Trenching	312317-1 thru 4

TABLE OF CONTENTS

312323	Fill	312323-1 thru 4
312513	Erosion Controls	312513-1 thru 3

DIVISION 32 – EXTERIOR IMPROVEMENTS

Sections

321216	Asphalt Paving	321216-1 thru 6
321313	Concrete Paving	321313-1 thru 13
321373	Concrete Paving Joint Sealants	321373-1 thru 7
323113	Chain Link Fences and Gates	323113-1 thru 6
329113	Soil Preparation	329113-1 and 2
329119	Landscape Grading	329119-1 and 2
329219	Seeding	329219-1 thru 4

DIVISION 33 – UTILITIES

Sections

330513	Manholes and Structures	330513-1 thru 6
331116	Site Water Utility Distribution Piping	331116-1 thru 6
334100	Storm Utility Drainage Piping	334100-1 thru 5
334600	Subdrainage	334600-1 thru 3

****END OF SECTION****

LIST OF DRAWINGS

BARNARD ELEMENTARY SCHOOL - 13157 BID PACKAGE 3

<u>SHEET NO.</u>	<u>TITLE</u>
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GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

CIVIL

C-1.1	TOPOGRAPHIC SURVEY
C-2.1	DEMOLITION PLAN
C-3.1	DIMENSION PLAN
C-4.1	GRADING PLAN
C-5.1	UTILITY PLAN
C-6.1	DETAILS
C-6.2	DETAILS
C-7.1	LANDSCAPING PLAN
C-7.2	LANDSCAPING PLAN
C-7.3	LANDSCAPING PLAN
CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN	
CITY OF TROY STANDARD STORM SEWER DETAILS	
CITY OF TROY STANDARD WATER MAIN DETAILS	

COSTELLO ELEMENTARY SCHOOL - 13159 BID PACKAGE 3

<u>SHEET NO.</u>	<u>TITLE</u>
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GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

CIVIL

C-1.1	TOPOGRAPHIC SURVEY
C-2.1	DEMOLITION PLAN
C-3.1	DIMENSION PLAN
C-4.1	GRADING PLAN
C-5.1	DETAILS
C-5.2	DETAILS
C-6.1	LANDSCAPING PLAN
C-6.2	LANDSCAPING PLAN
C-6.3	LANDSCAPING PLAN

CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

MARTELL ELEMENTARY SCHOOL - 13163 BID PACKAGE 3

<u>SHEET NO.</u>	<u>TITLE</u>
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GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

CIVIL

C-1.1	TOPOGRAPHIC SURVEY
C-2.1	DEMOLITION PLAN
C-3.1	DIMENSION PLAN
C-4.1	GRADING PLAN
C-5.1	DETAILS
C-5.2	DETAILS
C-6.1	LANDSCAPING PLAN
C-6.2	LANDSCAPING PLAN
C-6.3	LANDSCAPING PLAN

CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

MORSE ELEMENTARY SCHOOL - 13164 BID PACKAGE 3

<u>SHEET NO.</u>	<u>TITLE</u>
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GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

CIVIL

C-1.1	TOPOGRAPHIC SURVEY
C-2.1	DEMOLITION PLAN
C-3.1	DIMENSION PLAN
C-4.1	GRADING PLAN
C-5.1	UTILITY PLAN
C-6.1	DETAILS
C-6.2	DETAILS

C-7.1 LANDSCAPING PLAN
 C-7.2 LANDSCAPING PLAN
 C-7.3 LANDSCAPING PLAN
 CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

TROY UNION ELEMENTARY SCHOOL - 13166 BID PACKAGE 3

SHEET NO. TITLE

GENERAL INFORMATION

TS.1 COVER SHEET
 TG.1 GENERAL INFORMATION

CIVIL

C-1.1 TOPOGRAPHIC SURVEY
 C-2.1 DEMOLITION PLAN
 C-3.1 DIMENSION PLAN
 C-4.1 GRADING PLAN
 C-5.1 DETAILS
 C-5.2 DETAILS
 CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

WASS ELEMENTARY SCHOOL - 13167 BID PACKAGE 3

SHEET NO. TITLE

GENERAL INFORMATION

TS.1 COVER SHEET
 TG.1 GENERAL INFORMATION

CIVIL

C-1.1 TOPOGRAPHIC SURVEY
 C-2.1 DEMOLITION PLAN
 C-3.1 DIMENSION PLAN
 C-4.1 GRADING PLAN
 C-5.1 UTILITY PLAN
 C-6.1 DETAILS
 C-6.2 DETAILS

CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

WATTLES ELEMENTARY SCHOOL - 13168 BID PACKAGE 3

<u>SHEET NO.</u>	<u>TITLE</u>
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GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

CIVIL

C-1.1	TOPOGRAPHIC SURVEY
C-2.1	DEMOLITION PLAN
C-3.1	DIMENSION PLAN
C-4.1	GRADING PLAN
C-5.1	DETAILS
C-5.2	DETAILS
C-6.1	LANDSCAPING PLAN
C-6.2	LANDSCAPING PLAN
C-6.3	LANDSCAPING PLAN

CITY OF TROY STANDARD SOIL EROSION AND GENERAL CONSTRUCTION PLAN
 CITY OF TROY STANDARD STORM SEWER DETAILS
 CITY OF TROY STANDARD WATER MAIN DETAILS

****END OF SECTION****

AVAILABILITY OF ELECTRONIC FILES

PART 1 – GENERAL

1.1 POLICY

- A. As a service to contractors, subcontractor, vendors, material suppliers and others needing electronic copies of drawing files, the Architect will provide CAD files electronically in accordance with the following policy:
1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.
 2. It is further understood and agreed that the undersigned will hold TMP Architecture harmless and indemnify TMP Architecture from all claims, liabilities, losses, etc., including attorney's fees arising out of the use or misuse of the transferred items.
 3. It is understood and agreed that the items transmitted are prepared from CAD files current at the time of preparation. All files are AutoCAD version 2009 dwg files.
 4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.
 5. As a record of information to be transmitted, TMP Architecture will prepare a duplicate electronic back-up for its record.
 6. Compensation for providing this material will be as follows:
 - a. Base Fee of \$250 for 1 to 3 drawings.
 - b. Base Fee of \$500 for 4 to 10 drawings.
 - c. For each additional drawing after 10 the fee is \$40.00 per drawing (i.e., 11 drawings = \$540).
 7. Payment must be provided along with a signed copy of the Release Letter before files will be released.

1.2 REQUEST PROCEDURE

- A. To receive files the attached Release Letter must be completed in full and submitted to the Construction Manager to be forwarded to the Project Manager at TMP Architecture.
1. A signed copy of the Release Letter must be submitted; faxed or emailed copies will be accepted.
 2. Upon remittance of the signed Release Letter and Fee, allow five working days for processing.
 3. Transmission of documents will be provided electronically after the receipt of payment.

Date: _____

Firm Requesting Files:

Name: _____

Company: _____

Address: _____

City, State, Zip: _____

Re: Letter of Authorization for CAD File Transfers

Project Name: _____

TMP Project No. : _____ Bid Pack No. : _____

Dear Sir:

Per your request, TMP Architecture will transmit the requested CAD files in the form of CD-ROM upon receipt of an original signed copy of this letter with conditions of agreement as stated.

1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.
2. It is further understood and agreed that the undersigned will hold TMP Architecture harmless and indemnify TMP Architecture from all claims, liabilities, losses, etc., including attorney's fees arising out of the use or misuse of the transferred items.
3. It is understood and agreed that the items transmitted are prepared from CAD files current at the time of preparation. All files are AutoCAD 2009.
4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.
5. As a record of information to be transmitted, we will prepare a duplicate back-up for our files, which may be electronic or hard-copy.
6. Compensation for providing this material will be as follows: Base Fee of \$250 for 1 to 3 drawings and a Base Fee of \$500 for 4 to 10 drawings; for each additional drawing after 10 the fee is \$40.00 per drawing (i.e., 11 drawings = \$540). Payment must be provided along with a signed copy of this form before files will be released. Please remit to TMP Architecture and allow five working days for processing.

Fee: \$_____ Drawings: _____

Signed: _____ Printed Name/Title: _____

Firm Requesting: _____

Phone: _____ Fax: _____

To Be Completed By TMP Architecture, Inc.

Released (signed by): _____ TMP Architecture, Inc.

Printed Name/Title: _____ Date: _____

****END OF SECTION***

SCHEDULE OF REQUIRED SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: General Requirements and schedule tabulating submittals required under the individual Trade Sections.
- B. Related Work: The following submittals are described under other Sections of these Specifications:
 - 1. Division 01 Section "Related Documents Submittal Procedures" for shop drawings.
 - 2. Division 01 Section "Project Record Documents" for project record documents.
 - 3. Division 01 Section "Warranties" for warranties and warranty services.

1.2 SUBMITTALS

- A. Submittals schedule is for reference only and is not necessarily complete. Specific requirements are included in the respective Trade Sections.
- B. Description of submittals and definitions of terms are included under other Sections of Division 1.
- C. Submittal of Materials for Approval:
 - 1. See Division 01 "Product Requirements" for requirements for materials submittals.
 - 2. All materials requiring Manufacturer Services or Warranty shall be submitted in the form specified under "Warranties".
 - 3. Standard materials may be submitted in tabular form. Where necessary to clarify proposed use, submit as a Shop Drawing a schedule of applications or a drawing showing proposed locations.

1.3 SCHEDULE

- A. The Contractor shall prepare a schedule relating and conforming to the Approved Construction Schedule. Said Schedule shall recognize and allow for lead time, including lead time required by Subcontractors and Manufacturers, and time required for Architect's review in compliance with the Contract Documents for all submittals.
- B. This Schedule shall be submitted to the Owner and the Architect for approval prior to the second Request for Payment.
- C. Exact procedures and time schedules for submittals will be determined at the time Job Progress Schedule is established. Time schedule for submittals shall be periodically revised and adjusted to coordinate with job progress.

1.4 EQUIPMENT ROOM LAYOUT DRAWINGS

- A. Each Contractor shall prepare and submit equipment room layout drawings, as called for under "Shop Drawings and Samples," for all equipment furnished under its Contract.

- B. Scale (Minimum): 1/4 inch equals 1 foot.

1.5 CERTIFICATE OF COMPLIANCE

- A. Each certificate required for demonstrating proof of compliance of materials with specification requirements, including mill certificates, shall be executed in quadruplicate. It shall be the Contractor's responsibility to review all certificates, before submittal, to ensure compliance with the Contract Documents.
- B. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location and the quantity and date or dates of shipment or delivery to which the certificate applies.
- C. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.6 SPARE PARTS DATA

- A. The Contractor shall furnish spare parts data for each different item of equipment furnished if and as called for in the Trade Sections.

1.7 SAMPLES

- A. After the award of the Contract, the Contractor shall furnish, for approval, samples required by the Specifications. The Contractor shall prepay all shipping charges on samples.
- B. Materials or equipment for which samples are required shall not be used in the work until approved in writing.

1.8 OPERATION AND MAINTENANCE MANUALS

- A. Where required by the Specifications, Operation and Maintenance Manuals shall be provided by the Contractor as specified under "Project Record Documents".
- B. Provide all manuals, parts information and similar data which the Architect may determine to be necessary for proper operation and maintenance.
- C. The manuals shall cover the operation requirements of each item specified to require operational and maintenance manuals, and shall include standard maintenance procedures and recommended schedules for routine service. The manuals shall be submitted to the Architect ten (10) days prior to final tests of mechanical and electrical system.

1.9 TEST PROCEDURES AND TEST RESULTS

- A. Where required by the Technical Specifications test procedures and test results shall be provided by the Contractor in quadruplicate. Test procedures shall cover all items required by the Technical Provisions and as specified under "Laboratory Testing and Inspection."

END OF SECTION

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: General Requirements for preparation, submittal, and distribution of Shop Drawings, Samples, Product Data, and similar information required to be furnished by the Contractors.
- B. Related Work: The following items of work are specified under other Sections of these Specifications:
 - 1. Division 01 Section "Project Record Documents" for project record documents.

1.2 DEFINITIONS

- A. Samples: See General Conditions.
 - 1. Preliminary Samples: Hand made or simulated examples or proposed materials submitted to demonstrate anticipated finished appearance.
 - 2. Product Samples: Representative examples of materials proposed for use.
 - 3. Range Samples: Samples showing extremes of variations in appearance, texture or color and the limits within which the Contractor agrees to hold the materials used in the work.
 - 4. Sample Installation: Trial run or initial example provided for review and acceptance by the Architect before continuing with the work.
 - 5. Test Samples: Samples provided for purposed of physical or chemical test analysis. If samples are submitted directly to the Testing Laboratory, submit copy of letter of transmittal.
- B. Shop Drawings: See General Conditions
 - 1. Electronic File: Drawings and other data submitted electronically in PDF format only.
 - 2. Preliminary Shop Drawings: Drawings and other data submitted electronically prior to acceptance of systems and only required to show information necessary for evaluation and coordination with other work.
 - 3. Project Shop Drawings: Drawings and other data illustrating materials and assemblies proposed for the Project.
 - 4. Coordination Drawings: Original electronic drawings prepared by the Trades to investigate conflicts and coordinate locations of each with the work of the other.

- C. Identification: All shop drawings, samples and product data shall be identified by the project title, Construction Manager's name, the Architect's name and the Architect's project number or numbers.

1.3 ELECTRONIC SUBMITTAL PROCEDURES

A. Summary:

1. Shop drawing and product data submittals shall be transmitted to the Construction Manager in electronic (PDF) format using Submittal Exchange, a website service designed specifically for transmitting submittals between construction team members.
2. The intent of electronic submittals is to expedite the construction process by reducing paperwork, improving information flow, and decreasing turnaround time.
3. Physical samples (color samples, color charts, physical material samples, etc.) will be accompanied by an electronic transmittal processed through Submittal Exchange. Refer to Paragraph 1.4E for additional information.

B. Procedures:

1. Submittal Preparation –Subcontractors and Suppliers may use any or all of the following options as directed by the Construction Manager.
 - a. Subcontractors and Suppliers provide electronic (PDF) submittals to Contractor via email.
 - b. Subcontractors and Suppliers provide paper submittals to General Contractor who electronically scans and converts to PDF format and submits to the Construction Manager by uploading to Submittal Exchange.
2. Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the Contract Documents including verification of manufacturer / product, dimensions and coordination of information with other parts of the work.
3. Contractor shall transmit each submittal to Construction Manager using the Submittal Exchange website, www.submittalexchange.com.
4. Construction Manager shall transmit each submittal to the Architect using the Submittal Exchange website, www.submittalexchange.com.
5. Architect / Engineer review comments will be made available on the Submittal Exchange website for downloading. Construction Manager will receive email notice of completed review and send notification to the Contractor.
6. Distribution of reviewed submittals to subcontractors and suppliers is the responsibility of the Contractor.
7. Submit electronic copies of reviewed submittals at project closeout for record purposes in accordance with Section 017800 – Closeout Submittals

C. Costs:

1. Cost of data management service (Submittal Exchange) shall be paid for by the Project Owner thru the Construction Manager.
2. At Contractor's option, training is available from Submittal Exchange regarding use of website and PDF submittals. Contact Submittal Exchange at 1-800-714-0024.
3. Internet Service and Equipment Requirements:
 - a. Email address and Internet access at Contractor's main office.
 - b. Adobe Acrobat (www.adobe.com), Bluebeam PDF Revu (www.bluebeam.com), or other similar PDF review software for applying electronic stamps and comments.

1.4 GENERAL REQUIREMENTS FOR ELECTRONIC SUBMITTALS:

- A. Contractor shall transmit each submittal (shop drawings and product data) to the Construction Manager using the Submittal Exchange website, www.submittalexchange.com. Submittals are to be made in the following form.
 1. Shop drawing: Combined together into one pdf file for each assembly.
 2. Product data: Provide product data in individual pdf file.
- B. File naming shall be in the following format. Specification Section Number-consecutive number of submittal for that section Description of file being submitted.
 1. Example: 079200-01 Joint Sealants.pdf.
- C. Contractor shall fill out the TMP Shop Drawing and Sample Transmittal Form found at the end of this Section and include at the beginning of the file. An electronic version of Transmittal Form is available upon request from the Architect, thru the Construction Manager.
- D. Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the Contract Documents including verification of manufacturer / product, dimensions and coordination of information with other parts of the work prior to notifying the Construction Manager that the submittal is read for review.
- E. Physical Samples must be submitted through the Construction Manager and must be accompanied by an electronic (PDF) copy of the completed TMP Shop Drawing and Transmittal Form. Electronic Transmittal Form must be submitted to the Construction Manager using the Submittal Exchange website.

1.5 SCHEDULES

- A. Prepare Shop Drawing Submittal Schedule as required.
- B. Recognize and allow for lead-time required for manufacture, fabrication, delivery to the site, and for review.
- C. Arrange schedule in orderly sequence in compliance with Project Schedule.

- D. Request for approval of materials, systems, substitutions, or for deviations from the Contract Documents shall be submitted according to Section 016000 – “Product Requirements” and shall be Preliminary submittal with allowances for time for review prior to submittal of Product Samples or Project Shop Drawings.

1.6 SAMPLES - GENERAL

- A. Samples in general, are required for all materials that form an exposed part of the finished Project. Samples of concealed components are not required unless specifically called for.
- B. Typical Samples shall be taken from production run material and shall be representative examples of proposed quality and finish.
- C. Preliminary Samples shall, as far as possible, anticipate the quality and finish of production run material.
- D. Samples will be retained at the job site for comparison purposes. Samples of manufactured items will be returned to the Contractor for installation in the Work after approval of materials. Use in locations where directed.
- E. All materials in the completed installation shall be equal in every respect to the approved product samples and within the limits defined by the approved range samples.

1.7 SAMPLES SUBMITTALS

- A. Size and quantity, unless otherwise specified: Four (4) each; 8 inches by 12 inches, or 12 inches long, as applicable; not over one inch thick for masonry or cementitious materials.
- B. Preliminary or Range Samples shall be resubmitted as directed until an acceptable Sample or Range is established, at which time Project Samples shall be submitted.
- C. Furnish Samples to other trades where required to match color or finish.
- D. Required Samples are scheduled or are listed in the Trade Sections. Optional Samples will be accepted and reviewed by the Architect.
- E. Review will be for shape and appearance only. Physical and chemical properties shall be established by adequate documentation that shall accompany samples.
- F. In all cases where preliminary approval samples have been submitted, final production run, or in-place installation samples will be required for verification.
- G. Notify Construction Manager and Architect in advance and obtain directions for place and time to ship large, heavy or bulky samples. Ship such samples "Prepaid." If return is requested, they will be returned "Collect."

1.8 SHOP DRAWINGS AND PRODUCT DATA - GENERAL

- A. Shop Drawings shall be prepared by a qualified detailer and shall be complete including erection diagrams and shall show the fabrication and construction of all items required for complete assembly.
- B. Provide pertinent information relating to installation and connection to work of other trades, and coordinate with work of other trades as required for proper placing, anchorage and support of the work. Indicate in detail, the precise location and spacing of all embedded anchor bolts, sleeves and other features required to be placed in the concrete, structural steel or masonry or otherwise required to be built into the structure.
- C. Identify details by reference to the Contract Drawings, other Shop Drawings or other information as required to properly identify and locate the portion of the Work covered.
- D. Indicate on the Drawings and explain by covering letter all proposed deviations from the requirements of the Contract Documents.
- E. Manufacturer's Standard Documents:
 - 1. Drawings and similar documents provide in PDF version from original documents: Modify drawings to delete information which is not applicable to the Project, provide additional information where required and submit electronically.
 - 2. Brochures and other pre-printed data, clearly mark PDF information as follows:
 - a. Identify pertinent material, product, and model.
 - b. Number or otherwise reference each item to applicable Contract Document or other Shop Drawing.
 - c. Show dimensions and clearances required.
 - d. Provide all other information required for Shop Drawings including, where applicable, wiring diagrams and controls.
 - e. Delete all options, or variations from the Contract Documents, except where such items are specifically noted as proposed deviations.
- F. Where proper installation of the work requires that other work be set to special detail, held to tolerance, or dimension be established, so indicate on the Shop Drawings.
- G. Where items must fit spaces previously constructed, take measurements at the site, not from drawings.
- H. Where applicable, indicate mechanical and electrical characteristics of, or required to be provided for, the material shown on the Shop Drawings.
- I. Each shop drawing or coordination drawing shall have a blank area (5 x 8 inches), located adjacent to the title block. The title block shall display the following:
 - 1. Number and title of drawing
 - 2. Date of drawing or revision
 - 3. Name or project building or facility

4. Name of Contractor and (if appropriate) name of Subcontractor submitting drawings.
5. Clear identity of contents and location of the work.
6. Project title and contract number.
7. Initials or party preparing drawings.
8. Signature of party responsible and, where applicable, professional engineers seal.

1.9 SHOP DRAWINGS - TYPES

A. Preliminary Shop Drawings:

1. Preliminary Shop Drawings shall be provided for portions of the Work where interpretations or variations from the Contract Documents are proposed, or otherwise required.

B. Project Shop Drawings:

1. Project Shop Drawings shall show all changes to building details to coordinate with required modifications and indicate approval by other trades for required modifications to their work.
2. Where Shop Drawings are based on the use of a particular material, such material shall be submitted for review independently of the Shop Drawing.
3. When Shop Drawings are submitted in the form of brochures indicate all current variations from the information in effect at time documents were issued for bids.

C. Coordination Drawings: Comply with all requirements of Section 013100.

1.10 DELEGATED-DESIGN SUBMITTALS

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to the Architect thru the Construction Manager.

B. Shop Drawings: Submit shop drawings for each component of work identified, signed and sealed by the qualified professional engineer responsible for their preparation licensed in the State of Michigan.

C. Engineering Analysis: Submit comprehensive engineering analysis for each component of work identified, signed and sealed by the qualified professional engineer responsible for their preparation licensed in the State of Michigan.

1. Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads.

Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

- D. Product Data: Submit product data for each product and system specifically assigned to the Contractor to be designed or certified by a design professional, signed and sealed by the responsible design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads and other factors used to certify the product.
- E. Submittals: Shop drawings, engineering analysis, product data and other required submittals will be digitally signed and sealed and submitted electronically. The design professional's seal, license number, and signature shall be clear and legible and shall appear on each shop drawing sheet, each product data coversheet, and engineering analysis coversheet.

1.11 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall obtain, review, stamp with his approval and submit for review all Shop Drawings and Samples required by the Contract Documents. The Contractor shall be required to utilize the "Shop Drawing Transmittal Form attached to this section. Submittal materials for only one (1) specification section trade shall be submitted per each transmittal form. Do not combine submittals for multiple specification sections on one transmittal form. Use a separate transmittal form for each specification section.
- B. By approving and submitting Shop Drawings and Samples, the Contractor thereby represents that he has determined and verified all field measurements and field construction criteria at the site, and all materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each Shop Drawing and Sample with the requirements of the work and of the Work and of the Contract Documents.
- C. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Owner's, Construction Manager's, or the Architect's acceptance of Shop Drawings, Product Data or Samples, unless the Contractor has informed the Owner, Construction Manager and the Architect, in writing, of such deviation at the time of submission and the Architect has given written acceptance to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the acceptance thereof.
- D. The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples to revisions other than those requested on previous submittals.
- E. No portion of the Work requiring submission of Shop Drawings, Product Data or Sample shall be commenced until the submittal has been accepted as provided herein. All such portions of the Work shall be in accordance with accepted submittals.

1.12 ARCHITECT'S REVIEW

- A. The Architect will complete review of Shop Drawings within fifteen (15) working days, and of Samples within twenty-one (21) working days of receipt thereof except that:
 - 1. Shorter time limits will be negotiated on a basis of need for each specific case for "fast track" or critical path items.

2. With respect to those areas with special architectural finishes and coordination of various material sources the parties shall agree upon a mutually satisfactory time schedule.
 3. Review time will be considered as starting when Drawings and Samples are substantially correct and so submitted.
 4. Incomplete or incorrect submittals will be returned without review, for proper submission.
- B. Shop Drawings, Samples and Product Data will be reviewed only for conformance with the design concept, compliance with the information given in the Contract Documents, arrangement and appearance. Deviations from the Contract Documents will be noted with comments and required corrections or changes will be noted on the returned submittal.
- C. Delegated Design Submittals will be reviewed only for conformance with the general design concept, compliance with performance and design criteria, and for loads transmitted to the building structure. Engineering analysis and calculations will not be reviewed and will be retained for record only. The Contractor is responsible for the design and performance of the delegated design systems and components. The review of a delegated design submittal shall not relieve the Contractor of the responsibility for proper and safe design.
- D. Contractor will be notified through the data management service when review is completed.
- E. Architect will retain electronic file of Product Data and A-E "mark-ups" or corrections of mark-ups.
- F. The Architect will **not** accept physical copies (hard copies) of shop drawings or product data submittals. Physical submittals will be accepted for Samples only. Physical Samples must be submitted through the Construction Manager and must be accompanied by an electronic (PDF) copy of the completed TMP Shop Drawing and Sample Transmittal Form.
- G. One sample from each set will be returned to the Contractor, one filed at the office of the Architect, one at the office of the Construction Manager or and one at the jobsite. If the Contractor intends that samples such as hardware or fixtures be installed on the project or returned at completion of the Project, he shall indicate at time of submittal, otherwise the Owner, Construction Manager and the Architect assume no responsibility for protection or return of such samples.

1.13 EQUIPMENT ROOM LAYOUT DRAWINGS

- A. The Contractor shall prepare and submit equipment room layout drawings as required by the technical specifications and additionally for areas where equipment proposed for use could present interface or space difficulties. Such drawings shall be prepared in the same manner as coordination drawings.

1.14 MATERIALS, EQUIPMENT AND FIXTURE LISTS

- A. Where required by the Technical Provisions, lists of materials, equipment and fixtures shall be submitted by the Contractor. The lists shall be supported by sufficient descriptive material, such as catalogs, cuts, diagrams, and other data published by the manufacturer, as well as

SECTION 013300
SUBMITTAL
PROCEDURES

evidence of compliance with safety and performance standards, to demonstrate conformance to the specification requirements; catalog numbers alone will not be acceptable.

- B. The data shall include the name and address of the nearest service and maintenance organization that regularly stocks repair parts. No consideration will be given to partial lists submitted from time to time.
- C. Materials, equipment and fixtures will not be approved for use at capacity ratings in excess of manufacturer's published data.
- D. Approval of materials and equipment will be tentative subject to submission of complete shop drawings indicating compliance with the Contract Documents.

**** END OF SECTION****

TMP SHOP DRAWING AND SAMPLE TRANSMITTAL FORM

CONTRACTOR/CONST. MANAGER:	PROJECT TITLE AND LOCATION:	DATE SUBMITTED: _____	NEW _____	SUB. NO. _____
<div style="border-bottom: 1px solid black; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black;"></div>	<div style="border-bottom: 1px solid black; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid black;"></div>	CHECKER: _____	RESUB. _____	RESUB. NO. _____
		TMP PROJECT NO. _____		

SPEC SECTION NO.	NO. PRINT	NO. SEPL	NO. CAT.	NO. SAMPLES	SUBCONTRACTOR/MFR.	ITEM DESCRIPTION	*ACTION CODE	DATE CHECKED	DATE RETURNED	NO. COPIES

The undersigned certifies that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract documents except as otherwise noted. NOTE: Approval of items submitted does not relieve contractor from complying with all requirements of the contract documents.		* ACTION DEFINITION R = REVIEWED – NO EXCEPTIONS NOTED RN = REVIEWED WITH CORRECTIONS NOTED RR = REVISE AND SEND RECORD COPY X = NOT APPROVED – RESUBMIT NA = NO ACTION REQ'D
CONTRACTOR'S COMMENTS: ARCHITECT'S COMMENTS:	<div style="border-bottom: 1px solid black; margin-bottom: 10px;"></div> CONTRACTOR'S NAME <div style="border-bottom: 1px solid black; margin-bottom: 10px;"></div> SIGNATURE cc: Owner Consultant	

ABBREVIATIONS

PART 1 - GENERAL

1.1 The following is a list of abbreviations utilized throughout the Contract Documents.

A		B		C	
ABV.	Above	B/B	Back-to-Back	CAB.	Cabinet
A.F.F.	Above Finish Floor	B.F.P.	Back Flow Preventer	C.U.H.	Cabinet Unit Heater
ABR.	Abrasive	B.D.D.	Back Draft Damper	CAP.	Capacity
ABS.	Absorbing	B.F.	Barrier Free	CPT.	Carpet
ACC.	Access	B.B.R.	Base Board	CSMT.	Casement
A.C.C.	Air Cooled		Radiation	CSWRK.	Casework
	Condenser	B.PL.	Base Plate	CSG.	Casing
ACC.PNL.	Access Panel	BSMT.	Basement	C.I.	Cast Iron
A.V.	Acid Vent	B.	Bath Room	C.I.F.	Cast Iron Frame
A.W.	Acid Waste	BM.	Beam	C.I.P.	Cast Iron Pipe
AC.	Acoustic/Acoustical	BRG	Bearing	CSTG.	Casting
AC.T.	Acoustic Tile	BR.	Bedroom	CAT.NO.	Catalog Number
AC.INSUL.	Acoustical Insulation	B.M.	Bench Mark	C.B.	Catch Basin
A.D.A.	Americans with	BT.	Bent	CLG.	Ceiling
	Disability Act.	BETW.	Between	C.D.	Ceiling Diffuser
ADD.	Addendum	BEV.	Bevel	CLG.HT.	Ceiling Height
ADDN.	Addition	BIT.	Bituminous	CEM.	Cement
ADDNL.	Additional	B.I.	Black-iron	CEM.PLAS.	Cement Plaster
ADH.	Adhesive	BLK.	Block	CTR.	Center
ADJ.	Adjacent/ Adjustable	BD.	Board	C.L.	Center Line
AGGR.	Aggregate	BLR.	Boiler	C/C	Center-to-Center
A.C.B.	Air Circuit Breaker	BLR.F.	Boiler Feed	CER.	Ceramic
A/C	Air Conditioning	BLR.H.	Boiler House	CER.T.	Ceramic Tile
A.C.	Air Conditioner	B.S.	Both Side	CBD.	Chalkboard
A.C.C.	Air Conditioning	B.W.	Both Ways	CHAM.	Chamfer
	Compressor	BOT.	Bottom	CHG.	Change
A.C.U.	Air Conditioning Unit	B.O.D.	Bottom of Duct	C/CHAN.	Channel
A.H.U.	Air Handling Unit	B.O.P.	Bottom of Pipe	CHKD. PL.	Checkered Plate
ALT.	Alternate	BOT.EL.	Bottom Elevation	CH.W.R.	Chilled Water Return
ALUM./AL.	Aluminum	BLVD.	Boulevard	CH.W.S.	Chilled Water Supply
AMT.	Amount	BDRY.	Boundry	CHD.	Chord
AMP.	Amphere	BRKT.	Bracket	CIRCUM.	Circumference
AMPL.	Amplifier	B.HP.	Brake Horsepower	CIR.	Circle/Circular
ANCH.	Anchor/Anchorage	BR.	Brass	CIRC.	Circuit
A.B.	Anchor Bolt	BRKR.	Breaker	CIRC.	Circulation
&	And	BRK.	Brick	C.BR.	Circuit Breaker
L/AN.	Angleg	B.T.U.	British Thermal Unit	C-	Civil Drawing
ANOD.	Anodized	BRZ.	Bronze		Number
APT.	Apartment	BLDG.	Building	CL.	Class
APR.	Approved	B.L.	Building Line	CLRM.	Classroom
APPR.	Approximate	B.M.S.	Building	C.O.	Clean Out
ARCH.	Architect		Management System	CLR.	Clear
	Architectural	B.U.R.	Built-up Roofing	CLR. GL.	Clear Glass
A-	Architectural Drawing	BN.	Bullnose	CLR. W.GL.	Clear Wire Glass
	Number	BLKHD.	Bulkhead	COEF.	Coefficient
A.T.	Ash Tray	BULL.	Bulletin	C.W.	Cold Water
ASPH.	Asphalt	B.A.	Burglar Alarm	COL.	Column
ASSY.	Assembly	BUZZ.	Buzzer	CO.	Company
@	At			COMPT.	Compartment
AUTO.	Automatic			COMPO.	Composition
A.S.R.	Automatic Sprinkler			C.A.	Compressed Air
	Riser			COMPR.	Compressor
AUX.	Auxiliary			CONC.	Concrete
AVG.	Average			C.M.U.	Concrete Masonry Unit

SECTION 014213
ABBREVIATIONS

C.W.R. Condensing Water Return
C.W.S. Condensing Water Supply
COND. Condensate
COND. Conduit
CONF. Conference
CONN. Connect
C.A.V. Constant Air Volume
CONST. Construction
C.J. Control Joint
CONT. Continue/Continuous
CONTR. Contractor
C.P. Control Panel
CONV. Convector
CNVYR. Conveyor
COR. Corner
C.G. Corner Guard
CORR. Corridor/Corrugated
CPR. Copper
CNTR. Counter
CTSK. Countersink/Countersunk
CRS. Course
COV. Cover
COV.PL. Cover Plate
C.C.T. Cubical Curtain Track
CU.FT. Cubic Feet/Cubic Foot

C.F.M. Cubic Feet Per Minute
C.Y. Cubic Yard
CULV. Culvert
C.D. Cup Dispenser
CYL. Cylinder
CYC. Cycles

D

DMPR. Damper
DMPFG. Dampproofing
D.L. Dead Load
DB. Decibel
D. Deep
DEG. Degree
DMT. Demountable
PARTN. Partition
DEPT. Department
DEPR. Depressed
DES. Design
DET. Detail
D.E.CO. Detroit Edison Co.
DIAG. Diagonal
DGM. Diagram
DIA. Diameter
DIFF. Diffuser
DIM. Dimension
D.R. Dining Room
DIR. Directory
D.D.C. Direct Digital Control
DISC. Disconnect

DISCONT. Discontinuous
DW. Dishwasher
DISP. Dispenser
DIST. Distance
D.P. Distribution Panel
DO. Ditto
DIV. Divider/Division
DR. Door
D.O. Door Opening
DR.OP. Door Operator
DBL. Double
D.A. Double Acting
D.H. Double Hung
DWL. Dowel
DN. Down
D.S. Downspout
D.S.B. Downspout Boot
DRN. Drain
D.T. Drain Tile
D.T.C. Drain Tile Connector
DWR. Drawer
DWG. Drawing
D.F. Drinking Fountain
D.B. Dry Bulb
D.S.P. Dry Stand Pipe
DBWTR. Dumbwaiter
DUP. Duplicate
D.DR. Dutch Door

E

EA. Each
E.F. Each Face
E.W. Each Way
E. East
ELAST. Elastomeric
FLASH. Flashing
ELAST W.P. Elastomeric Waterproofing
E.S.R. Elastomeric Sheet Roofing
E.D.H. Electric Duct Heater
ELEC. Electric/Electrical
ELEC. CL. Electric Closet
ELEC.CAB. Electrical Cabinet
E.C. Electrical Contractor
E- Electrical Drawing Number
E.P. Electrical Panel
E.R.P. Electric Radiant Panel
E.U.H. Electric Unit Heater
EWC Electric Water Cooler
E.W.H. Electric Water Heater
ELEC.OPER. Electrically Operated
EL. Elevation
ELEV. Elevator
EMERG. Emergency
ENCL. Enclosure
ENGR. Engineer

E/E End-to-End
E.A.T. Entering Air Temperature
ENTR. Entrance/Entry
EP. Epoxy
EQ. Equal
EQUIP. Equipment
EQUIV. Equivalent
ESC. Escalator
EST. Estimate
EXC. Excavated
EXH. Exhaust
E.D. Exhaust Duct
E.F. Exhaust Fan
E.G. Exhaust Grille
E.R. Exhaust Register
EXIST. Existing
EXP. Expansion
EXP.B. Expansion Bolt
E.J. Expansion Joint
EXPL.P. Explosion Proof
EXP'D. Exposed
EXT'N. Extension
EXT. Exterior
E.H. Extra Heavy
EXTR. Extruded
E.S.P. External Static Pressure

F

FAB. Fabricated/Fabric
F/F Face-to-face
F. FIN. Factory Finish
F.C.U. Fan Coil Unit
F.S. Far Side
FAS. Fastener
FDR. Feeder
FT. Feet/Foot
F.P.M. Feet Per Minute
FN. Fence
FBD. Fiberboard
FIG. Figure
FIN. Finish/Finished
FIN.FLR/ Finish Floor
F.F. F.F.
F.T.R. Finned Tube Radiation
F.A. Fire Alarm
F.A.C.P. Fire Alarm Control Panel
F. BRK. Fire Brick
F.D. Fire Damper
F.E. Fire Extinguisher
F.E.C. Fire Extinguisher Cabinet
F.H.C. Fire Hose Cabinet
F.H. Fire Hydrant
F.L. Fire Line
F.R. Fire Retardant/Fire Rated

SECTION 014213
ABBREVIATIONS

F.V.C. Fire Valve Cabinet
FP. Fireplace
FPRFG. Fireproofing
FIXT. Fixture
FLG. Flange
FLASH. Flashing
F.H.M.S. Flat Head Machine
Screw
F.H.W.S. Flat Head Wood
Screw
F.C. Flexible Connection
FLR. Floor
F.CO. Floor Cleanout
F.D. Floor Drain
FLR.FIN. Floor Finish
FLUOR. Fluorescent
FLDG. Folding
FTG. Footing
FMBD. Formboard
FDN. Foundation
FR. Frame
FRMG. Framing
F.A.I. Fresh Air Intake
FRZR. Freezer
F.L.A. Full Load Amperes
F.S. Full Size
FURN. Furnish/ Furnished

G

GA. Gauge
GAL. Gallon
G.P.H. Gallons Per Hour
G.P.M. Gallons Per Minute
GALV. Galvanized
GALV.I. Galvanized Iron
G. Gas
GKT. Gasket
G.V. & B. Gate Valve And Box
GA. Gauge
GEN'L. General
GL. Glass
GLZ. Glazing
G.H.T. Glazed Hollow Tile
G.B. Grab Bar
GR. Grade/Grille
GB. Grade Beam
GRAT. Grating
G.L. Grid Line
GRN. Granite
G.S. Grease Separator
G.T. Grease Trap
GND. Ground
G.F. Ground Fault
GT. Grout
GYP. Gypsum
GYP.BD. Gypsum Board

H

HNDCP. Handicapped

H.R. Handrail
H.BD. Hardboard
HDWE. Hardware
HDWD. Hardwood
HD. Head
HDR. Header
H.O.A. Hands-Off-Auto
HD. Head
H.A.GL. Heat Absorbing
Glass
H.R.U. Heat Recovery Unit
HTR. Heater
HTG. Heating
H/V. Heating And
Ventilating
H.V.A.C. Heating, Ventilating,
and Air Conditioning
H.H.W.R. Heating Hot Water
Return
H.H.W.S. Heating Hot Water
Supply
HGT. Height
HEX. Hexagon
H. High
H.I.D. High Intensity
Discharge
H.P. High Point
H.PR. High Pressure
H.S. High Strength
H.S.B. High Strength Bolt
H.V. High Voltage
HWY. Highway
HSTWY. Hoistway
H.C. Hollow Core
H.M. Hollow Metal
HK. Hook
HORIZ. Horizontal/
Horizontally
HP. Horsepower
H.B. Hose Bibb
H.S.P. Hose Stand Pipe
H.V.C. Hose Valve Cabinet
HOSP. Hospital
H.W. Hot Water
H.W.R. Hot Water Return
H.W.S. Hot Water Supply
HR. Hour
H.O. Hub Outlet
HYD. Hydrant/Hydraulic
H. Hydrogen

I

I.D. Identification
INCAND. Incandescent
IN. or " Inch/ Inches
INCIN. Incinerator
INCL. Include/ Including
I.W. Indirect Waste
INFO. Information
I.D. Inside Diameter

I.F. Inside Face
INST'L. Install/ Installation
INSUL. Insulate/ Insulation
I.H. Intake Hood
INT. Interior
INTER. Intermediate
INV. Invert
I.E. Invert Elevation

J

J.C. Janitor Closet
JT. Joint
JST. Joist
J.B. Junction Box
JR. Junior

K

K.P. Kick Plate
KV. Kilovolt
KV.A. Kilovolt Ampere
KW. Kilowatt
K. Kip (1000#)
KIT. Kitchen
K.D. Knock Down
K.O.P. Knock-Out Panel

L

LBL. Label
LAB. Laboratory
LAD. Ladder
L.B. Lag Bolt
LAM. Laminate/ Laminated
LDG. Landing
L- Landscape Drawing
Number
LGE. Large
LDRY. Laundry
LAV. Lavatory
L.A.T. Leaving Air
Temperature
L.H. Left Hand
L.H.R.B. Left Hand Reverse
Bevel
LGTH. Length
LEV. Level
LIB. Library
LT. Light
LPRF. Lightproof
LTG. Lighting
L.P. Lighting Panel
L.R.P. Lighting Receptacle
Panel
LTWT. Lightweight

SECTION 014213
ABBREVIATIONS

LTWT. Lightweight Concrete
CONC.
LMS. Limestone
LTL. Lintel
L.D. Linear Diffuser
L.C.D. Linear Ceiling
Diffuser
L.F. Linear Feet/Foot
LIQ. Liquid
L.L. Live Load
L.R. Living Room
LOC. Location
LKR. Locker
LG. Long
L.L.H. Long Leg Horizontal
L.L.V. Long Leg Vertical
LVR. Louver
L.O. Louver Opening
L.P. Low Point
L.PR. Low Pressure
LBR. Lumber
LBS. Pounds

M

MACH. Machine
M.B. Machine Bolt
MACH.RM. Machine Room
M.U.A. Make-Up Air
M.A.U. Make-up Air Unit
M.D.P. Main Distribution
Panel
M.S.B. Main Switch Board
MAINT. Maintenance
MH. Manhole
M.V.D. Manual Volume
Damper
MFR. Manufacturer
MAR. Marble
MK. Mark
MAS. Masonry
M.O. Masonry Opening
MATL. Material
MAX. Maximum
MECH. Mechanical
M- Mechanical Drawing
Number
M.C. Medicine Cabinet
MED. Medium
MEMB. Membrane
MET. Metal/ Metallic
M.C.S. Metal Carpet Strip
M.D.S. Metal Divider Strip
M.E.S. Metal Edge Strip
M.L. Metal Lath
M.L.& Metal Lath And
PLAS. Plaster
MET.W.P. Metallic
Waterproofing
MEZZ. Mezzanine

M.D.O.T. Michigan Department
of Transportation
MWK. Millwork
MIN. Minimum
MIR. Mirror
M. & S. Mirror And Shelf
MISC. Miscellaneous
M.I. Miscellaneous Iron
MOD. Model
MON. Monument
M.S. & S. Mop Strip And Shelf
M.O. Motor Operated
M.O.D. Motor Operated
Damper
MLDG. Molding
MTD. Mounted
MTG. Meeting/Mounting
MTD. Mounted
MOV. Moveable
MOV. Moveable Partition
PARTN.
MULL. Mullion
M Thousand
MBH 1000BTU/Hour

N

NAT. Natural
N.S. Near Side
NK. Neck
NEUT. Neutral
N.R.C. Noise Reduction
Coefficient
NOM. Nominal
N.C. Non-Corrosive
NOR. Normal
N.C. Normally Closed
N.O. Normally Open
N North
NOS. Nosing
N.I.C. Not In Contract
N.T.S. Not To Scale
NO. or # Number

O

OBS. Obscure
OBS.GL. Obscure Glass
OFF. Office
O.C. On Center
OPQ. Opaque
OPG. Opening
OPER. Operator
O.B.V.D. Opposed Blade
Volume Damper
OPP. Opposite
OPP.HD Opposite Hand
ORIG. Original
ORN. Ornamental

OZ. Ounce
O/O Out-to-Out
O.A. Outside Air
O.D. Outside Diameter
O.F. Outside Face
O.H.S. Oval Head Screw
OA. Overall
OHD. Overhead
OHD.DR. Overhead Door
OXY. Oxygen

P

PRD. Painted
PR. Pair
PNL. Panel
P.T.D. Paper Towel
Dispenser
P.T.W.R. Paper Towel Waste
Receptacle
PARA. Paragraph
PRL. Parallel
PGK. Parking
P.BD. Particle Board
PRTN. Partition
PASS. Passage
PAT. Patent
PVM.T. Pavement
PVG. Paving
PED. Pedestal
PERF. Perforated
PERIM. Perimeter
PERM. Permanent
PERP. Perpendicular
PHOTO. Photograph
P.H. Physically
Handicapped
PC. Piece
PCS. Pieces
PLAS. Plaster
PL.LAM. Plastic Laminate
PL. Plate
PL.GL. Plate Glass
PLAT. Platform
PLBG. Plumbing
PLYWD. Plywood
PT. Point
P.T. Point of Tangency
P.C. Point of Curvature
POL. Polish/ Polished
PVC. Polyvinylchloride
PORC. Porcelain
PORC. Porcelain Enamel
ENAM.
POR. Porous
PORT. Portable
POS. Position
P.I.V. Post Indicator Valve
LBS. or # Pounds
P.L.F. Pounds Per Linear
Foot

SECTION 014213

ABBREVIATIONS

[illegible]

SECTION 014213
ABBREVIATIONS

TEL.	Telephone	U.O.N.	Unless Otherwise	W	West
TEL.CAB.	Telephone Cabinet		Noted	W.B.	Wet Bulb
TV	Television	U.S.A.	Untempered Supply	W.	Wide/Width
TV.M.	Television Monitor		Air	W-x-	Wide Flange Section
TEMP.	Temperature	UR.	Urinal	WT	Wide Flange Tee
TEMP.GL.	Tempered Glass				Section
T.W.	Tempered Water			W.O.	Window Opening
T.U.	Terminal Unit		V	W.GL.	Wire Glass
TERR.	Terrazzo			W.M.	Wire Mesh
T.B.	Test Boring			W/	With
T.	Thermostat	VAC.	Vacuum	W/O	Without
THK.	Thick/Thickness	V.B.	Vacuum Breaker	WD.	Wood
T.S.	Thickened Slab	V.C.O.	Vacuum Cleaner	W.L.	Working Line
M (1000)	Thousand		Outlet	W.PT.	Working Point
K (KIP)	Thousand Pounds	V.BARR.	Vapor Barrier	W.I.	Wrought Iron
THD.	Thread/Threaded	VAR.	Variable		
THRESH.	Threshold	V.A.V.	Variable Air Volume		
THRU.	Through	VARN.	Varnish		Y
T.	Tile	VNR	Veneer		
T./TOIL.	Toilet	V. PLAS.	Veneer Plaster		
T.P.D.	Toilet Paper	V.	Vent	YD.	Yard
	Dispenser	V.T.R	Vent Thru Roof	Y.P.	Yield Point
T.P.H.	Toilet Paper Holder	VENT.	Ventilate/ Ventilation	Y.S.	Yield Strength
T & G	Tongue And Groove	V.I.F.	Verify In Field	YR.	Year
T & B	Top & Bottom	VS.	Versus		
T/C	Top Of Cover/Curb	VERT.	Vertical/Vertically		Z
T/EL.	Top Elevation	VERT.C.	Vertical Curve		
T/F	Top Of Footing	VEST.	Vestibule		
T/M	Top Of Masonry	V.I.	Vibration Isolator		
T/P	To Of Pavement	VNY.	Vinyl	Z.C.	Zinc-Coated
T/R	Top of Rail	V.C.T.	Vinyl Composition		
T/R	Top of Rim		Tile		
T/S	Top of Steel	VIN.FAB.	Vinyl Fabric		
T/W	Top of Wall	V.R.S.	Vinyl Reducer Strip		
T.B.	Towel Bar	VIT.	Vitreous		
T.D.	Towel Dispenser	V.C.P.	Vitrified Clay Pipe		
T.D. & W.R.	Towel Dispenser &	VOL.	Volume		
	Waste Receptacle	V.D.	Volume Damper		
T.G.	Transfer Grille	V	Volts		
TRFR.	Transformer				
TRAN.	Transom				
T	Tread		W		
T.D.	Trench Drain				
T.S.	Tube Section				
T.V.	Turning Vane	WAINS.	Wainscot		
T.T.	Twin Tee	W.CAB.	Wall Cabinet		
TYP.	Typical	W.CO.	Wall Cleanout		
		W.H.	Wall Hydrant		
		W/W	Wall-to-wall		
		W.V.	Wall Vent		
	U	WHSE.	Warehouse		
		W.F.	Wash Fountain		
U.C.	Undercut	W.	Waste/Watts		
U.G.	Underground	W & V	Waste And Vent		
U.L.	Underwriters'	W.R.	Waste Receptacle		
	Laboratories, Inc.	W.C.	Water Closet		
ULT.	Ultimate	W.G.	Water Gauge		
UNFIN.	Unfinished	W.H.	Water Heater		
U.H.	Unit Heater	WP.	Waterproofing		
U.SUB.	Unit Substation	W.P.	Weatherproof		
U.V.	Unit Ventilator	W.STPG.	Weatherstripping		
U.S.G.S.	United States	WT.	Weight		
	Geological Survey	W.W.F	Welded Wire Fabric		

STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: Standards and Definitions
Definitions
Specification Content
Quality Standard of the Industry

1.2 DEFINITIONS

- A. Certain terms used in the Contract Documents are defined generally in this article. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in another provision of the Contract Documents.
- B. Indicated: A cross-reference to details, notes or schedules on the drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- C. Furnish: Supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- D. Install: Perform operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing protecting, cleaning and similar operations, as applicable in each instance.
- E. Provide: Furnish and install, complete and ready for intended use, as applicable in each instance.
- F. Installer: The entity (person or firm) engaged by the Contractor or its subcontractor or sub-subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.

1.3 FORMAT AND SPECIFICATION EXPLANATIONS

- A. Specification Production: None of these explanations will be interpreted to modify substance of requirements. Portions of these Specifications have been produced by Architect's/Engineer's standard methods of editing master Specifications, and may contain minor deviations from traditional writing formats. Such deviations are a normal result of this production technique, and no other meaning will be implied or permitted.
- B. Format Explanation: The format of principal portions of these Specifications can be described as follows; although other portions may not fully comply and no particular significance will be attached to such compliance or non-compliance:

1. Sections and Divisions: For convenience, basic unit of Specification text is a "section", each unit of which is named and numbered. These are organized into related families of sections, and various families of sections are organized into "divisions", which are recognized as the present industry-consensus on uniform organization and sequencing of Specifications. The section title is not intended to limit meaning or content of section, nor to be fully descriptive of requirements specified therein, nor to be an integral part of text.
2. Each section of specifications has been subdivided into 3 (or less) "parts" for uniformity and convenience (Part 1 - General, Part 2 - Products, and Part 3 - Execution). These do not limit the meaning of and are not an integral part of text which specifies requirements.
3. Imperative Language: Requirements expressed imperatively shall be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.
4. Section Numbering: Used to facilitate cross-reference in Contract Documents. Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of project Manual must be consulted to determine numbers and names of specification sections in the Contract Documents.
5. Page Numbering: Numbered independently for each section; recorded in listing of sections (Index or Table of Contents) in Project Manual. Section number is shown with page number at bottom of each page, to facilitate location of text in Project Manual.

1.4 SPECIFICATION CONTENT

- A. Specifying Methods: The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive", "open generic-descriptive", "compliance with standards", "performance", "proprietary", or a combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit or work.
- B. Overlapping and Conflicting Requirements: Where compliance with 2 or more industry standards or sets of requirements is specified, and overlapping of these different standards or requirements establishes different or conflicting minimums of levels of quality, most stringent requirement (which is generally recognized to be also most costly) is intended and will be enforced, unless specifically detailed language written into the Contract Documents (not by way of reference to an industry standard) clearly indicated that a less stringent requirement is to be fulfilled. Refer apparently equal but different requirements, and uncertainties as to which level of quality is more stringent, to Architect for a decision before proceeding.
 1. Contractor's Options: Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, option is intended to be Contractor's regardless of whether specifically indicated as such.
- C. Specified Quality Standards: The fact that a specified product or model number is in conflict with specified quality requirements such as "concealed fasteners" or "special colors" such specification shall be construed to mean that acceptance is contingent upon manufacturer or fabricator modifying the product to comply with the Specifications.

- D. Minimum Quality/Quantity: In every instance, quality level or quantity shown or specified is intended as minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimums or maximums as noted or a appropriate for context of requirements. Refer instances of uncertainty to Architect for decision before proceeding.
- E. Specialists; Assignments: In certain instances, specification text requires (or at least implies) that specific work be assigned to specialists or expert entities, who must be engaged for performance of those units of work. These must be recognized as special requirements over which Contractor has no choice or option. These assignments must not be confused with (and are not intended to interfere with) normal application of regulations, union jurisdictions and similar conventions. One purpose of such assignments is to establish which party or entity involved in a specific unit of work is recognized as "expert" for indicated construction processes or operations. Nevertheless, final responsibility for fulfillment or entire set of requirements remains with Contractor.
- F. Abbreviations: The language or Specifications and other Contract Documents is of the abbreviated type in certain instances, and implies word and meanings which will be appropriately interpreted. Actual work abbreviations of a self-explanatory nature have been included in the text. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of Specification requirements with notations on drawings and in schedules. These are frequently defined in sections at first instance of use. Trade association names and titles of general standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the Contract Documents so indicates.

1.5 QUALITY STANDARDS OF THE INDUSTRY

- A. General Applicability of Standards: Applicable standards of construction industry have same force and effect (and are made a part of Contract Documents by reference) as if copied directly into Contract Documents, or as if published copies were bound herewith.
 - 1. Reference standards (referenced directly in Contract Documents or by governing regulations) have precedence over non-referenced standards.
 - 2. Non-referenced standards have no particular applicability except as a measure of compliance with standards recognized in construction industry.
- B. Copies of Standards:
 - 1. Where copies of standards are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source.
 - 2. The Architect reserves the right to reasonably require the Contractor to submit, or maintain at the jobsite, copies of all applicable standards as needed for enforcement of the requirements.
- C. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- D. Abbreviations and Names: Acronyms or abbreviations used in Contract Documents mean the industry recognized name applicable to context of text provision.

1.6 DRAWINGS, DETAILS, SCHEDULES

- A. Large scale details are provided to show arrangement, attachment, and otherwise indicate relationships of component materials and for purposes of clarify often do not show all materials. The fact that a material is, or is not indicated on such details shall not act to relieve the Contractor of responsibility for providing a specified item.
- B. Schedules are provided for convenience of reference only. In the event of an omission or conflict between schedules and other documents, the more restrictive document shall govern as directed by the Architect.

1.7 CODES AND STANDARDS

- A. Comply with latest revisions to date of all Governing Codes and with all other legal provisions relating to the Work. Other standards and references shall be current edition as of date of issue of Bidding Documents.
- B. Conform to all laws, ordinances and regulations affecting the erection, sequence of erection, and completion of the whole or any part of the work; and conform to the requirements of the Owner and of public authorities having lawful or customary jurisdiction.
- C. These requirements shall take precedence over the Contract Documents except where the Contract Documents require higher standards also acceptable to the authorities.

1.8 PERMITS, CODES, ORDINANCES AND NOTICES

- A. See General Conditions for permits.
- B. Obtain and keep available at the job, copy of building ordinances pertinent to the work.
- C. Inform the Owner and the Architect, in writing, of the manner and time in which each of the requirements of the General Conditions concerning permits are complied with.
- D. Make all necessary arrangements and obtain permits for blockage of streets and for all interference with the public right of way.
- E. Special Inspections: All special inspections required to be made under provisions by building code of utility company regulations shall be arranged and paid for by the Contractor whose work requires such inspection.

****END OF SECTION****

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. DRAWINGS AND GENERAL PROVISIONS of Contract, including General and Supplementary Conditions and other Division 01 Specification sections, apply to work of this section.

1.2 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if presented to the Architect at least 10 days in advance of bid due date.
 - 1. Identify the product, or the fabrication to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. Samples, where applicable or requested.
 - c. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - d. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.
 - e. A Statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including all related costs under this Contract and excluding Architect's redesign costs, net change, if any, in the Contract Sum, and waiving all claims for additional costs related to the substitution which subsequently became apparent.
 - g. Certification by the Contractor that the substitution proposed is appropriate in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
- B. Product Presentation: Conduct a presentation at the Architect's office if required by the Architect to prove appropriateness to the specified product.
- C. Architect's Action: Within one (1) week of receipt of Bids, the Architect may request additional information or documentation necessary for evaluation of the request. Within two (2) weeks of receipt of the request, or one (1) week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute is not made or obtained within the time allocated, use the product specified by name. If acceptance is made prior to award, it will be included in the Contract Amount. If acceptance is made after Award, it will be in the form of a Change Order.

1.3 GENERAL REQUIREMENTS FOR SUBSTITUTIONS

A. Substitutions During Bidding:

1. Substitutions shall be included in the proposal under the following conditions only and shall follow all requirements of "Acceptance of Substitutions."
 - a. When the Contractor is unable to obtain competitive prices from more than one of the specified manufacturers.
 - b. When the Contractor knows of another product of equal or better quality and performance.
 - c. When the Contractor has had unsatisfactory experience with one or more of the specified products or has reason to believe that the specified Manufacturer will not provide the necessary guarantees or assume responsibility for performance.

B. Substitutions After Contract:

1. Substitutions proposed after Award of the contract will only be considered for the following reasons.
2. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.

C. Acceptance of Substitutions:

1. Substitutions will be considered for any manufacturer except those followed by the words "No Substitutions" in the Specifications.
2. In all cases where substitutions are proposed by the Contractor, it shall be the sole responsibility of the Contractor to provide adequate data and samples as required by the Architect to evaluate the substitution.
3. The Architect shall not be obliged to justify his reason for rejecting a proposed substitution.
4. In the event that a substitution is accepted conditionally on the Contractor's agreement to assume full responsibility for equality and performance, the Contract shall provide a full value warranty and agree to make good all damages resulting from the failure of the substitute product.

1.4 ACCEPTANCE OF MATERIALS AND MANUFACTURERS

A. Standard Materials:

1. Architect's acceptance applies to the Manufacturer only and shall not act to permit any deviation from other requirements of the Specifications.
2. Acceptance will be based on the Manufacturer's specifications at time of issuance of Bidding Documents. Deviations from such specifications shall be considered as a substitution.

3. Requests for acceptance shall be in tabular form stating Specification paragraph and material selected, except as otherwise provided.
 4. Shop Drawings shall not indicate any material for which acceptance has not been received, unless accompanied by a separate request for approval. In no case shall Architect's review and return of Shop Drawings constitute and acceptance of either specified or substitute manufacturers or materials.
- B. Materials Involving Supplementary Warranty of Maintenance Contract:
1. These materials shall be submitted as a request for acceptance over the signature of a qualified technical representative in the direct employ of the Manufacturer of such other person as the manufacturer may authorize in writing. Request for acceptance shall contain the following information.
 - a. Name of project.
 - b. Name of Contractor, Subcontractor or other party to whom material is furnished.
 - c. Reference to Specification Section and Article where material is specified and other Contract Documents necessary for identification.
 - d. Statement of acceptance of documents, conditions, and performance requirements:
 - 1) Statement that documents as issued are in accordance with manufacturer's recommendations for use of specified materials, or
 - 2) Recommended modification of detail, use, application or for substitution of different product by same manufacturer as being more suitable for the performance requirements of the warranty.
 - e. Statement that detailed installation instructions will be provided.
 - f. Extent of job site technical services, consultants or instructors proposed, if any.
 - g. Statement that warranty will be provided.
 - h. Special provisions required to keep warranty in force.
 2. Requests for acceptance may be in the form of a letter including the above items and addressed to the subcontractor responsible for installation of the material, or may be according to a sample form of Material Proposal, provided by the Architect.
 3. Upon receipt of the manufacturer's proposal, the subcontractor shall add his own statement agreeing to comply with the manufacturer's requirements and warranting his own workmanship.
 4. The Contractor shall submit letter of endorsement of copies of all documents, including letters of comment, to the Architect for approval. In the event that the request for approval recommends a change in the work, modification of detail, or substitution of material, the Contractor shall indicate his concurrence with the change as being within the scope of the Contract or indicate the change in the Contract Sum for making such change, or state his objections to the change.

END OF SECTION

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: General Requirements for standards of construction operations and procedures of a repetitive or general nature.

1.2 MANUFACTURER'S REVIEW

- A. Manufacturer's review of documents and conditions of use is a statement by the manufacturer or a representative or agent thereof that it has reviewed the documents pertaining to the work and verified the proposed use of the material including details and instructions for applications or installation, is suitable for the intended purpose, and under similar conditions of use.
- B. Obtain and submit a statement from the manufacturer indicating that they have no objection to the proposed details or method of installation, and that instructions for applications or installation are in conformance with manufacturer's recommendations. Statement shall include any additional precautions or protective measures which should be taken.
- C. Manufacturer's review shall recognize adjacent materials and state if there is, in its opinion, a serious question of compatibility including possibility of damage to other materials, or damage to the material or assembly by other materials. Such conditions shall be reconsidered and adjustments made, previous approvals notwithstanding.

1.3 APPROVED APPLICATOR

- A. An approved applicator or installer is one whom the manufacturer has reason to believe is experienced and qualified in the work and is familiar with the product and with the manufacturer's recommendations for use and installation.
- B. Obtain and submit a statement from the manufacturer that the proposed applicator or installer is approved and indicate whether or not this approval is subject to review and observation of the work by the manufacturer's representative.
- C. Manufacturer shall not approve an installer or applicator if, because of past history of performance or other reasons, there is a reasonable doubt that it can be relied upon to perform in accordance with the Contract Documents.
- D. Upon completion of the work, manufacturer shall certify that approved material in the proper quantities have been delivered to the approved applicator for use on the Project.
- E. In the event that manufacturer declines to approve proposed applicator, submit a statement as to whether or not on-site instruction or manufacturer's supervision is recommended.

1.4 MATERIAL HANDLING, STORAGE AND DELIVERY

- A. Where applicable, deliver all packaged materials to the site in manufacturer's original unopened containers.

- B. Properly pack all materials in appropriate containers for shipment. Identify contents with piece marks referenced to shop drawings and as far as possible in some sequence as erection. Provide packing, wrapping and other protection as required to insure satisfactory condition of materials and finishes at time of erection.
- C. Inspection and acceptance will be made on the basis of materials as delivered to the job site.
- D. Provide adequate quantities to allow for damage and breakage during shipment and delivery and for replacement of all materials damaged prior to final acceptance. All such replacement of damaged materials shall be at no additional cost to the Owner.
- E. Store materials and equipment which are subject to degradation by outside exposure in a weathertight enclosure.

1.5 MIXING, THINNING AND STORAGE

- A. Store and mix paints only in areas designated, and provide proper protection for walls and floors.
- B. Mix and thin paints in strict accordance with recommendations of the manufacturer.
- C. Deliver and store paints and flammable materials in the manufacturer's original unopened containers, as far as practicable. Keep partially used materials in tightly closed containers.
- D. Do not store oil or paint soaked rags inside the building. Do not store materials in any room containing a direct fired heating unit.

1.6 ON SITE INSTRUCTION

- A. On-site instruction shall consist of inspection and instruction performed by a qualified representative of the manufacturer.
- B. Obtain and submit a statement from the manufacturer that its authorized representative will provide the specified inspection and instruction and submit a record of the date on which specified services were provided.
- C. Service shall consist of:
 - 1. Preliminary inspection of substrates and all other conditions which would affect the performance of the work.
 - 2. Give notice of all unacceptable conditions and recommend remedial action.
 - 3. Recommend proper procedures for conditions as encountered at the site.
 - 4. Verify that workers are qualified and have received proper instructions.

1.7 MANUFACTURER'S SUPERVISION

- A. Manufacturer's supervision, in addition to all services specified for on- site instruction, consists of continuing inspection and verification that the work has been performed in accordance with the Contract.
- B. Obtain and submit a statement from the manufacturer that complete supervision will be provided.

- C. Where supervision is specified, all costs shall be included in the Base Bid. Where supervision is recommended as a modification, submit a proposal indicating the extent and additional cost, if any, of such service.
- D. Upon completion submit a report giving dates of inspections and include pertinent information as applicable to the particular trade such as procedures, coats, coverages, tests as necessary to verify conformance and certify that the proper types and quantities of materials were installed.

1.8 WORKMANSHIP

- A. Employ skilled mechanics and fabricate all work in the best and most workman-like manner and in strict accordance with the detail drawings, by fabricating contractors regularly engaged in the particular type or work.
- B. Conform to the acceptable fabrication and erection standards of the manufacturer and to the applicable rulings of Code Authorities.

1.9 FABRICATION

- A. Fabricate and install all items plumb, true, straight, square, level and in proper elevations, plane, locations and alignment with other work. Design all work for adjustment to field connection, fitted with proper joints and intersections, adequately anchored in place. Complete work in every detail.
- B. Design and anchor work so that work will not be distorted not fasteners overstressed from expansion and contraction due to temperature change.
- C. All fasteners for exposed surface where not otherwise indicated shall be concealed.
- D. Fabricated Items:
 - 1. Model numbers of Manufacturers as listed herein are intended to indicate design and detail for each item. Variations affecting function or appearance will not be accepted.
 - 2. Identifying Markings: Where the manufacturer's name, patent number, model number or similar identifying marks are required, locate such markings in as inconspicuous as possible location. In no case will such marks be acceptable as part of the basic design.
 - 3. Hardware for all Units: Concealed fasteners and hardware. Butt hinges are not acceptable as a substitute where item scheduled in Specification is manufactured with concealed pivots or piano hinges.

1.10 INSTALLATION

- A. Accurately locate, carefully plumb and level, and securely attach all accessories.
- B. Provide concealed grounds and backing or other anchorages devices, properly located, as required for fastening.
- C. Use manufacturer's standard mounting devices as best suited to installation conditions and as accepted by the Architect. Make all attachments by positive mechanical fastening devices, except where other installation methods are indicated.

- D. Where so recommended by the manufacturer, install the work under direct supervision of the authorized representative of the manufacturer. Employ workers experienced and qualified in the trade.
- E. Install units true and plumb in the opening maintaining proper contact with frames or adjacent materials and fitting closely to detail at intersection with other materials to provide for proper operation.
- F. Connect and properly adjust all operating devices and equipment to operate smoothly and perfectly.
- G. Upon completion or when directed, conduct careful inspection and correct defective work. Perform necessary adjustments as required to leave the completed installation in efficiently operable condition.

1.11 PREPARATION OF SURFACES FOR COATINGS AND COVERINGS

- A. Inspect all surfaces and verify that all required cants and chamfers are provided, and that all surfaces are free from irregularities of projections which would interfere with proper application.
- B. Thoroughly clean surfaces; remove all loose materials, grease, oil and foreign matter.
- C. Allow surfaces to completely dry before applying materials.
- D. Report all unsatisfactory surface to contractor for correction before proceeding. Otherwise proceeding will constitute acceptance of surface by Contractor.
- E. Note: Interior application of solvent type adhesives and systems require special ventilation or special solvents if ventilation is not possible.

1.12 BUILDING-IN, ANCHORS, INSERTS

- A. Unless otherwise stipulated, each trade generally shall promptly furnish anchorage and insert devices, together with adequate setting information, where necessary for building into the work by other trades.
- B. Verify the accuracy of all built-in anchors and inserts.
- C. Delays and errors shall be corrected by the trade responsible therefor.
- D. Power driven anchors of equivalent capacity and function may be accepted, subject to written acceptance, where approved by local jurisdictional authorities.
- E. Do not endanger or alter the work of any other trade without obtaining prior written consent.
- F. Furnish all supports necessary for proper installation of equipment.

****END OF SECTION****

WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: Warranties and continuing services required to be provided by manufacturers of materials and systems where required for proper performance.
- B. The word "Guarantee" when appearing in any Contract Document or construction correspondence shall be defined as warranty in accordance with Article 9.4 of the General Conditions.

1.2 SUBMITTALS

- A. Submit warranties in accordance with Article 9.4 of the General Conditions as modified by Supplementary Conditions and additional requirements specified under the individual Trade Sections.
- B. Required types of warranties and additional services are scheduled and listed in the Trade Sections.
- C. In all cases where "Special Warranties" or "Service Contracts" are required, the request for approval of materials will be accepted by the Owner and the Architect on the understanding that manufacturer agrees to provide the specified warranty or other service unless stated otherwise in the request.
- D. The Owner will not be bound to accept any limitations or variations from the specified warranty which were not filed with the request for acceptance and accepted prior to purchase of materials.
- E. Warranties shall be submitted prior to request for payment for 100% completion in each case, shall acknowledge the responsibilities defined under Supplementary Conditions and shall include:
 - 1. Manufacturer's warranty that all materials comply with its published standards, comply with the requirements of the Specifications and where specified, are adequate for the proposed use.
 - 2. Subcontractor's warranty that all workmanship complies with the requirements of the Specifications and of the manufacturer
 - 3. Contractor's warranty covering the entire work and accepting responsibility for all limitations imposed by the manufacturer or sub- contractor except where such limitations have been previously accepted by the Architect.
 - 4. Certification and verification of previously submitted information including statement of all limitations, required maintenance and similar conditions of the warranty.

1.3 STANDARD WARRANTIES

- A. A standard warranty is a warranty whose terms are essentially the same as normally offered by the manufacturer of standard with the industry.

- B. General Conditions require that standard warranties apply as a minimum requirement notwithstanding the fact that submittal of a copy of the warranty is not required.
- C. Unless otherwise specified a standard warranty shall be for a period on one (1) year from Date of Substantial Completion.
- D. Contractor shall obtain and furnish to the Owner from each manufacturer of materials or equipment incorporated into the Work a warranty at least as favorable to Owner as that customarily given by such manufacturer to others. Contractor shall inform itself as to any conditions precedent to the effectiveness of each manufacturer's warranty and comply with all such conditions (or obtain waivers thereof from the manufacturer) so that such warranty shall be fully effective. If any event occurs which might invalidate any manufacturer's warranty, Contractor shall promptly notify the Owner and the Architect.
- E. All warranty periods shall commence on the Date of Substantial Completion except that, if it is discovered after said date that certain work or materials were not in fact in conformance with the requirements of the Contract Documents, the applicable warranty period shall re-commence from the completion of the repair or replacement of such Work to make it so conform.
- F. The fact that a manufacturer's warranty differs in its terms from those of the Contractor or any Subcontractor, the acceptance by the Owner of any warranty of a manufacturer or Subcontractor, or the fact that the Owner has claimed initially on such warranty, shall not in any way release Contractor from his warranty obligations under the Contract.

1.4 SPECIAL WARRANTIES

- A. A special warranty is one whose terms, in addition to the standard coverage offered by the manufacturer, contain other special provisions, including:
 - 1. Acknowledgment of specified list of items which shall be specifically noted as being covered by the warranty.
 - 2. Acknowledgment of specific conditions for use or exposure.
 - 3. Extension of warranty to waive standard exceptions or to extend limits including time.
 - 4. Requirements for specific performance by other trades including method of separation and protection from, or assurance of compatibility with, adjacent materials.
 - 5. Assemblies and systems which may include products of other manufacturers.
 - 6. Conditions where certain performance criteria are specified and must be either acknowledged or actual limits are required to be determined by performance testing subject to Owner's review and acceptance.
 - 7. Conditions where manufacturer's continuing involvement such as maintenance or advisory service is required.
- B. Maintenance Service During Warranty Period:
 - 1. Reference to routine maintenance required to be performed by the Owner during the warranty period shall be listed in the original submittal of proposed warranty.

2. All other administration and maintenance service required during the warranty period, including installation of items repaired or replaced under the terms of the warranty shall be included in the original Contract.

1.5 SERVICE CONTRACTS

- A. Required types of Service Contract Proposals are scheduled under Schedule of Required Submittals and are listed in the Trade Sections.
- B. Where specified, the Subcontractor or Manufacturer originally supplying services and skills required for proper maintenance and agreeing to maintain availability of replacement parts and materials.
- C. The Service Contract is in addition to, and independent of, the Warranty and shall not act to either extend the Warranty or to reduce the Contractor's responsibilities thereunder.
- D. Unless otherwise specified or agreed, Service Contracts shall be written for a period of five (5) years starting with the termination of similar services included under the warranty and shall include cancellation privilege annually when exercised at least 60 days prior to anniversary date.
- E. The Contractor shall:
 1. Prior to submittal of Manufacturer of Subcontractor for approval, verify that specified service is available and will be offered.
 2. Secure from the Manufacturer of Subcontractor a bona fide proposal to perform the specified services.
 3. When so directed, assist the Architect in obtaining proposals for the performance of the specified services by other competent parties.

1.6 ADVISORY AND INSPECTION SERVICE

- A. Advisory and Inspection Service consists of:
 1. Periodic inspection on a regular scheduled basis. Include schedule of proposed inspections in the agreement.
 2. All necessary information, including special training, where required to adequately instruct Owner's maintenance personnel in preventative maintenance procedures, and periodic inspection to verify that such procedures are adequate.
 3. Providing recommendations for additional preventative maintenance repairs and treatments. If such maintenance work is recommended:
 - a. Obtain or submit price quotations for recommended work.
 - b. When so instructed by the Owner, make all necessary arrangements for the performance of the Work.
- B. Parts and Materials Agreement:
 1. Where standard commercially available parts or materials are suitable for maintenance or repair, inform Owner concerning trade name or description and location where they may be obtained.

2. Where parts or materials are not readily available maintain replacement stocks at a location as required to prevent undue delay in repairs or loss of use of equipment pending delivery.

1.7 MAINTENANCE SERVICE

- A. A Maintenance Service Contract is an agreement that in addition to Advisory and Inspection Service, the Manufacturer will provide, or otherwise make available through his agent, a regular maintenance service program scheduled during normal working hours.
- B. Proposals shall schedule proposed times for servicing and list the services to be performed.
- C. Maintenance service of equipment shall be performed solely by the original Equipment Contractor and shall not be assigned or transferred to any agent or subcontractor without the approval of the Owner.
- D. Repairs:
 1. Permanent repairs shall be started within seven (7) days after notification by the Owner.
 2. In the event that emergency and permanent repairs are not started within the specified time limits, or if the work is stopped without the Owner's consent, the Owner shall have the same options to have repairs performed by others as specified under Warranties without invalidating this agreement.
- E. Equipment maintenance shall include systematic examinations, and adjustments and lubrication of all equipment. The Equipment Maintenance Contractor shall repair and replace electrical and mechanical parts whenever required using only genuine standard parts recommended or produced by the manufacturer of the equipment.
- F. Addition work when so directed by the Owner shall be included under the work of the Maintenance Contract and the Contractor shall be reimbursed at the then prevailing rate for the cost of materials, labor and services. Such additional work shall include:
 1. Repairs or replacement required as a result of negligence, abuse, or other actions contrary to the Equipment Contractor's operating instructions.
 2. Improvement or additional equipment required by the Owner, Insurance Companies, or Governmental Authorities.
 3. Except for emergency service, the additional cost for overtime work based on the difference between regular and overtime labor when the Owner requests that such work be performed outside of regular working and so authorized in writing.
- G. Additional requirements for specific maintenance contracts are specified in the various Trade Sections.

1.8 CERTIFICATION

- A. Product Certification: See Division 1.
- B. Workmanship Certification is a statement by the applicator or installer that all materials and workmanship in connection with the system, have been furnished and installed in complete conformance with Contract Documents, and with the manufacturer's specifications and requirements for the particular type of use specified.

- C. A product certification where specified as a requirement shall be in a form similar to the following:

"We, the (Manufacturing Company), certify that the complete system as detailed and specified can be installed and will perform in accordance with the requirements of the specifications and the ASTM Standards referenced therein for the guarantee period of one year or such longer period as may be negotiated between the Owner and the (Manufacturing Company).

Upon completion of the Project we will inspect the work and certify to the Owner that the system as installed is in accordance with the Manufacturer's requirements or indicated in writing what remedial action is necessary in order that it does so conform."

****END OF SECTION****

ELECTRONIC PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Specified Herein: General Requirements for preparation and submittal of Project Record Documents.

1.2 DEFINITIONS

- A. Record Documents: Copies of the Contract Documents, Shop Drawings, Product Data and Samples maintained at the site for purpose of recording changes and other project information.
- B. Maintenance and Parts Manuals: Annotated PDF file format Brochures, instructions, parts lists and similar documents, published by manufacturers and suppliers of materials and equipment for purpose of providing information necessary to maintenance, repair and replacement.
- C. "As-Built" Drawings: Except for "as-built" corrections to the Shop Drawings the only record of architectural as-built conditions required will be clean copy of the Contractor's notations on the Record Drawings in Annotated PDF file format, unless otherwise specified.
- D. "As-Built" drawings for Mechanical, Electrical and Life Safety or Security Systems shall be fully dimensioned and detailed drawings, in Annotated PDF file format, showing all systems as they exist at the completion of Work.

1.3 SCHEDULES

- A. Prepare schedule listing required Record Drawings and Maintenance Manual submittals in accordance with "Submittals" Section of this Division 01.
- B. Keep schedule up to date listing record drawings and other documents as they are received from Manufacturers, Suppliers and Subcontractors.
- C. Hold all such material until completion of the project and submit when directed.

1.4 DRAWINGS AND SPECIFICATIONS AT THE SITE

- A. Each Contractor shall maintain at the site and available for reference by the Owner and the Architect one copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders and other Modifications applicable to their portion of the Work, in good order and marked to record all changes made during construction.
- B. The Drawings, marked to record all changes made during construction, shall be delivered to the Owner upon completion of the Work in Annotated PDF file format.
- C. Record Documents: At the date of Final Completion and as condition precedent to Final Payment, each Contractor shall furnish the following documents to the Owner:

1. Record Drawings in PDF file format showing the field changes affecting the general construction, mechanical, electrical, and all other Work, and indicating the Work as actually installed in the building.
 - a. These shall consist of carefully drawn markings on a set of black and white prints of the Construction Documents obtained especially for the purpose unless otherwise specified. The prints can be scanned into a PDF file when project is completed or the contractor can keep a Annotated PDF file on site.
 - b. The Contractor shall maintain at the job site one set of Construction Documents and indicate thereon each field change as it occurs.
2. A neatly arranged searchable PDF file containing the wiring and control diagrams, operating and maintenance instructions, cuts of all mechanical and electrical equipment and fixtures, as installed including catalogues or parts lists from the prime manufacturer. Said lists shall not be based on local dealer stock number systems.

1.5 RECORD DRAWINGS

- A. Record Drawings are required to establish the location of concealed work deviations from details or dimensions indicated on the construction drawings. Where location or dimensions of portions of the work is indicated by note or line drawings or otherwise indicated to be at the option of the Contractor, the final determination of such options shall be indicated in the Record Drawings.
- B. Record Drawings are required for information only but are intended to provide complete information for as-built drawings.
- C. Final PDF file record copy of all Shop Drawings shall be submitted showing all corrections made and also indicating all field changes or other variations from the details as originally reviewed by the Contractor and the Architect.

1.6 OPERATING AND MAINTENANCE MANUALS

- A. Prior to completion of work in this Contract, each Contractor shall submit for review by the Architect searchable PDF file of manufacturer's catalog data covering all fixtures, equipment and finish materials incorporated into the project. Manufacturer's catalog data shall include full identification of the equipment or fixture capacities, current characteristics, dimensions, and identification of all replacement parts. Operating instructions for all installed equipment, including supplier's names and telephone numbers shall be placed on or lettered on the front page of each catalog or manual.
- B. Maintenance procedure descriptions shall be submitted for all materials requiring special treatments or continued maintenance work and for all assemblies, which may require parts replacement during the life of the installation. Manuals shall indicate recommended schedule for routine service and shall provide complete instructions for performing such service.
- C. Manuals and catalogs shall be searchable PDF format. Each item shall be tab and shall have an index. All material shall be grouped together by specification number.
- D. Contractor shall arrange and provide for the services of factory representatives or other authorized qualified specialists to provide operating and maintenance instruction sessions

directly with Owner's related operating and maintenance personnel for the systems, equipment and materials involved.

- E. These requirements are in addition to other similar requirements stated elsewhere in the Contract Documents including those of "Warranties" Section of Division 01.
- F. Equipment Operation manuals and operating instructions for each item of mechanical and electrical equipment:
 - 1. Operation and Maintenance Charts: Searchable PDF and one (1) hard copy of an operating and maintenance instruction chart which will incorporate applicable comprehensive descriptive instructions, lay-outs, diagrams or any other information that will necessary and/or of value to the operating and maintenance personnel. Hard copy of the charts shall be framed and glazed and mounted at a designated location, and the other three sets shall be included in the operation and maintenance manuals.
 - 2. Operation and Maintenance Manuals: Searchable PDF file of an operation and maintenance manual which shall contain complete instructions for overall operation and maintenance of the facility and its component parts. The manual shall also contain the operating and maintenance instruction charts as specified.

****END OF SECTION****

SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site.
- B. Existing to Remain: Existing items of construction that are not to be removed.

1.4 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Locations of proposed dust- and noise-control temporary partitions and means of egress.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
 - 6. Means of protection for items to remain and items in path of waste removal from building.
- B. Predemolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- D. Standards: Comply with ANSI A10.6 and NFPA 241.

1.5 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area.
Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
- E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of
 - 4. hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly.

- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.2 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.3 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.4 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

****END OF SECTION****

SOILS AND AGGREGATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Subsoil materials.
2. Topsoil materials.
3. Coarse aggregate materials.
4. Fine aggregate materials.

B. Related Sections:

1. Section 31 22 13 - Rough Grading.
2. Section 31 23 17 - Trenching.
3. Section 31 23 23 - Fill.
4. Section 32 91 19 - Landscape Grading.
5. Section 33 11 16 - Site Water Utility Distribution Piping.
6. Section 33 41 00 - Storm Utility Drainage Piping.
7. Section 33 46 00 - Subdrainage: Filter aggregate.
8. Geotechnical report; bore hole locations and findings of subsurface materials.

1.2 REFERENCES

A. ASTM International:

1. ASTM D422 - Standard Test Method for Particle-Size Analysis of Soils
2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
3. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
4. ASTM D2974 - Standard Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils.
5. ASTM C4972 - Test Method for PH of Soils.

1.3 SUBMITTALS

- A. Samples: Submit 2, 20lb samples of each type of material to be tested, to the testing company.
- B. Materials Source: Submit name of imported materials supplier(s).
- C. Manufacturer's Certificate: The Contractor shall submit to the Owner, two copies of material certificates signed by the Material Producer and Contractor. Certificates shall state that each material item meets specified requirements.
- D. Gradation Reports: The Contractor shall submit to the Owner, two copies of the gradations for each of the required aggregate mixtures. Mix designs shall be within allowable tolerances as specified for the particular section.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.
- B. Perform Work in accordance with local governing agency standards.
- C. Testing and Inspection: The Owner may engage a testing agency to sample and test materials proposed for use in the Work.

PART 2 PRODUCTS

2.1 SUBSOIL MATERIALS

- A. Subsoil Type S1:
 - 1. Excavated and re-used material, imported borrow and select or local borrow.
 - 2. Graded.
 - 3. Free of lumps larger than 3 inches, rocks larger than 2 inches, organic material, and debris.

2.2 TOPSOIL MATERIALS

- A. Topsoil Type S2:
 - 1. Fertile, friable, natural topsoil of loamy character, obtained from well drained arable site.
 - 2. Reasonably free of clay, lumps, coarse sands, plants, roots, rocks larger than 1/2 inch, subsoil, debris, large weeds, and foreign matter.
 - 3. Acidity range pH of 5.0 to 7.5.
 - 4. Containing minimum of 10 percent organic matter.

2.3 AGGREGATE MATERIALS

- A. Crushed Stone Fill, Type A1: Dense-graded crushed concrete or crushed aggregate shall meet the requirements of Section 902 of the Michigan Department of Transportation Standard Specification for Construction, and shall consist of 21AA Crushed Aggregate.
- B. Granular Fill, Type A2: Granular material shall consist of natural sand, stone screenings, gravel or a blend of natural sand, gravel and stone screenings. It shall be composed of rough surfaced and angular grains of quartz or other hard durable rock and meet the requirements of Section 902 of the Michigan Department of Transportation Standard Specification for Construction, and shall consist of Class II granular material.
- C. Open-Graded Drainage Course Aggregate Materials (OGDC), Type A3: for use in Temporary Construction Access Drives, Drainage Course under Pavement Aggregate Base Courses and other miscellaneous uses shall consist of crushed stone, crushed gravel or crushed concrete free from organic matter or other deleterious substances with material sized between 1" and 3" in diameter, with less than 6% fine material (#200 sieve). Such materials are usually referred to as "1x3" or "OGDC".
- D. Crushed Aggregate Surface Course (CASC), Type A4: shall meet the requirements of Section 306 of the Michigan Department of Transportation Standard Specification for Construction, and shall consist of 23A Crushed Aggregate.

2.4 SOURCE QUALITY CONTROL

- A. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D1557.
- B. Testing and Analysis of Topsoil Material: Perform in accordance with ASTM D2974 and ASTM D4972.
- C. When tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials from same source throughout the Work.

PART 3 EXECUTION

3.1 EXCAVATION

- A. Excavate subsoil and aggregates from areas designated. Strip topsoil to full depth of topsoil in designated areas.
- B. Stockpile excavated material meeting requirements for subsoil materials, topsoil materials and aggregates.
- C. Remove excess excavated subsoil and topsoil not intended for reuse, from site.
- D. Remove excavated materials not meeting requirements for subsoil materials, topsoil materials and aggregates from site.

3.2 EXAMINATION

- A. Verify compacted substrate is dry and ready to support paving and imposed loads.

- B. Subgrade preparations shall consist of the final machining of the subgrade immediately prior to placing the aggregate subbase or base materials. The surface shall be true to line and grade. Proof roll in areas to receive aggregate materials with a 25-ton rubber-tired roller, a loaded front-end loader or loaded dump truck to locate all soft surface areas. Replace soil that deflects and will not compact with acceptable fill material and compact such fill in accordance with these Specifications.
- C. Verify substrate has been inspected, gradients and elevations are correct.

3.3 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.4 AGGREGATE TRANSPORTING AND PLACEMENT

- A. The aggregate shall be transported from the crushing plant to the point of use in hauling vehicles which are covered. Deliveries shall be scheduled so that spreading and compaction of all aggregate delivered that day can be completed during daylight hours, unless adequate artificial lighting is provided, or stockpile locations are provided. Hauling over freshly placed material shall not be permitted until the material has been compacted as specified.
- B. Upon arrival, the aggregate shall be spread to a thickness not to exceed 6 inches by an approved grading method. It shall be struck off in a uniform layer of such depth that, when the Work is completed, it shall have the required thickness and conform to the grade and contour indicated.
- C. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the aggregate may be spread, raked, leveled and compacted by using hand tools.
- D. After spreading, the aggregate shall be thoroughly and uniformly compacted by approved compaction equipment. The speed of the compaction equipment shall at all times be sufficiently slow enough to avoid displacement of the aggregate. Any displacement occurring as a result of reversing direction of the compaction equipment or from any other cause shall be corrected at once. Rolling shall continue until all roller marks are eliminated, the surface is of uniform texture and true to grade and cross-section and the required field-density is obtained.
- E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.5 MINIMUM QUALITY REQUIREMENTS

- A. The Contractor shall at no expense to the Owner test in-place aggregate surface, base course and subbase materials for compliance with the requirements for density and thickness.
- B. Maximum dry density shall be determined per ASTM D1557 modified proctor.
- C. In-place compacted minimum thickness is as shown in the cross-sectional details on the Plans. Any thickness less than shown on the plans is not acceptable.

3.6 TOLERANCES

- A. Maximum Variation From Flat Surface: 1/2 inch measured with 10 foot straight edge.
- B. Maximum Variation From Thickness: No less than shown on the Plans.
- C. Maximum Variation From Elevation: 1/2 inch.

3.7 FIELD QUALITY CONTROL

- A. Quality Control During Aggregate Placement: Perform the following sampling and testing of aggregate mixtures for quality control during operations. Record the locations where samples are taken to correlate with subsequent testing.
- B. Test uncompacted aggregate for gradation distribution per ASTM D422 and for compaction per ASTM D1557 modified proctor.
- C. Perform three tests for each day's aggregate placement, unless otherwise specified or directed.
- D. Test in-place, compacted aggregate for density and thickness. Perform five tests for each day's aggregate placement unless otherwise specified or directed.
- E. Additional testing may be required if any of the previous tests indicate insufficient values. If two successive tests indicate insufficient values, contact the Owner for a course of action.
- F. Aggregate materials not complying with specified requirements shall be removed and replaced with new aggregate.
- G. Upon completion of the construction Work and after spoils and debris have been removed, re-grade any areas disturbed by the operations.

3.8 STOCKPILING

- A. Stockpile materials on site at locations designated by Owner.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- E. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.9 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

****END OF SECTION****

SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Stripping and stockpiling rock.
 - 6. Removing above- and below-grade site improvements.
 - 7. Temporary erosion and sedimentation control.

1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.
- D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.
- E. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- F. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- G. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Topsoil stripping and stockpiling program.
- C. Rock stockpiling program.
- D. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.
- E. Burning: Burning on site is not allowed.

1.7 QUALITY ASSURANCE

- A. Topsoil Stripping and Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.
- B. Rock Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

1.8 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises at location directed by the owner.
- D. Utility Locator Service: Three full working days before construction begins, call the Miss Dig system at 811.

- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.
- F. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- G. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312010 "Building Earthwork."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to plan requirements.
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

- A. Protect trees and plants remaining on-site according to according to plan requirements.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to plan requirements.

3.4 EXISTING UTILITIES

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed. Retain one of two subparagraphs below.
 - 1. Arrange with utility companies to shut off indicated utilities.
 - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than 3 days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.
- E. Excavate for and remove underground utilities indicated to be removed.
- F. Removal of underground utilities is included in earthwork sections; in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections; and in Section 024116 "Structure Demolition" and Section 024119 "Selective Demolition."

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Grind down stumps and remove roots larger than 3 inches (75 mm) in diameter, obstructions, and debris to a depth of 24 inches (450 mm) below exposed subgrade.
 - 3. Use only hand methods or air spade for grubbing within protection zones.
 - 4. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to required depth in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
 2. Do not stockpile topsoil within protection zones.
 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 4. Stockpile surplus topsoil to allow for resspreading deeper topsoil.

3.7 STOCKPILING ROCK

- A. Remove from construction area naturally formed rocks that measure more than 1 foot (300 mm) across in least dimension. Do not include excavated or crushed rock.
 1. Separate or wash off non-rock materials from rocks, including soil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; trash, debris, weeds, roots, and other waste materials.
- B. Stockpile rock at location directed by the owner without intermixing with other materials. Cover to prevent windblown debris from accumulating among rocks.
 1. Limit height of rock stockpiles to 36 inches (900 mm).
 2. Do not stockpile rock within protection zones.
 3. Dispose of surplus rock. Surplus rock is that which exceeds quantity indicated to be stockpiled or reused.
 4. Stockpile surplus rock to allow later use by the Owner.

3.8 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically. If possible, adjust line of demolition to the nearest joint.
 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

SECTION 311000
SITE CLEARING

- B. Burning tree, shrub, and other vegetation waste is permitted according to burning requirements and permitting of authorities having jurisdiction. Control such burning to produce the least smoke or air pollutants and minimum annoyance to surrounding properties. Burning of other waste and debris is prohibited.
- C. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

****END OF SECTION****

BUILDING EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Preparing and grading subgrades for slabs-on-grade.
 - 2. Excavating and backfilling for buildings and structures.
 - 3. Drainage and moisture-control fill course for slabs-on-grade.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Section 311000 "Site Clearing" for site stripping, grubbing, topsoil removal, and tree protection.

1.3 DEFINITIONS

- A. Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.
- B. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- C. Borrow: Soil material obtained off-site when sufficient approved soil material is not available from excavations.
- D. Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water.
- E. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Architect. Unauthorized excavation, as well as remedial work directed by the Architect, shall be at the Contractor's expense.
- F. Structures: Buildings, footings, foundations, retaining walls, slabs, or other man-made stationary features constructed above or below ground surface.

1.4 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.

- B. Test Reports: In addition to test reports required under field quality control, submit the following:
 - 1. Laboratory analysis of each soil material proposed for fill and backfill from on-site and borrow sources.
 - 2. One optimum moisture-maximum density curve for each soil material.
 - 3. Report of actual unconfined compressive strength and/or results of bearing tests of each stratum tested.

1.5 QUALITY ASSURANCE

- A. Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction.
- B. Testing and Inspection Service: Owner will employ a qualified independent geotechnical engineering testing agency to classify proposed on-site and borrow soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Division 1.
 - 1. Before commencing earthwork, meet with representatives of the governing authorities, Owner, Architect, consultants, Geotechnical Engineer, independent testing agency, and other concerned entities. Review earthwork procedures and responsibilities including testing and inspection procedures and requirements. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.

1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted in writing by the Architect and then only after acceptable temporary utility services have been provided.
 - 1. Provide a minimum 72-hours' notice to the Architect and receive written notice to proceed before interrupting any utility.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shutoff services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide approved borrow soil materials from off-site when sufficient approved soil materials are not available from excavations.
- B. Satisfactory Soil Materials: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter.

- C. Unsatisfactory Soil Materials: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.
- D. Backfill and Fill Materials: Satisfactory soil materials as recommended by a geotechnical engineer.
- E. Engineered Fill: MDOT Class II sand.
- F. Drainage Fill: MDOT Class II sand.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- D. Tree protection is specified in the Section 311000 "Site Clearing."

3.2 DEWATERING

- A. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

3.3 EXCAVATION

- A. Explosives: Do not use explosives.
- B. Unclassified Excavation: Excavation is unclassified and includes excavation to required subgrade elevations regardless of the character of materials and obstructions encountered.

3.4 STABILITY OF EXCAVATIONS

- A. Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.10 foot. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.6 APPROVAL OF SUBGRADE

- A. Notify Owner's Testing Agency when excavations have reached required subgrade.
- B. When Owner's Testing Agency determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
 - 1. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work.
- C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Architect.

3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position when acceptable to the Architect.
 - 1. Fill unauthorized excavations under other construction as directed by the Architect.

3.8 STORAGE OF SOIL MATERIALS

- A. Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 BACKFILL

- A. Backfill excavations promptly, but not before completing the following:
 - 1. Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 - 2. Concrete formwork removal.
 - 3. Removal of trash and debris from excavation.
 - 4. Removal of temporary shoring and bracing, and sheeting.

5. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.10 FILL

- A. Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills.
 1. Plow strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface.
- B. Prior to fill placement in fill areas and after rough grade has been achieved in cut areas, the subgrade should be thoroughly proof-rolled with a heavy rubber tired vehicle such as a loaded scraper or loaded dump truck by making a minimum of 5 passes in each of two perpendicular directions covering the proposed building and pavement areas. Any areas that exhibit excessive pumping and or yielding during proof-rolling, should be stabilized by aeration, drying and compaction if weather conditions are favorable, or removal and replacement with engineered fill. In addition to detecting unstable areas, the proof-compaction operation should serve to densify shallow loose granular deposits.
- C. Place fill material in layers to required elevations for each location listed below.
 1. Under building slabs, use drainage fill material or satisfactory excavated or borrow soil material.
 2. Under footings and foundations, use engineered fill.

3.11 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
 1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 2. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.
 - a. Stockpile or spread and dry removed wet satisfactory soil material.

3.12 COMPACTION

- A. Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.
- C. Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D 1557:
 1. Under structures and building slabs, compact the top 12 inches below subgrade and each layer of backfill or fill material at 95 percent maximum dry density.

2. Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 90 percent maximum dry density.

3.13 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between existing adjacent grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
- C. Grading Inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.14 DRAINAGE FILL

- A. Under slabs-on-grade, place drainage fill course on prepared subgrade.
 1. Compact drainage fill to required cross sections and thickness.
 2. When compacted thickness of drainage fill is 6 inches or less, place materials in a single layer.
 3. When compacted thickness of drainage fill exceeds 6 inches thick place materials in equal layers, with no layer more than 6 inches thick nor less than 3 inches thick when compacted.

3.15 FIELD QUALITY CONTROL

- A. Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.
 1. Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2167 (rubber balloon method), or ASTM D 2937 (drive cylinder method), as applicable.
 - a. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gages according to ASTM D 3017.
 - b. When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Architect.

2. Footing Subgrade: At footing subgrades, perform testing as required to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of each subgrade with related tested strata when acceptable to the Architect.
 3. Building Slab Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2,000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
 4. Foundation Wall Backfill: In each compacted backfill layer, perform at least one field in-place density test for each 100 feet or less of wall length, but no fewer than two tests along a wall face.
- B. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

3.16 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.
1. Scarify or remove and replace material to depth directed by the Architect; reshape and recompact at optimum moisture content to the required density.
- C. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

****END OF SECTION****

ROUGH GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating subsoil.
2. Cutting, grading, filling, rough contouring, and compacting site for site structures, building pads, and pavements.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 31 10 00 - Site Clearing: Excavating topsoil.
3. Section 31 23 16 - Excavation: Building excavation.
4. Section 31 23 17 - Trenching: Trenching and backfilling for utilities.
5. Section 31 23 23 - Fill: General building area backfilling.

1.2 REFERENCES

A. ASTM International:

1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
2. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. Materials Source: Submit name of imported materials suppliers.

B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with the Geotechnical Report by Soil & Materials Engineers (SME).

- B. The services of a full-time Soils Engineer and Soils Laboratory may be retained by the Owner to observe earthwork operations, analyze soil materials and perform applicable laboratory and field tests.
- C. The Contractor shall arrange and pay for any other test or required inspections necessary to meet the requirements set forth in these Construction Documents.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: Type S2 as specified in Section 31 05 16.
- B. Subsoil Fill: Type S1 as specified in Section 31 05 16.
- C. Crushed Stone Fill: Type A1 as specified in Section 31 05 16.
- D. Granular Fill: Type A2 as specified in Section 31 05 16.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.
- C. Locate and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- D. Control datum for survey is that shown on Drawings.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

3.2 PREPARATION

- A. Call Local Utility Line Information service, MISS DIG at 1-800-482-7171 or 811, not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company prior to removing or relocating utilities.

- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.
- B. Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.
- C. Remove excess subsoil not intended for reuse, from site.
- D. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.
- E. Stability: Replace damaged or displaced subsoil as specified for fill.

3.4 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Place material in continuous layers as follows:

<u>Compaction Method</u>	<u>Maximum Loose Lift Thickness</u>
Hand-operated vibratory plate or light roller in confined areas	4 inches
Hand-operated vibratory roller weighing at least 1,000 pounds	6 inches
Vibratory roller drum roller, minimum dynamic force, 2,000 pounds	9 inches
Vibratory drum roller, minimum dynamic force, 30,000 pounds	12 inches
Sheeps-foot roller	8 inches

- C. Maintain optimum moisture content of fill materials to attain required compaction density.
- D. Make grade changes gradual. Blend slope into level areas.
- E. Repair or replace items indicated to remain damaged by excavation or filling.

3.5 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.6 FIELD QUALITY CONTROL

- A. Perform laboratory material tests in accordance with ASTM D1557.
- B. Perform in place compaction tests in accordance with the following:
 - 1. Density and Moisture Tests: ASTM D-6938.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: Provide one density test for every lift.

3.7 SCHEDULES

- A. Fill in the upper 12 inches under pavement and sidewalks :
 - 1. Compact uniformly to minimum 95 percent of maximum density per ASTM D-1557.
- B. Fill below 12 inches under pavement and sidewalks :
 - 1. Compact uniformly to minimum 92 percent of maximum density per ASTM D-1557.
- C. Fill in landscape areas :
 - 1. Compact uniformly to minimum 88 percent of maximum density per ASTM D-1557.

****END OF SECTION****

EXCAVATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil densification.
2. Excavating for paving, roads, and parking areas.
3. Excavating for slabs-on-grade.
4. Excavating for site structures.
5. Excavating for landscaping.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 31 22 13 - Rough Grading: Topsoil and subsoil removal from site surface.
3. Section 31 23 17 - Trenching: Excavating for utility trenches.
4. Section 31 23 23 - Fill.
5. Section 33 11 16 - Site Water Utility Distribution Piping.
6. Geotechnical report; bore hole locations and findings of subsurface materials.

1.2 REFERENCES

- A. Local utility standards when working within 24 inches of utility lines.

1.3 SUBMITTALS

- A. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.
- B. Shop Drawings: Indicate soil densification grid for each size and configuration footing requiring soils densification.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

1.5 QUALIFICATIONS

- A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Michigan.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

- A. Call Local Utility Line Information service, Miss Dig at 1-800-482-7171 or 811, not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company prior to the removal and relocation of utilities.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.2 SOIL DENSIFICATION - VIBRO-COMPACTION

- A. Densify existing subsoils with relative density rating of compact to dense to attain relative density rating of very dense.
- B. Densification Equipment:
 - 1. Depth Vibrator: Poker type with follower tubes with visible marking every 12 inches to enable insertion depth measurement.
 - 2. Motion: radial in horizontal plane.
 - 3. Data Acquisition System: Record amps or pressure of the vibrator motor over time and depth.
- C. Insert vibrator to maximum specified depth. Densify soils for 30 seconds or other time as directed by Geotechnical Engineer. Withdraw vibrator every 12 inches increments and repeat densification at each increment.
 - 1. When subsurface obstruction prevents vibrator insertion to specified depth, request instructions from Geotechnical Engineer to compensate for obstruction.
- D. Tolerances:
 - 1. Maximum Deviation from Center of Completed Compaction: 8 inches from indicated position.
 - 2. Maximum Deviation from Vertical: 4 degrees during vibrator insertion.

3.3 EXCAVATION

- A. Underpin adjacent structures which may be damaged by excavation work.
- B. Excavate subsoil to accommodate slabs-on-grade, paving and site structures.
- C. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 31 23 23 and Section 31 23 17.
- D. Slope banks with machine to angle of repose or less until shored.
- E. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- F. Trim excavation. Remove loose matter.
- G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume. Remove larger material as specified in Section 31 23 23.
- H. Notify Architect/Engineer of unexpected subsurface conditions.
- I. Correct areas over excavated with crushed stone fill Type A1 specified in Section 31 05 16 or as directed by the Geotechnical Engineer.
- J. Remove excess and unsuitable material from site.
- K. Stockpile subsoil to be re-used on-site in area designated on site to depth not exceeding 8 feet and protect from erosion.
- L. Repair or replace items indicated to remain damaged by excavation.

3.4 FIELD QUALITY CONTROL

- A. Request inspection of excavation and controlled fill operations in accordance with applicable code and local governing agency requirements.
- B. Request visual inspection of bearing surfaces by inspection agency before installing subsequent work.

3.5 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

****END OF SECTION****

TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating trenches for utilities from 5 feet outside building to utility service.
2. Compacted fill from top of utility bedding to subgrade elevations.
3. Backfilling and compaction.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 31 22 13 - Rough Grading: Topsoil and subsoil removal from site surface.
3. Section 31 23 16 - Excavation: General building excavation.
4. Section 31 23 23 - Fill: General backfilling.
5. Section 32 91 19 - Landscape Grading: Filling of topsoil over backfilled trenches to finish grade elevation.
6. Section 33 11 16 - Site Water Utility Distribution Piping
7. Section 33 41 00 - Storm Utility Drainage Piping
8. Section 33 46 00 – Subdrainage

1.2 REFERENCES

A. ASTM International:

1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
2. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 SUBMITTALS

- A. Product Data: Submit data for geotextile fabric indicating fabric and construction.

- B. Materials Source: Submit name of imported fill materials suppliers.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.7 COORDINATION

- A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Subsoil Fill: Type S1 as specified in Section 31 05 16.
- B. Crushed Stone Fill: Type A1 as specified in Section 31 05 16.
- C. Granular Fill: Type A2 as specified in Section 31 05 16.

2.2 ACCESSORIES

- A. Geotextile Fabric: Non-biodegradable, non-woven.
 - 1. Mirafi; Model 140N Filter Fabric or approved equal.

PART 3 EXECUTION

3.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated on Drawings.
 - 1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call Local Utility Line Information service, Miss Dig, at 1-800-482-7171 or 811, not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.

- C. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.

3.3 TRENCHING

- A. Excavate subsoil required for utilities to utility service.
- B. Remove lumped subsoil, boulders, and rock up of 1/6 cubic yard, measured by volume.
- C. Perform excavation within 24 inches of existing utility service or in accordance with utility's requirements.
- D. Do not advance open trench more than 200 feet ahead of installed pipe.
- E. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.
- F. Excavate bottom of trenches maximum 12 inches wider than outside diameter of pipe.
- G. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe.
- H. Do not interfere with 45 degree bearing splay of foundations.
- I. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls can not be sloped, provide sheeting and shoring to protect excavation as specified in this section.
- J. Cut out soft areas of subgrade not capable of compaction in place. Backfill with bedding material and compact to density equal to or greater than requirements for subsequent backfill material.
- K. Trim excavation. Remove loose matter.
- L. Correct areas over excavated areas with compacted backfill as specified for authorized excavation.
- M. Remove excess subsoil not intended for reuse, from site.
- N. Stockpile subsoil for reuse in area designated on site to depth not exceeding 8 feet and protect from erosion.

3.4 SHEETING AND SHORING

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

- C. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- D. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place material in continuous layers as follows:
 - 1. Common Fill: Maximum 4 inches compacted depth.
 - 2. Granular Fill: Maximum 4 inches compacted depth.
- D. Employ placement method that does not disturb or damage foundation perimeter drainage and utilities in trench.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Do not leave more than 50 feet of trench open at end of working day.
- G. Protect open trench to prevent danger to Owner and the public.

3.6 TOLERANCES

- A. Top Surface of Backfilling: Plus or minus 1 inch from required elevations.

3.7 FIELD QUALITY CONTROL

- A. Perform laboratory material tests in accordance with ASTM D1557.
- B. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.

3.8 PROTECTION OF FINISHED WORK

- A. Reshape and re-compact fills subjected to vehicular traffic during construction.

****END OF SECTION****

FILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Backfilling site structures to subgrade elevations.
2. Fill under slabs-on-grade.
3. Fill under paving.
4. Fill for over-excavation.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 31 22 13 - Rough Grading: Site filling.
3. Section 31 23 16 - Excavation.
4. Section 31 23 17 - Trenching: Backfilling of utility trenches.
5. Section 32 91 19 - Landscape Grading.
6. Section 33 11 16 - Site Water Utility Distribution Piping.
7. Section 33 46 00 – Subdrainage.

1.2 REFERENCES

A. ASTM International:

1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
2. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data for geotextile fabric indicating fabric and construction.
- C. Materials Source: Submit name of imported fill materials suppliers.

- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Common Fill: Type S1 as specified in Section 31 05 16.
- B. Crushed Stone Fill: Type A1 as specified in Section 31 05 16.
- C. Granular Fill: Type A2 as specified in Section 31 05 16.

2.2 ACCESSORIES

- A. Geotextile Fabric: Non-biodegradable, woven in areas of undercutting.
 - 1. Tensar TX5 or approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Administrative Requirements: Coordination and project conditions.

3.2 PREPARATION

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural or granular fill per Geotechnical Report and compact to density equal to or greater than requirements for subsequent fill material.
- C. Scarify subgrade surface to a minimum depth of 8 inches.
- D. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.3 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Place geotextile fabric in areas of undercutting as directed by the Geotechnical Engineer.

D. Place material in continuous layers as follows:

<u>Compaction Method</u>	<u>Maximum Loose Lift Thickness</u>
Hand-operated vibratory plate or light roller in confined areas	4 inches
Hand-operated vibratory roller weighing at least 1,000 pounds	6 inches
Vibratory roller drum roller, minimum dynamic force, 2,000 pounds	9 inches
Vibratory drum roller, minimum dynamic force, 30,000 pounds	12 inches
Sheeps-foot roller	8 inches

E. Employ placement method that does not disturb or damage other work.

F. Maintain optimum moisture content of backfill materials to attain required compaction density.

G. Make gradual grade changes. Blend slope into level areas.

H. Remove surplus backfill materials from site.

I. Leave fill material stockpile areas free of excess fill materials.

3.4 TOLERANCES

A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.5 FIELD QUALITY CONTROL

A. Perform laboratory material tests in accordance with ASTM D1557.

B. Perform in place compaction tests in accordance with the following:

1. Density Tests: ASTM D2922.

2. Moisture Tests: ASTM D3017.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

D. Proof roll compacted fill surfaces under slabs-on-grade and paving.

3.6 PROTECTION OF FINISHED WORK

- A. Reshape and re-compact fills subjected to vehicular traffic

****END OF SECTION****

EROSION CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Check Dams.
2. Inlet Filter.
3. Silt Fencing

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 31 10 00 - Site Clearing.
3. Section 31 23 16 - Excavation.
4. Section 31 23 23 - Fill.
5. Section 32 91 19 - Landscape Grading.
6. Section 32 92 19 - Seeding and Soil Supplements.

1.2 REFERENCES

A. ASTM International:

1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).

1.3 SUBMITTALS

- A. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Do not place grout when air temperature is below freezing.

PART 2 PRODUCTS

2.1 ROCK MATERIALS

- A. Rock: Sound, tough, durable fractured rock, free from decompressed stones or other defects impairing its durability. Broken concrete or rounded stones are not acceptable.

2.2 PLANTING MATERIALS

- A. Seeding and Soil Supplements: as specified in Section 32 92 19.
- B. Mulch: as specified in Section 32 92 19

2.3 ACCESSORIES

- A. Inlet Filter Fabric: Geotextile fabric with minimum flow rate of 100 gal/min./s.f. meeting local governing agency requirements.
- B. Silt Fencing: Geotextile filter fabric with minimum flow rate of 10 gal/min./s.f., Amoco Pro Pex 2130 or approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify compacted subgrade is acceptable and ready to support devices and imposed loads.

3.2 CHECK DAM

- A. Determine length required for ditch or depression slope and excavate, compact and foundation area to firm, even surface.
- B. Produce an even distribution of rock pieces, with minimum voids to the indicated shape, height and slope.

3.3 SITE STABILIZATION

- A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.
- B. Construct, stabilize and activate erosion controls before site disturbance within tributary areas of those controls.
- C. Stockpile and waste pile heights shall not exceed 8 feet. Slope stockpile sides at 2: 1 or flatter.
- D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.
 - 1. During non-germinating periods, apply mulch at recommended rates.

2. Stabilize disturbed areas which are not at finished grade and which will be disturbed within one year in accordance with Section 32 92 19 at 50 percent of permanent application rate with no topsoil.
3. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year in accordance with Section 32 92 19 permanent seeding specifications.

E. Stabilize stockpiles immediately.

3.4 FIELD QUALITY CONTROL

- A. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.
- B. Compaction Testing: In accordance with ASTM D1557.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.5 CLEANING

- A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.
- B. Do not damage structure or device during cleaning operations.
- C. Do not permit sediment to erode into construction or site areas or natural waterways.
- D. Clean channels when depth of sediment reaches approximately one half channel depth.

****END OF SECTION****

ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Asphalt materials.
2. Aggregate materials.
3. Aggregate subbase.
4. Asphalt paving base course, binder course, and wearing course.
5. Asphalt paving overlay for existing paving.

B. Related Sections:

1. Section 31 22 13 - Rough Grading: Preparation of site for paving [and base].
2. Section 31 23 23 - Fill: Compacted subbase for paving.
3. Section 31 05 16 – Soils and Aggregates: Product requirements for aggregate for placement by this section.
4. Section 32 17 23 - Pavement Markings: Painted pavement markings, lines, and legends.
5. Section 33 05 13 - Manholes and Structures

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M140 - Standard Specification for Emulsified Asphalt.
2. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

B. Asphalt Institute:

1. AI MS-19 - Basic Asphalt Emulsion Manual.

C. ASTM International:

1. ASTM D977 - Standard Specification for Emulsified Asphalt.
2. ASTM D979 - Standard Practice for Sampling Bituminous Paving Mixtures.
3. ASTM D1188 - Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples.

4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.
5. ASTM D1559 – Test Method for Resistance of Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.
6. ASTM D2172 - Standard Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.
7. ASTM D2726 - Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
8. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
9. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.
10. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
11. ASTM D3910 - Standard Practices for Design, Testing, and Construction of Slurry Seal.
12. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

1.3 SUBMITTALS

- A. Product Data:
 1. Submit product information for asphalt and aggregate materials.
 2. Submit mix design with laboratory test results supporting design.
- B. Manufacturer's Certificate: Certify that materials specified in this section meet or exceed the specified requirements.
- C. The paving contractor shall execute the Guarantee for Bituminous Pavement form located at the end of this section per the requirements set forth on the form.

1.4 QUALITY ASSURANCE

- A. Mixing Plant: Certified by State of Michigan.
- B. Obtain materials from same source throughout.
- C. Perform Work in accordance with Michigan Department of Transportation (MDOT) standards.

1.5 QUALIFICATIONS

- A. Installer: Company specializing in performing work of this section with minimum of five (5) years documented experience.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Apply bituminous tack coats only when temperature has not been below 35 degrees F for 12 hours immediately prior to application. Construct asphalt surface course only when atmospheric temperature is above 40 degrees F and base is dry. Asphalt binder and base courses may be laid when the atmospheric temperature is above 35 degrees F and rising.

PART 2 PRODUCTS

2.1 ASPHALT MATERIALS

- A. Asphalt Cement: Shall comply with the requirements of ASTM D3381 for viscosity graded asphalt cement AC-10 (85-100 penetration grade) and meet the requirements of Section 501 of the Michigan Department of Transportation Standard Specifications for Construction (latest edition).
- B. Tack Coat: Shall be emulsified asphalt meeting the requirements of ASTM D977, AASHTO M140 and the Asphalt Institute for type SS-1h.
- C. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt paving.

2.2 AGGREGATE MATERIALS

- A. Coarse Aggregate: Shall consist of crushed stone, crushed gravel, a mixture of uncrushed gravel with either crushed stone or crushed gravel, or other inert material having similar characteristics. It shall be composed of clean, tough, durable fragments free from an excess of flat or elongated pieces and shall be free of organic matter and deleterious substances and meet the requirements of Section 902 of the Michigan Department of Transportation Standard Specifications for Construction (latest edition).
- B. Fine Aggregate: Shall be well graded from coarse to fine and consist of natural sand, stone screenings or a blend of natural sand and stone screenings. It shall be composed of rough surfaced and angular grains of quartz or other hard durable rock and meet the requirements of Section 902 of the Michigan Department of Transportation Standard Specifications for Construction (latest edition).
- C. Mineral Filler: Shall be limestone dust, dolomite dust, slag or hydrated lime meeting the requirements of Section 902 of the Michigan Department of Transportation Standard Specifications for Construction (latest edition).

2.3 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
 - B. Asphalt Paving Mixtures: Designed in accordance with the Michigan Department of Transportation Standard Specifications for Construction (latest edition).
- 3. Binder and Levelling Course: MDOT 13A
 - 4. Wearing Course: MDOT 36A

2.4 SOURCE QUALITY CONTROL

- A. Submit proposed mix design of each class of mix for review prior to beginning of Work.
- B. Test samples in accordance with ASTM D979, D2172 and D2950.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.
- C. Verify compacted subgrade, aggregate base course and subbase is dry and ready to support paving and imposed loads.
- D. Verify gradients and elevations of base are correct.
- E. Verify all manhole, catch basin and inlet grates and frames (and any other type of casting within the area to be paved) are installed in correct position and at correct elevation.

3.2 SUBBASE AND BASE COURSE

- A. Aggregate Subbase and/or Base Course to be installed per Section 31 05 16.

3.3 EXISTING WORK

- A. Saw cut existing paving as indicted on Drawings.
- B. Clean existing paving to remove foreign material, excess joint sealant and crack filler from paving surface.
- C. Repair surface defects in existing paving to provide uniform surface to receive new paving.

3.4 TACK COAT

- A. Apply tack coat to contact surfaces of previously constructed surfaces abutting or projecting into the area to be paved with new asphalt.
 - 1. New Surfaces: 0.02-0.08 gal/sq yd.
 - 2. Existing Surfaces: 0.02-0.08 gal/sq yd.
- B. Apply tack coat to contact surfaces of curbs, gutters and sidewalks etc. as required.
- C. Coat surfaces of manholes, catch basin and any other casting frames with oil to prevent bond with asphalt paving. Do not tack coat these surfaces.

3.5 SINGLE COURSE ASPHALT PAVING

- A. Install Work in accordance with Section 502 of the Michigan Department of Transportation Standard Specifications for Construction (latest edition).
- B. Place asphalt within 24 hours of applying tack coat.
- C. Place asphalt wearing course to the thickness as indicated on Drawings.
- D. Compact paving by rolling to specified density (Ninety-seven (97) percent of the recorded laboratory specimen density per ASTM D1559). Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
- E. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.6 DOUBLE COURSE ASPHALT PAVING

- A. Place asphalt binder course within 24 hours of applying tack coat.
- B. Place binder course to the thickness as indicated on Drawings.
- C. Place wearing course within 24 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
- D. Place wearing course to the thickness as indicated on Drawings.
- E. Compact each course by rolling to specified density (Ninety-seven (97) percent of the recorded laboratory specimen density per ASTM D1559). Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
- F. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.7 ASPHALT PAVING OVERLAY

- A. Apply tack coat to existing paving milled surface at rate recommended of 0.02 – 0.08 gal/sq yd.
- B. Place wearing course to the thickness as indicated on Drawings.
- C. Compact overlay by rolling to specified density (Ninety-seven (97) percent of the recorded laboratory specimen density per ASTM D1559). Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
- D. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.8 ERECTION TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch as measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: No less than specified on the Drawings.

- C. Variation from Indicated Elevation: Within 1/4 inch.

3.9 FIELD QUALITY CONTROL

- A. Record the locations where samples are taken to correlate with subsequent testing.
- B. Sample asphalt paving in accordance with ASTM D979
- C. Asphalt Cement Content: ASTM D2172; three tests for each days paving unless otherwise directed or specified by the Owner.
- D. Asphalt Paving Mix Temperature: Measure temperature at time of placement.
- E. Asphalt Paving Thickness: ASTM D3549; perform five tests for each days paving unless otherwise directed or specified by the Owner.
- F. Asphalt Paving Density: ASTM D2950 nuclear method; perform five tests for each days paving unless otherwise directed or specified by the Owner.
- G. Additional testing may be required if any of the previous tests indicate insufficient values. If two successive tests indicate insufficient values, contact the Owner for a course of action.
- H. Asphalt concrete materials not complying with specified requirements shall be repaired or removed and replaced with new paving.

3.10 PROTECTION OF FINISHED WORK

- A. Immediately after placement, protect paving from mechanical injury for at least 6 hours or until surface temperature is less than 140 degrees F.

****END OF SECTION****

CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete paving for:
 - a. Concrete sidewalks.
 - b. Concrete curbs and gutters.
 - c. Concrete parking areas and roads.

B. Related Sections:

1. Section 32 17 23 - Pavement markings.
2. Section 31 22 13 - Rough Grading
3. Section 31 23 23 - Fill
4. Section 32 05 16 – Soils and Aggregates
5. Section 32 12 16 - Asphalt Paving
6. Section 32 91 19 - Landscape Grading
7. Section 33 05 13 - Manholes and Structures

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M213 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

B. American Concrete Institute:

1. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
2. ACI 305R - Hot Weather Concreting.
3. ACI 306R - Cold Weather Concreting.
4. ACI 315 - Manual of Standard Practice for Detailing Reinforced Concrete Structures.

C. ASTM International:

1. ASTM A184 - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.

2. ASTM A185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
3. ASTM A497 - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
4. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
5. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
6. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
7. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
8. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
9. ASTM C150 - Standard Specification for Portland Cement.
10. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
14. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
15. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
16. ASTM C994 – Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
17. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
18. ASTM D994 – Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).

1.3 SUBMITTALS

A. Submittal of On-Site Mixed Concrete:

1. The contractor will keep record of each batch mixed, which will include:
 - a. Type and brand of cement used.
 - b. Amount of cement in sacks per cu. yd.
 - c. Maximum size of aggregate.
 - d. Total water content in W/C ratio (lbs./lbs.)
 - e. Total amount of mixing time, starting at placement of water in the mixer.

- f. Location of placement of each batch.
 - g. Copies of these records shall be furnished to the Owner, the Testing Laboratory and the Engineer at the completion of each day's work or on demand.
- 2. One copy of each delivery ticket for the aggregate used shall be submitted to the Owner and the Engineer.
- B. Submittal of Ready-Mixed Concrete Information
 - 1. Statement of Purchase for Ready-Mixed Concrete: Prior to actual delivery of concrete, submit, to the Owner, four copies of Statement of Purchase, giving the dry weights of cement and saturated surface dry weights of fine and coarse aggregates and quantities, type and name of admixtures (if any) and of water per cu. yd., that will be used in the manufacture of the concrete. The Contractor shall also furnish evidence satisfactory to the Owner that the materials to be used and proportions selected will produce concrete of the quality specified. Whatever strengths are obtained, the quality of cement used shall not be less than the minimum specified.
 - 2. Reports: Submit four copies of reports, to the Owner, for ready-mix concrete slump, air content, unit weight, yield and strength tests as specified in Section 15 and 17 of ASTM C94.
 - 3. Ready-Mixed Concrete Delivery Tickets: Submit one copy of each delivery ticket to the Owner and Contractor in accordance with Section 16 of ASTM C94.
 - 4. Submit manufacturers complete technical data sheet for colored admixtures and curing compounds for any colored concrete pavement and sidewalk areas. Include color charts for initial selection of color by Owner.
- C. The paving contractor shall execute the Guarantee for Concrete Pavement, Guarantee for Concrete Curb, and Guarantee for Concrete Sidewalk forms located at the end of this section per the requirements set forth on the forms.
- D. Design Data:
 - 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - 2. Identify mix ingredients and proportions, including admixtures.
 - 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.

1.4 QUALITY ASSURANCE

- A. Testing and Inspection Service: The Owner may engage a testing agency to sample and test concrete materials proposed for use in the Work, perform tests and calculations for concrete mixtures and perform testing during paving operations.

- B. Submit to the Owner, two copies of materials certificates signed by Material Producer and Contractor. Certificates shall state that each material item meets specified requirements.
- C. Submit to the Owner, job-mix formulas for each required cement-aggregate mixture. Mix designs shall be within allowable tolerances as specified for the particular application.
- D. Obtain cementitious materials from same source throughout.
- E. Perform Work in accordance with local governing agency standards.

1.5 QUALIFICATIONS

- A. Manufacturer: All ready-mixed concrete suppliers must be approved by the Owner. Concrete shall be manufactured and delivered to the job Site by a ready-mixed concrete manufacturer thoroughly experienced in ready-mixed concrete. If requested by the Owner, submit a written description of proposed ready-mixed concrete Manufacturer, giving qualifications of Personnel, location of batching plant, list of Projects similar in scope to specified Work, and other information as may be requested by the Owner.
- B. Installer: All concrete installers must be approved by the Owner. If requested by the Owner, submit a written description of proposed ready-mixed concrete Installer, giving qualifications of Personnel, list of Projects similar in scope to specified Work, and other information as may be requested by the Owner.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Construct concrete surface course only when ground temperature is above 35-degrees F and base is dry. Base course must be laid when temperature is above 35-degrees F and rising.

1.7 TRAFFIC CONTROL

- A. Maintain vehicle and pedestrian traffic during paving and repair operations in such a manner as to not disrupt normal business activities of adjacent enterprises.

PART 2 PRODUCTS

2.1 FORM MATERIALS

- A. Wood, steel or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required.
- B. When forms are used and the pavement radius is less than 200 feet, the curved alignment shall be provided for by either standard steel forms equipped with flexible liners or by flexible forms. The forms shall be of the full depth of the section. Curb and gutter forms shall be so constructed as to permit the inside of the form to be securely fastened to the outside forms.

2.2 JOINT MATERIALS

- A. Asphalt Expansion Joint Filler: ASTM D994 pre-formed bituminous type, 3/4-inch thick unless otherwise shown on the Drawings; such as W.R. Meadows Inc. "Asphalt Expansion Joint", W.R. Grace & Co. "Servicised Code 1301", Celotex Corp. "Elastite" or approved equal.

- B. Hot Poured Joint Sealer: Fed. Spec. SS-5-164(4) rubber asphalt type; such as W.R. Meadows, Inc. "Sealtight 164," W.R. Grace & Co. "Servicised Para-Plastic Code 2341," Celotex Corp. "Standard Carelastic Sealing Compound" or approved equal.
- C. Cold Applied Joint Sealer: Fed. Spec. SS-5-158A(1) liquefier type; such as W.R. Meadows, Inc. "Sealtight 158", W.R. Grace & Co. "Servicised Zero-Lastic Code 2377", Cellotex Corp. "Carelastic Cold Seal" or approved equal.
- D. Expansion papers shall be of the pre-molded non-extruding, asphalt impregnated type, not less than ½-inch thick. The length shall be equal to the width of the slab and the depth equal to the thickness of the slab plus 1-inch.

2.3 REINFORCING

- A. Deformed Reinforcing Bars: Steel: ASTM A615, 60 ksi yield grade, deformed billet-steel bars, epoxy coated finish.
- B. Deformed Bar Mats: ASTM A184; fabricated from ASTM A615; 60 ksi yield strength, steel bars, epoxy coated finish.
- C. Welded Deformed Wire Fabric: ASTM A497; in flat sheets; epoxy coated finish.
- D. Welded Plain Wire Fabric: ASTM A185; in flat sheets; epoxy coated finish.
- E. Dowels: ASTM A615; 60ksi yield strength, plain steel bars; cut to length indicated on Drawings, square ends with burrs removed; epoxy coated finish.
- F. Tie Wire: Black, Minimum 16 gauge annealed steel type, epoxy coated.
- G. Epoxy Coating Patching Material: Type as recommended by coating manufacturer.
- H. Supports for Reinforcements: Bar supports conforming to "Bar Support Specifications" contained in the ACI "Manual of Standard Practice". Provide chairs, spacers and other devices suitable for proper spacing, supporting and fastening reinforcing bars.
- I. Shop fabricate reinforcing bars to conform to the shapes and dimensions shown on the reviewed Shop Drawings and in accordance with ACI "Manual of Standard Practice".

2.4 CONCRETE MATERIALS

- A. Cement: All cement used in pavement construction shall be Portland Cement, ASTM C150, Type I – Normal or Type IA.
- B. Fine and Coarse Aggregates:
 - 1. The fine aggregate shall meet all requirements of Section 902 of the Michigan Department of Transportation Specification for 2NS-Natural Sand
 - 2. The coarse aggregate shall meet all requirements of Section 902 of the Michigan Department of Transportation Specification for No. 6A Coarse Aggregate.
- C. Air Entrainment: Air-entraining admixture shall be in accordance with ASTM C260.
- D. Chemical Admixture: ASTM C494.

- E. Concrete can be either mixed on-site or be ready-mixed concrete.

2.5 ACCESSORIES

- A. Curing Compound: The curing compound ASTM C309, Type II, Class B, or approved equal. It shall not allow a moisture loss of more than 0.055 gr./sq. cm. when applied at 200 sq.ft./gallon.

2.6 CONCRETE MIX

A. Production of Concrete Mixed On Site:

1. All concrete shall be mixed in mechanical mixers except when permitted by the Engineer. Mixers shall have a legible, permanently attached plate showing manufacturer's rated capacity, mixing speed and serial number.
2. The Contractor shall, at his expense, furnish samples of fresh concrete and provide safe and satisfactory facilities for obtaining the samples.
3. The temperature of materials as placed into the mixer shall be such that the temperature of the mixed concrete at the time it is placed in final position is not less than 40 degrees F. or more than 90-degrees F. Aggregates and water used for mixing shall not exceed 150-degrees F.
4. Mixing time, measured from the time the ingredients, including water, are in the drum, shall be a minimum of 1.5 minutes for the first cubic yard, plus 0.5 minutes for each additional cubic yard of capacity. The maximum amount of mixing time will be allowed to continue is three times the minimum mixing time. Mixing of the batch any longer than the maximum amount of time allowed will constitute immediate rejection of that batch. The total elapsed time between the intermingling of damp aggregates and cement and the start of mixing shall not exceed 30 minutes.
5. Cement and other materials used in the batch shall be placed in the mixer in such a manner as to prevent any loss due to the effects of wind or an accumulation of cement on surfaces of conveyors or hoppers, or in other conditions which may vary the required quantity of cement in the concrete mixture.
6. Water shall be measured to the correct amount for the required water/cement ratio prior to placement into the mixer. No more water will be allowed to be added. No water will be placed in the mixer by use of pressurized hoses or any other unmeasured means.
7. Mixers and agitators shall be clean and free of any accumulated hard concrete or mortar. Mixer blades shall be in good working order. If a mixer does not meet these requirements, it must be cleaned and repaired prior to use or a new mixer used.

B. Production of Ready-Mixed Concrete:

1. Ready-mixed concrete shall be batched, mixed and transported in accordance with ASTM C94, and comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete," except as otherwise specified herein.
2. Ready-mixed concrete shall be mixed and delivered to the point of discharge at the job by means of a ready-mix concrete truck.

3. No water from the truck water system or elsewhere shall be added after the initial introduction of the mixing water for the batch. Under no circumstances shall the approved maximum water content be exceeded nor shall the slump exceed the maximum specified.
 4. Discharge of the concrete shall be completed within 1-1/2 hours or before the drum has revolved 300 revolutions, whichever comes first, after the introduction of the mixing water to the cement and aggregates or the introduction of the cement to the aggregates.
 5. In hot weather (air temperature 80-degrees F. and above) or under conditions contributing to quick stiffening of the concrete, the time shall be reduced to one hour.
 6. Concrete delivered in cold weather (air temperature 45-degrees F. and lower) shall have a temperature not less than 60-degrees F. at the point of discharge at job, and in compliance with ACI 306 R "Cold Weather Concreting". Concrete placing will not be permitted when the air temperature is 35-degrees F. or lower.
 7. Concrete delivered under hot weather conditions contributing to quick stiffening of concrete, or in air temperature of 80-degrees F. and over, shall have a temperature between 60- and 80-degrees F. at the point of discharge at job, and in accordance with ACI 305 R "Hot Weather Concreting."
- C. Provide concrete to the following criteria:
1. Compressive Strength: 3500 psi minimum at 28 days unless otherwise noted.
 2. Slump: 3 inches maximum.
 3. Total air content by volume: 5% to 8%.
- D. Use calcium chloride only when approved by the Engineer in writing.

2.7 CLEANING OF THE MIXER OR TRUCK

- A. In no case shall the mixer or truck be flushed out onto the street pavement, in a catch basin or sewer manhole, or in any public right-of-way. The contractor will be responsible for clean-up of all wash out areas at no additional expense to the Owner.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.
- C. Verify compacted subgrade is dry and ready to support paving and imposed loads.
1. Proof roll subbase with a (25-ton minimum weight) rubber-tired roller, loaded front-end loader or loaded dump truck in a minimum of two perpendicular passes to identify soft spots.

2. Remove soft subbase and replace with compacted fill as specified in Section 31 23 23.

- D. Verify gradients and elevations of base are correct.
- E. Verify all manhole, catch basin and inlet grates and frames (and any other type of casting within the area to be paved) are installed in correct position and at correct elevation.

3.2 SUBBASE AND BASE COURSE

- A. Aggregate Subbase and/or Base Course shall be installed per Section 32 05 16.

3.3 PREPARATION

- A. Moisten substrate to minimize absorption of water from fresh concrete.
- B. Coat surfaces of manholes, catch basins and inlets (and any other type of casting within the area to be paved) with oil to prevent bond with concrete paving.

3.4 LINE AND GRADE

- A. The contractor will hire a Registered Land Surveyor to establish the line and grade from the Construction Plans.

3.5 PROPERTY MARKERS

- A. All property stakes, irons, monuments, etc. shall be protected and shall not be moved without the written permission of the Property Owner.

3.6 FORMING

- A. Compact and cut-to-grade subgrade under forms so that forms when set will be uniformly supported for the entire length. Securely stake and brace or tie forms to prevent leakage of mortar. Bracing with piles of earth will not be permitted.
- B. Coat surfaces of forms to be in contact with concrete with light clear paraffin oil or parting compound which will not stain the concrete.
- C. Before start of concrete placing, formwork shall be complete and approved by the Soils Engineer.
- D. Hardened concrete, debris and foreign material shall be removed from interior of forms.

3.7 REINFORCING

- A. Provide reinforcement for concrete pavement as shown on the Drawings. Reinforcement shall be kept clean and free from objectionable rust. Bends or kinks in reinforcing bars shall be corrected before placing. All reinforcement shall be accurately located in forms and securely held in place, before and during concrete placing, by supports adequate to prevent displacement during the course of construction.

3.8 PLACING CONCRETE

- A. Concrete shall be handled from the point of delivery and to concrete conveying equipment, and to the location of final deposit by methods which will prevent segregation and loss of

concrete mix materials and in a manner which will assure that the required quality of concrete is maintained.

B. Equipment for Conveying Concrete:

1. Runways for wheeled concrete conveying equipment shall be provided for the ready-mix concrete delivery point to the locations of final deposit.
2. The interior surfaces of concrete conveying equipment shall be maintained free of hardened concrete, debris, water, snow, ice and other deleterious materials.

C. When the temperature of the surrounding air is expected to be below 40-degrees F. during concrete placing or within 24-hours thereafter, the temperature of the plastic concrete, as placed, shall be no lower than 60-degrees F. The temperature of the concrete as placed shall not be so high as to cause difficulty from loss of slump, flash set or cold joints, and should not exceed 90-degrees F. When the temperature of the concrete exceeds 80-degrees F., precautionary measures approved by the Engineer shall be put into effect. When the temperature of steel forms is greater than 120-degrees F., the steel surfaces shall be sprayed with water just prior to placing the concrete.

D. Concrete shall be deposited continuously. Concrete which has partly hardened or has been contaminated by foreign materials shall not be placed; such concrete shall be removed from the Site and disposed of in a location approved by the Owner or Governing Agency.

E. Pavement may be constructed either by use of forms or by a mechanical paver, provided the required finish, and cross-section, as shown on Drawings, are obtained. Concrete shall be placed to provide one course monolithic structure without the use of mortar topping or sand-cement drier. Concrete shall be spaded or vibrated sufficiently to ensure satisfactory consolidation.

F. The concrete surface shall be struck off to a plane surface with a straightedge. After the surface has been floated to an even surface, the contraction joint shall be cut and all slab edges rounded with a 1/2-inch radius edging tool that will finish to a width of 2-inches. After the concrete has slightly set, a broom shall be brushed lightly across the surface at right angles to forms so as to impart the required finish per Section 3.13.

3.9 JOINTS FOR CONCRETE PAVEMENT

- A. Provide contraction joints in concrete pavement at the end of each day's pour, unless the pour ends at an expansion joint; in line with all contraction joints and end-of-pour joints of abutting concrete placements, at 40-foot maximum intervals, and elsewhere as shown on Drawings.
- B. Form contraction joints by sawing a 1/4" wide cut perpendicular to the surface and at right angles to the edge of pavement, to a depth of at least 1/4 the slab thickness with a minimum depth of 3 inches.
- C. Longitudinal joints shall be placed parallel to edge of pavement and located at 1/3 points or as shown on the Plans. Depth and width are specified in paragraph 3.9B above.
- D. Provide expansion joints in concrete pavement, at tangent points or radius returns, at intersections, and in straight runs at uniform intervals not exceeding 240-feet on centers.
- E. Provide expansion joints between concrete pavement and adjacent rigid structures not specified herein before.

- F. Fill expansion joints with expansion joint filler strips, 1-inch thick unless otherwise shown on the Drawings. The strap shall extend the full depth of the concrete complying with AASHTO M-213, Type III.
- G. Where the expansion joint will not be sealed, install joint filler strips with top flush with concrete finish elevation.
- H. All contraction joints in concrete pavement sections shall be sealed with either hot-poured joint sealer or cold-applied joint sealer.
- I. Prior to applying joint sealer, remove wood strips. Clean joint groove of foreign matter and loose particles, and dry surface.
- J. Slightly underfill joint groove with joint sealer to prevent extrusion of the sealer. Remove excess joint sealer material as soon after sealing as possible.
- K. Subsequent to joint sealing, protect sealed areas from contact with injurious substances or damage from construction traffic or operations until project completion.

3.10 JOINTS FOR CONCRETE SIDEWALK

- A. Contraction joints shall be placed at right angles to the edge of the sidewalk and perpendicular to the surface and at a depth of at least 1/4 the slab thickness with a minimum depth of 1-1/4 inches.
- B. Contraction joints shall be spaced at a minimum of every 5-foot, or as shown on the Plans.
- C. The concrete surface shall be struck off to a plane surface with a straightedge. After the surface has been floated to an even surface, the contraction joint shall be cut and all slab edges rounded with a 1/2-inch radius edging tool that will finish to a width of 2-inches.
- D. After the concrete has set, a broom shall be brushed lightly across the surface at right angles to forms so as to impart the required finish per Section 3.13.
- E. Expansion joints shall be placed at the following locations:
 - 1. At the back of the curb and front edge of the sidewalks adjacent to each driveway.
 - 2. At any place where a sidewalk abuts a building or fixed structure.
 - 3. At any other locations indicated on the Plans.

3.11 JOINTS FOR CONCRETE CURB AND GUTTER

- A. Provide contraction joints in concrete curb and gutter at the end of each day's pour, unless the pour ends at an expansion joint, in line with all contraction joints and end-of-pour joints of the abutting concrete placements, at 40-foot maximum intervals and elsewhere as indicated on the Drawings.
- B. Form contraction joints by steel templates 1/4-inch in thickness, shaped to conform to the required cross-section of the curb. Leave templates in place until the concrete has set sufficiently to hold its shape.

- C. Provide expansion joints in concrete curb and gutter at tangent points of curb returns, at intersections and in straight runs at uniform intervals not exceeding 30-feet on centers.
- D. Provide expansion joints with expansion joint filler strips, 1-inch thick, unless otherwise shown on the Drawings. The strips shall extend the full depth of the concrete complying with AASHTO M-213, Type III.
- E. After the concrete has set, a broom shall be brushed lightly across the surface at right angles to forms so as to impart the required finish per Section 3.13.
- F. Install joint filler strips at the proper depth below the finished concrete construction with a slightly tapered, dressed-and-oiled wood strip temporarily secured to the top of the filler strip to form a groove not less than 1/4-inch in depth.
- G. All contraction joints in concrete curb sections shall be sealed with either hot-poured joint sealer or cold-applied joint sealer.
- H. Prior to applying joint sealer, remove wood strips. Clean joint groove of foreign matter and loose particles and dry surface.
- I. Slightly underfill joint groove with joint sealer to prevent extrusion of the sealer. Remove excess joint sealer materials as soon after sealing as possible.
- J. Subsequent to joint sealing, protect sealed areas from contact with injurious substances or damage from construction traffic or operations until project completion.

3.12 FINISHING

- A. Paving: Light broom.
- B. Sidewalk Paving: Light broom, radius to 1 inch radius, and trowel joint edges.
- C. Curbs and Gutters: Light broom.
- D. Direction of Texturing: Transverse to paving direction.
- E. Place curing compound on exposed concrete surfaces immediately after finishing.

3.13 CURING AND WEATHER PROTECTION

- A. Freshly placed concrete shall be protected as required to maintain the temperature of the concrete at not less than 50-degrees F nor more than 80-degrees F and in a moist condition continuously for a period of time necessary for the concrete to cure per Section 3.14B and 3.14C. Changes in temperature of the concrete during curing shall be as uniform as possible and shall not exceed 5-degrees F in any one hour, or 50-degrees F in any 24 hour period.
- B. Cold Weather Protection: When the temperature of the atmosphere is 40-degrees F and below, the concrete shall be protected by heating, insulation covering, housing or combination thereof as required to maintain the temperature of the concrete at or above 50-degrees F and in a moist condition continuously for the concrete curing period. Cold weather protection shall meet the requirements of ACI 306R "Cold Weather Concreting".
- C. Hot Weather Protection: When the temperature of the atmosphere is 90-degrees F and above, or during other climatic conditions which will cause too rapid drying of the concrete, the

concrete shall be protected by windbreaks, shading, fog spraying light-colored moisture-retaining covering, or a combination thereof as required to maintain the temperature of the concrete below 80-degrees F and in a moist condition continuously for the concrete curing period. Hot weather protection shall meet the requirements of ACI 305R "Hot Weather Concreting".

3.14 IDENTIFICATIONS

- A. Prior to the application of the curing compound, the Contractor shall clearly and neatly mark the pavement with the Contractor's name and year of construction. This identification shall be stamped in the concrete at both ends of a length of pavement construction, at intersection locations of the pavement constructed, at both ends of a length of curb constructed and once in the middle, at both ends of a length of sidewalk constructed and at one spot in a driveway approach.

3.15 REMOVAL OF FORMS AND CLEAN UP

- A. All forms, rails and stakes shall be removed within 24-hours after placing the pavement, sidewalk or curbs.
- B. After completion of concrete curing in an area, remove all weather protection materials and rubbish and debris resulting from the specified Work, sweep concrete curbs clean and seal joints as specified in Sections 3.9 through 3.11.

3.16 ERECTION TOLERANCES

- A. Maximum Variation of Surface Flatness: 1/8 inch in 10 ft.
- B. Variation from Indicated Elevation: Within 1/4 inch.
- C. Maximum Variation From True Position: 1/4 inch.
- D. Scheduled Thickness: No less than specified on the Drawings.

3.17 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with ASTM C94 and local governing agency standards.
- B. Inspect reinforcing placement for size, spacing, location, support.
- C. Quality Control During Paving Operations:
 - 1. Sampling Procedures: ASTM C172.
 - 2. Cylinder Molding and Curing Procedures: ASTM C31, cylinder specimens.
 - 3. Sample concrete and make three cylinders for each day of paving unless otherwise specified by the Owner. Record the locations where the samples are taken to correlate with subsequent testing.
 - 4. Test one cured concrete cylinder from each sample set per ASTM C39 at 7-day and 28-day periods and report the type of failure and compressive strength at failure. Note the third cylinder is to be stored for future use.

- 5. Test slump in-field per ASTM C143 for each sample.
- 6. Test mix for air-entrainment per ASTM C231 for each sample.
- D. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.
- E. Additional testing may be required if any of the previous tests indicate insufficient values. If two successive tests indicate insufficient values, contact the Owner for a course of action.
- F. Concrete materials not complying with the specified requirements shall be repaired or removed and replaced with new paving.

3.18 PROTECTION

- A. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury. Refer to section 3.14 for additional detail.
- B. Do not permit vehicular traffic over paving for a minimum of 14 days after finishing.

****END OF SECTION****

CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Urethane joint sealants.
 - 2. Latex joint sealants.
- B. Related Sections:
 - 1. Division 04 Section "Unit Masonry" for masonry control and expansion joint fillers and gaskets.
 - 2. Division 09 Section "Tiling" for sealing tile joints.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Use manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Submit not fewer than eight pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
 - 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
 - 5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.

2. Joint-sealant manufacturer and product name.
 3. Joint-sealant formulation.
 4. Joint-sealant color.
 - C. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
 - D. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
 - E. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
 - F. Warranties: Sample of special warranties.
- 1.5 QUALITY ASSURANCE
- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
 - B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- 1.6 PROJECT CONDITIONS
- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.
- 1.7 WARRANTY
- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.

- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 POLYSULFIDE JOINT SEALANTS

- A. Multicomponent, Nosag, Polysulfide Joint Sealant: ASTM C 920, Type M, Grade NS, Class25, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolastic Polysulfide Sealant..
 - b. Pacific Polymers International, Inc.; Elasto Seal 227 Type II.
 - c. Pecora Corporation; Synthaealk GC 2+.
 - d. W.R. Meadows, Inc.; Deck O Seal Gun Grade.
- B. Multicomponent, Pourable, Traffic Grade, Polysulfide Joint Sealant: ASTM C 920, Type M, Grade P, Class25, for Use T.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Pacific Polymers International, Inc.; Elasto Seal 227 Type I.
 - b. W.R. Meadows, Inc.; Deck O Seal 125.

2.3 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - c. BASF Building Systems; Sonolac.
 - d. Pecora Corporation; AC-20+.
 - e. Tremco Incorporated; Tremflex 834.

2.4 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - d. Metal.
 - e. Glass.
 - f. Porcelain enamel.
 - g. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.
- 3.3 INSTALLATION OF JOINT SEALANTS
- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.

3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
 1. Joint Locations:
 - h. Isolation and contraction joints in cast-in-place concrete slabs.
 - i. Joints between different materials listed above.
 - j. Other joints as indicated.
 2. Polysulfide Joint Sealant: Multicomponent, pourable, traffic grade.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints in unit masonry.
 - b. Joints between different materials.
 - c. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
 - d. Other joints as indicated.
 2. Polysulfide Joint Sealant: Multicomponent, nonsag.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of interior unit masonry, concrete walls, and partitions.
 - e. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
 - f. Other joints as indicated.
 2. Joint Sealant: Latex Acrylic based.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

****END OF SECTION****

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 REFERENCES

A. ASTM International:

1. ASTM A121 - Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
5. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
6. ASTM A121 - Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
7. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
8. A1011/A1011M-07 Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
9. ASTM B429/B429M - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
10. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
11. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
12. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.

13. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
14. ASTM F1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates.

B. Chain Link Fence Manufacturers Institute:

1. CLFMI - Product Manual.

1.3 SYSTEM DESCRIPTION

- A. Fence Height: 6 feet or as indicated on Drawings.
- B. Line Post Spacing: At intervals not exceeding 10 feet.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
- B. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.

1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines.
- B. Operation and Maintenance Data: Procedures for submittals.

1.6 QUALITY ASSURANCE

- A. Supply material in accordance with CLFMI - Product Manual.
- B. Perform installation in accordance with ASTM F567.
- C. Perform Work in accordance with local governing agency standards.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.
- B. Installer: Company specializing in performing work of this section with minimum five years experience.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.
- B. Identify each package with manufacturer's name.
- C. Store fence fabric and accessories in secure and dry place.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. Anchor Fence Inc.
2. Merchants Metals.
3. Or Approved Equal.

2.2 MATERIALS

- A. Framing Steel: As specified on the Drawings.
- B. Fabric: 2" mesh, No. 9 gauge with barbed salvage on top and bottom ends. Fabric shall be galvanized or aluminum coated to match existing.
- C. Fabric: 1" mesh, No. 9 gauge. Fabric shall be galvanized or aluminum coated to match existing.
- D. Concrete: ASTM C94; Portland Cement, 4,000 psi strength at 28 days.

2.3 COMPONENTS

- A. Line (Intermediate) Posts: 2 3/8 inch outside diameter.
- B. End, Corner and Pull Posts: 2 7/8 inch outside diameter.
- C. Gate Posts: As specified on the Drawings.
- D. Top and Brace Rail: 1 5/8 inch outside diameter.
- E. Gate Frame: 2 inch diameter for welded fabrication.
- F. Tie Wire: No. 9 gauge galvanized or aluminized steel wire.

2.4 ACCESSORIES

- A. Caps: Galvanized pressed steel; sized to post diameter, set screw retainer.
- B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; galvanized steel.
- C. Extension Arms: Galvanized pressed steel, to accommodate 6 strands of barbed wire, double arm, "V" configuration, sloped to 45 degrees.
- D. Gate Hardware: Intellikey locking mechanism as specified on Drawings.

2.5 GATES

- A. Sliding Gates:

1. Framing and Posts: ASTM F1184, Class 2 for internal rollers.
2. Rollers for overhead and cantilever sliding gates: Bearing type. Furnish non-sealed bearings with grease fitting for periodic maintenance.
3. Secure rollers to post or frame without welding.

B. Cantilever Sliding Gates:

1. Fabricate gate leaf frames and tracks of aluminum conforming to ASTM B429 alloy 6063-T6 or as required to meet performance requirements of ASTM F1184 and specified performance requirements.
2. Frame Members: Minimum 2 inches 0.91 lb/ft aluminum tubing welded assembly forming rigid, one piece unit.
3. Install fabric securely stretched and held in center of tubing.
4. Brace cantilever overhang frames with 3/8 inch brace rods. For gate leaf sizes greater than 23 feet, fabricate with additional lateral support rail welded adjacent to top and bottom horizontal rails.
5. Track: Combined, integral track and rail.
6. Rail: Aluminum extrusion; minimum total weight of 3.72 lb/ft; designed to withstand reaction load of 2,000 lbs.
7. Roller Track Assembly: Two swivel type, zinc, die cast trucks having four, sealed lubricant ball bearing wheels minimum 2 inches diameter by 9/16 inches width designed for same reaction load as rail. Provide two side-rolling wheels for each gate leaf to maintain alignment of truck in track.
8. Fasten trucks to post brackets by minimum 7/8 inch diameter, 1/2 inch shank ball bolts.
9. Provide galvanized steel guide wheel assemblies consisting of two rubber wheels of minimum 4 inch diameter with oil-impregnated bearings for each supporting post.
10. Attach guide wheel assembly to post so bottom horizontal member rolls between wheels and permitting adjustment to maintain plumb gate frames and proper alignment.

2.6 FINISHES

- A. Components and Fabric: Galvanized to ASTM A123 for components; ASTM A153 for hardware; ASTM A392 for fabric; 2.0 oz/sq ft coating.
- B. Hardware: Galvanized to ASTM A153, 2.0 oz/sq ft coating.
- C. Accessories: Same finish as framing.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install framework, fabric, accessories and gates in accordance with ASTM F567.
- B. Set intermediate, end and gate posts plumb, in concrete footings with top of footing 1 inch above finish grade. Slope top of concrete for water runoff.
- C. Line Post Footing Depth Below Finish Grade: 3.5 feet.
- D. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: 3.5 feet.
- E. Brace each gate and corner post to adjacent line post with horizontal center brace rail. Install brace rail one bay from end and gate posts.
- F. Install top rail through line post tops and splice with 6 inch long rail sleeves.
- G. Install center and bottom brace rail on corner gate leaves.
- H. Place fabric on posts and rails.
- I. Do not stretch fabric until concrete foundation has cured 28 days.
- J. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.
- K. Position bottom of fabric 2 inches above finished grade.
- L. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.
- M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- N. Install bottom tension wire stretched taut between terminal posts.
- O. Install support and attach barbed wire; tension and secure.
- P. Support gates from gate posts. Do not attach hinged side of gate from building wall.
- Q. Install gate with fabric to match fence. Install three hinges on each gate leaf, latch, and catches.
- R. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.
- S. Install posts with 6 inches maximum clear opening from end posts to buildings, fences and other structures.
- T. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.
- U. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.

- V. Extend concrete footings 1 inch above grade, and trowel, forming crown to shed water.
- W. Allow footings to cure minimum 7 days before installing fabric and other materials attached to posts.

3.2 ERECTION TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch.
- B. Maximum Offset From Indicated Position: 1 inch.
- C. Minimum distance from property line: 6 inches. Do not infringe adjacent property lines.

****END OF SECTION****

SOIL PREPARATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparation of subsoil.
2. Soil testing.
3. Placing topsoil.

B. Related Sections:

1. Section 31 22 13 - Rough Grading: Rough grading of site.
2. Section 31 23 17 - Trenching: Rough grading over cut.
3. Section 32 91 19 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this section.
4. Section 32 92 19 - Seeding

1.2 REFERENCES

A. ASTM International:

1. ASTM C33 – Standard Specification for Concrete Aggregates
2. ASTM D2607 – Classification of Peats, Mosses, Humus, and Related Products

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards regarding materials, methods of work, and disposal of excess and waste materials.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: As specified in Section 310516 Type S2. Frozen or muddy topsoil is not acceptable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

- B. Verify prepared soil base is ready to receive the Work of this section.
- C. Locate and identify existing underground and overhead services and utilities within contract limit work areas. (Call Miss Dig: 1-800-482-7171).
- D. Provide adequate means to protect utilities and services designated to remain.
- E. Repair utilities damaged during site work operations at Subcontractor's expense.
- F. When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with applicable utility company in maintaining active services in operation.
- G. Locate, protect and maintain bench marks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Subcontractor's expense.
- H. Perform landscape work operations and the removal of debris and materials to ensure minimum interference with streets, walks, and other adjacent facilities.
- I. The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.
- J. Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.

3.2 DISPOSAL OF WASTE MATERIALS

- A. Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.
- B. Maintain disposal routes, clear, clean and free of debris.
- C. On site burning of combustible cleared materials is not permitted.
- D. Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean, and free of materials and debris and suitable for site work operations
- E. Materials, items and equipment not scheduled for reinstallation or salvaged for the General Contractor are the property of the Landscape Contractor. Remove cleared materials from the site as the work progresses. Storage and sale of Landscape contractors salvage items on site is not permitted.

****END OF SECTION****

LANDSCAPE GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Final grade topsoil for finish landscaping.

B. Related Sections:

2. Section 31 22 13 - Rough Grading: Site contouring.
3. Section 31 23 17 - Trenching: Backfilling trenches.
4. Section 31 23 23 - Fill: Backfilling at building areas.
5. Section 32 05 16 - Soils and Aggregates.
6. Section 32 92 19 - Seeding.

1.2 SUBMITTALS

A. Materials Source: Submit name of imported materials source.

B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.3 QUALITY ASSURANCE

A. Furnish each topsoil material from single source throughout the Work.

B. Perform Work in accordance with local governing agency standards.

PART 2 PRODUCTS

2.1 MATERIAL

A. Topsoil: Fill Type S2 as specified in Section 32 05 16.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify substrate base has been contoured and compacted.

3.2 PREPARATION

- A. Protect landscaping and other features remaining as final Work.
- B. Protect existing structures, fences, sidewalks, utilities, paving, and curbs.

3.3 SUBSTRATE PREPARATION

- A. Eliminate uneven areas and low spots.
- B. Remove debris, roots, branches, stones, in excess of 1 inch in size. Remove contaminated subsoil.
- C. Scarify surface to depth of 4 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.4 PLACING TOPSOIL

- A. Place topsoil in areas where seeding is required to compacted depth of 3 inches. Place topsoil during dry weather.
- B. Fine grade topsoil to eliminate rough or low areas. Maintain profiles and contour of subgrade.
- C. Remove roots, weeds, rocks, and foreign material while spreading.
- D. Lightly compact placed topsoil.
- E. Remove surplus subsoil and topsoil from site.

3.5 TOLERANCES

- A. Top of Topsoil: Plus or minus 1/2 inch.

3.6 PROTECTION OF INSTALLED WORK

- A. Prohibit construction traffic over topsoil.

****END OF SECTION****

SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding.
2. Hydroseeding.
3. Mulching.

B. Related Sections:

1. Section 31 22 13 - Rough Grading: Rough grading of site.
2. Section 31 23 17 - Trenching: Rough grading over cut.
3. Section 32 05 16 - Soils and Aggregates.
4. Section 32 91 13 - Soil Preparation
5. Section 32 91 19 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this section.

1.2 DEFINITIONS

- A. Weeds: Vegetative species other than specified species to be established in given area.

1.3 SUBMITTALS

- A. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.
- B. Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Include maintenance instructions, cutting method and maximum grass height and types, application frequency, and recommended coverage of fertilizer.

1.5 QUALITY ASSURANCE

- A. Provide seed mixture in original unopened containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging. Store in manner to prevent wetting and deterioration.

- B. Perform Work in accordance with local governing agency standards.

1.6 QUALIFICATIONS

- A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years experience.
- B. Installer: Company specializing in performing work of this section with minimum 3 years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.
- B. Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.
- C. Non-irrigated Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn Lawn Fescue	60%	90%	85%
Kentucky 28# common Bluegrass	20%	90%	90%
Pennfine Perennial Rye	20%	90%	90%
<i>No noxious weed seeds permitted.</i>			
<i>(Fertilizer for irrigated lawn 10-10-10)</i>			

2.2 ACCESSORIES

- A. Straw Mulch: Used in crimping process only. Clean oat or wheat straw, well seasoned before bailing, free from mature seed-bearing status, or roots of prohibited or noxious weeds.
- B. Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

2.3 SOURCE QUALITY CONTROL

- A. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify prepared soil base is ready to receive the Work of this section.
- C. Work notification: Notify Landscape Architect or General Contractor's representative at least seven (7) working days prior to start of seeding operation.
- D. Protect existing utilities, paving, and other facilities from damage caused by seeding operations.
- E. Perform seeding work only after planting and other work affecting ground surface has been completed.
- F. Provide hose and lawn watering equipment as required.

3.2 SURFACE PREPARATION

- A. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.
- B. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type.
- C. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.
- D. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to seeding.

3.3 SEEDING

- A. Seed lawns only between April 1 and June 1, and fall seeding between August 15 and October 15, or at such other times acceptable to Landscape Architect.
- B. Seed immediately after preparation of bed. Seed indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.
- C. Perform seeding operations when the soil is dry and when the winds do not exceed five (5) miles per hour velocity.
- D. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two (2) directions, at right angles to each other.
- E. Sow seed at a rate of 300 lbs. /acre.
- F. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.
- G. Provide soil erosion planting mat where grade conditions require to stabilize the planting area.

3.4 HYDROSEEDING

- A. Hydro-seeding: The application of grass seed and a wood cellulose fiber mulch tinted green shall be accomplished in one operation by use of an approved spraying machine.
- B. Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce homogenous slurry. Add wood cellulose fiber after seed, water, and fertilizer have been thoroughly mixed and apply at the rate of 200 pounds per acre dry weight.
- C. For hydro-seeding, wood cellulose fiber shall be used. Silva-Fiber Mulch by Weyerhaeuer Company, Tacoma WA (800-443-9179).
- D. Hydraulically spray material on ground to form a uniform cover impregnated with grass seed.
- E. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 1,000 pounds, dry weight, per acre.
- F. Apply cover so that rainfall or applied water will percolate to underlying soil.

3.5 MULCHING

- A. Place straw mulch on seeded areas within 24 hours after seeding.
- B. Place straw mulch uniformly in a continuous blanket at a rate of 2-1/2 tons per acre, or two (2) 50 lb. bales per 1,000 sq. ft. of area. A mechanical blower may be used for straw mulch application when acceptable to the Landscape Architect.
- C. Crimp straw into soil by use of a "crimper". Two passes in alternate direction required. Alternative methods on areas too small for crimper must be approved by the Landscape Architect or Owner's Representative.

3.6 ESTABLISH LAWN

- A. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be reseeded; continue until dense lawn established.
- B. Damage to seeded area resulting from erosion to be repaired by Sub Contractor.
- C. In event Sub Contractor does not establish dense lawn during first germination period, return to project to re-fertilize and reseed to establish dense lawn.
- D. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and reseed the proposed lawn areas to produce a dense turf, as specified.

3.7 CLEANING

- A. Perform cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.

****END OF SECTION****

MANHOLES AND STRUCTURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Monolithic concrete manhole section with masonry transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manhole section with tongue-and-groove joints [with masonry transition to cover frame,] covers, anchorage, and accessories.
3. Monolithic FRP manhole section with transition to cover frame, covers, anchorage, and accessories.
4. Masonry manhole section with masonry transition to cover frame, covers, anchorage, and accessories.
5. Bedding and cover materials.

B. Related Sections:

1. Section 31 05 16 - Aggregates for Earthwork: Aggregate for backfill in trenches.
2. Section 31 23 16 - Excavation: Excavating for manholes.
3. Section 31 23 23 - Fill: Backfilling after manhole installation.

1.2 REFERENCES

A. American Concrete Institute:

1. ACI 318 - Building Code Requirements for Structural Concrete.
2. ACI 530/530.1 - Building Code Requirements for Masonry Structures and Specifications for Masonry Structures.

B. ASTM International:

1. ASTM A48/A48M - Standard Specification for Gray Iron Castings.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM C55 - Standard Specification for Concrete Brick.
4. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale).
5. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.

6. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
7. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
8. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
9. ASTM D3753 - Standard Specification for Glass-Fiber-Reinforced Polyester Manholes and Wetwells.

1.3 DESIGN REQUIREMENTS

- A. Equivalent strength: Based on structural design of reinforced concrete as outlined in ACI 318.
- B. Design of Lifting Devices for Precast Components: In accordance with ASTM C913.
- C. Design of Joints for Precast Components: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate manhole locations, elevations, piping with sizes and elevations of penetrations.
- B. Product Data: Submit manhole cover and frame construction, features, configuration, dimensions.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years experience.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Comply with precast concrete manufacturer's instructions for unloading, storing and moving precast manholes.
- B. Store precast concrete manholes to prevent damage to Owner's property or other public or private property. Repair property damaged from materials storage.
- C. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers shown on Drawings to indicate its intended use.

PART 2 PRODUCTS

2.1 MANHOLES

- A. Manhole Sections: Reinforced precast concrete in accordance with ASTM C478 with gaskets in accordance with ASTM C923.
- B. Mortar and Grout: Mortar for finishing and sealing shall be Class "C". Honeycombing less than 2 inches deep shall be repaired using Class "D" mortar.
- C. Brick Transition Reinforcement: Formed steel 8 gage wire with galvanized finish.

2.2 FRAMES AND COVERS

- A. Manufacturers:
 - 1. East Jordan Iron Works.
 - 2. Approved Equal.
- B. Product Description: ASTM A48, Class 30B Heavy Duty Cast iron construction, machined flat bearing surface, removable lid, closed or open as indicated on Drawings; sealing gasket; cover molded with identifying name and logo as required by local governing agency.

2.3 COMPONENTS

- A. Manhole Steps: M.A. Industries P.S.I. Polypropylene or approved equal.
- B. Base Pad: Cast-in-place concrete 3,000 psi at 28 days, leveled top surface.

2.4 CONFIGURATION

- A. Manhole Section Construction: Concentric with eccentric cone top section.
- B. Shape: Cylindrical.
- C. Clear Inside Dimensions: 48 inch diameter or as indicated on Drawings.
- D. Design Depth: As indicated on Drawings.
- E. Clear Lid Opening: 24 inch minimum diameter.
- F. Pipe Entry: Provide openings as indicated on Drawings.
- G. Steps: 16 inches on center vertically, set into manhole wall. As indicated on Drawings.

2.5 BEDDING AND COVER MATERIALS

- A. Bedding: Fill Type A1 as specified in Section 31 05 16.
- B. Cover: Fill Type A2, as specified in Section 31 05 16.

2.6 FINISHING - STEEL

- A. Galvanizing: ASTM A123, hot dip galvanize after fabrication.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify items provided by other sections of Work are properly sized and located.
- C. Verify built-in items are in proper location, and ready for roughing into Work.
- D. Verify correct size of manhole excavation.

3.2 PREPARATION

- A. Coordinate placement of inlet and outlet pipe required by other sections.
- B. Do not install structures where site conditions induce loads exceeding structural capacity of structures.
- C. Inspect precast concrete structures immediately prior to placement in excavation to verify structures are internally clean and free from damage. Remove and replace damaged units.

3.3 INSTALLATION

- A. Excavation and Backfill:
 - 1. Excavate for manholes in accordance with Section 31 23 16 in location and to depth shown. Provide clearance around sidewalls of structure for construction operations.
 - 2. When groundwater is encountered, prevent accumulation of water in excavations. Place manholes in dry trench.
 - 3. Where possibility exists of watertight structure becoming buoyant in flooded excavation, anchor structure to avoid flotation.
- B. Place base pad, trowel top surface level.
- C. Place manhole sections plumb and level, trim to correct elevations, anchor to base pad.
- D. Backfill excavations for manholes in accordance with Section 31 23 16 and 31 23 23.
- E. Form and place manhole cylinder plumb and level, to correct dimensions and elevations.
- F. Cut and fit for pipe.
- G. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour to form continuous drainage channel as indicated on Drawings.
- H. Set cover frames and covers level without tipping, to correct elevations.

- I. Coordinate with other sections of Work to provide correct size, shape, and location.

3.4 PRECAST CONCRETE MANHOLE INSTALLATION

- A. Lift precast components at lifting points designated by manufacturer.
- B. When lowering manholes into excavations and joining pipe to units, take precautions to ensure interior of pipeline and structure remains clean.
- C. Set precast structures bearing firmly and fully on crushed stone bedding, compacted in accordance with provisions of Section 31 23 16, Section 31 23 23 or on other support system shown on Drawings.
- D. Assemble multi-section structures by lowering each section into excavation. Lower, set level, and firmly position base section before placing additional sections.
- E. Remove foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.
- F. Joint sealing materials may be installed on site or at manufacturer's plant.
- G. Verify manholes installed satisfy required alignment and grade.
- H. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe. Fill annular space with mortar.
- I. Cut pipe to finish flush with interior of structure.
- J. Shape inverts through manhole as shown on Drawings.

3.5 CAST-IN-PLACE CONCRETE MANHOLE INSTALLATION

- A. Prepare crushed stone bedding or other support system shown on Drawings, to receive base slab as specified for precast structures.
- B. Erect and brace forms against movement.
- C. Install reinforcing steel as indicated on Drawings.
- D. Place and cure concrete.

3.6 FRAME AND COVER INSTALLATION

- A. Set frames using mortar and masonry. Install radially laid concrete brick with 1/4 inch thick vertical joints at inside perimeter. Lay concrete brick in full bed of mortar and completely fill joints. Where more than one course of concrete brick is required, stagger vertical joints.
- B. Set frame and cover 2 inches above finished grade for manholes with covers located within unpaved areas to allow area to be graded away from cover beginning 1 inch below top surface of frame.

3.7 FIELD QUALITY CONTROL

- A. Test concrete manhole and structure sections in accordance with ASTM C497.

B. Vertical Adjustment of Existing Manholes:

1. Where required, adjust top elevation of existing manholes to finished grades shown on Drawings.
2. Reset existing frames, grates and covers, carefully removed, cleaned of mortar fragments, to required elevation in accordance with requirements specified for installation of castings.
3. Remove concrete without damaging existing vertical reinforcing bars when removal of existing concrete wall is required. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement, as indicated Drawings.
4. Clean and apply sand-cement bonding compound on existing concrete surfaces to receive cast-in-place concrete.

****END OF SECTION****

SITE WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for site water line including domestic water line and fire water line.
2. Hydrants.
3. Bedding and cover materials.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates: Aggregate for backfill in trenches.
2. Section 31 23 16 - Excavation: Product and execution requirements for excavation and backfill required by this section.
3. Section 31 23 17 - Trenching: Execution requirements for trenching required by this section.
4. Section 31 23 23 - Fill: Requirements for backfill to be placed by this section.

1.2 REFERENCES

A. American Society of Mechanical Engineers:

5. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
6. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

B. ASTM International:

1. ASTM A48 – Standard Specification for Gray Iron Castings.
2. ASTM A615 – Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
3. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
4. ASTM C32 – Standard Specification for Sewer and Manhole Brick
5. ASTM C33 – Standard Specification for Concrete Aggregates.
6. ASTM C90 – Standard Specification for Loadbearing Concrete Masonry Units.
7. ASTM C94 – Standard Specification for Ready-Mixed Concrete.

8. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar.
9. ASTM C150 – Standard Specification for Portland Cement.
10. ASTM C207 – Standard Specification for Hydrated Lime for Masonry Purposes.
11. ASTM C270 – Standard Specification for Mortar for Unit Masonry.
12. ASTM C478 – Standard Specification for Precast Reinforced Concrete Manhole Sections
13. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
14. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

C. American Welding Society:

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.

D. American Water Works Association:

1. AWWA C105 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
2. AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
3. AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
4. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
5. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in., for Water Distribution.

1.3 SUBMITTALS

- A. Product Data: Submit data on pipe materials, pipe fittings, valves and accessories.
- B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.

- B. Perform Work in accordance with local governing agency standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers with labeling in place.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All materials shall conform to the requirements of the local governing authority. The following shall govern in the absence of local requirements. The contractor shall verify local requirements prior to installation.
- B. Pipe bedding, unless otherwise indicated, shall be crushed stone or rounded gravel. Bedding material shall have 95% passing a 3/4" sieve and 95% retained on a No. 4 sieve; load factor shall be 1.9.
 - 1. Where ground is found unsuitable to support pipe, provide cradles of 2500 psi concrete full width of trench with two No. 4 reinforcing bars continuously along the bottom of the pipe.
- C. Backfill, unless otherwise noted, shall be coarse sand, fine gravel or earth having a low plasticity index, free of rocks, debris and other foreign materials and defined as all passing through a 3/8" sieve and not more than ten percent (10%) by volume passing through a 200 mesh sieve.
- D. Copper Tubing: ASTM B88, Type K, annealed:
 - 1. Fittings: ASME B16.18, cast copper, or ASME B16.22, wrought copper.
 - 2. Joints: Compression connection or AWS A5.8, BCuP silver braze.
- E. Iron castings shall conform to ASTM A-48, Class 30 Bearing surfaces between cast iron frames, covers and grates shall be machined, fitted together and match-marked to prevent rocking. System identifying letters 2" high shall be stamped or cast into all covers so that they may be plainly visible. Castings shall be manufactured by East Jordan Iron Works, Inc., Nee-nah Foundry Company or equal.
- F. Concrete and masonry materials for construction of water main structures shall consist of the following:
 - 1. Portland cement shall be standard brand of Portland cement conforming to ASTM C-150, Type I or IA.
 - 2. Fine and coarse aggregates for concrete shall be per ASTM C-33.
 - 3. Aggregate for cement mortar shall be clean, sharp sand conforming to ASTM C-144.
 - 4. Hydrated lime shall comply with ASTM C-207, Type S.
 - 5. Water shall be clean and free from deleterious materials.

6. Reinforcing steel for concrete shall be intermediate-grade new billet steel conforming to ASTM A-615, Grade 40.

2.2 CONCRETE AND MORTAR

- A. Concrete, unless otherwise noted, shall have compressive strength after 28 days of 3000 psi minimum, with a 3" maximum slump.
 1. Concrete fill below grade may be 2500 psi at 28 days.
 2. Concrete, where exposed to the weather, shall be air-entrained. Air entrainment shall be accomplished by the use of additives conforming to ASTM C-260. Air content shall be 6% + 1%. Additive shall be used strictly in accordance with Manufacturer's printed directions.
 3. Ready-Mix Concrete shall conform to the requirements of ASTM C-94.
- B. Mortar shall be as specified hereinafter. Use method of mixing mortar at job so that specified proportions of mortar materials can be controlled and accurately maintained during Work progress. Mortar shall not be mixed in greater quantities than required for immediate use. Use amount of water consistent with satisfactory workability. Re-tempering of mortar is not permitted.
 1. Mortar for laying brick or concrete masonry units shall conform to ASTM C-270, Type M, average compressive strength 2500 at 28 days. Mortar mix shall be proportioned by volume.
 2. Mortar for plastering shall consist of 1 part Portland cement and 2-1/2 parts sand.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify building service connection and municipal utility water main size, location, and invert are as indicated on Drawings.

3.2 PREPARATION

- A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare pipe connections to equipment with flanges or unions.

3.3 BEDDING

- A. Excavate pipe trench in accordance with Section 31 23 17 for Work of this Section.
- B. Form and place concrete for pipe thrust restraints at change of pipe direction. Place concrete to permit full access to pipe and pipe accessories.

- C. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6 inches compacted depth; compact to 95percent.
- D. Backfill around sides and to top of pipe with cover fill, tamp in place and compact to 95 percent.
- E. Maintain optimum moisture content of fill material to attain required compaction density.

3.4 INSTALLATION - PIPE

- A. Water main shall be installed in locations and of sizes on Drawings.
- B. Before being lowered into the trench, all pipe sections shall be inspected for defects and tapped with a light hammer to detect cracks. Defective, damaged or unsound pipe will be rejected and removed from the Site.
- C. When trench has been excavated to required depth, the bottom shall be tested to determine its suitability for pipe support. If trench bottom is not found suitable, provide concrete cradle support.
- D. Maintain 18 inches vertical clearance between water main and another utility in accordance with state or local code.
- E. Install pipe to indicated elevation to within tolerance of 5/8 inches.
- F. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- G. Install access fittings to permit disinfection of water system.
- H. Establish elevations of buried piping with not less than six (6) feet of cover.
- I. Install plastic ribbon tape continuous over top of pipe or trace wire as required by local governing agency.
- J. Install Work in accordance with local governing agency standards.

3.5 INSTALLATION - VALVES

- A. All valves shall be installed per local governing agency standards.
- B. Center and plumb valve box over valve. Set box cover flush with finished grade.
- C. Install Work in accordance with local governing agency standards.

3.6 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with local governing agency requirements.

3.7 FIELD QUALITY CONTROL

- A. Perform pressure test on domestic site water distribution system in accordance with local governing agency standards.

- B. Compaction Testing for Bedding: In accordance with ASTM D1557.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

****END OF SECTION****

STORM UTILITY DRAINAGE PIPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Storm drainage piping.
2. Accessories.
3. Catch basins.
4. Bedding and cover materials.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates: Aggregate for backfill in trenches.
2. Section 31 23 16 - Excavation: Product and execution requirements for excavation and backfill required by this section.
3. Section 31 23 17 - Trenching: Execution requirements for trenching required by this section.
4. Section 31 23 23 - Fill: Requirements for backfill to be placed by this section.
5. Section 33 05 13 - Manholes and Structures.
6. Section 33 46 00 - Subdrainage: Termination of subdrainage tile system for connection to Work of this Section.

1.2 REFERENCES

A. ASTM International:

1. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
2. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
4. ASTM D1785 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe
5. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

6. ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
7. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
8. ASTM D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
9. ASTM D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

1.3 SUBMITTALS

- A. Product Data: Submit data indicating pipe and pipe accessories.
- B. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents:
 1. Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.
 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

1.6 COORDINATION

- A. Coordinate the Work with termination of storm sewer connection outside building, trenching, and connection to municipal sewer utility service.

PART 2 PRODUCTS

2.1 STORM DRAINAGE PIPING

- A. Reinforced Concrete Pipe: ASTM C76, Class IV unless indicated otherwise on Drawings.
 1. Fittings: Reinforced concrete.
 2. Joints: ASTM C443, rubber compression gasket.

2.2 CATCH BASINS

- A. Catch Basin Lid and Frame Manufacturers:

1. East Jordan Iron Works, Inc.

2. Approved Equal.

B. Catch Basin Lid and Frame:

1. Construction: Cast iron construction as indicated on Drawings.

C. Shaft Construction and Cone Top Section: Reinforced precast Concrete pipe sections, lipped male/female joints, nominal shaft diameter as indicated on Drawings.

D. Base Pad: Cast-in-place concrete of type specified on Drawings.

2.3 CLEANOUTS

A. Cleanout Lid and Frame Manufacturers:

1. East Jordan Iron Works.

2. Approved Equal.

2.4 BEDDING AND COVER MATERIALS

A. Bedding: Fill Type A1 as specified in Section 31 05 16.

B. Cover: Fill Type A2, as specified in Section 31 05 16.

C. Soil Backfill from Above Pipe to Finish Grade: Soil Type A2, as specified in Section 31 05 16.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify trench cut and excavation is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

3.2 PREPARATION

A. Hand trim excavations to required elevations. Correct over excavation with fine aggregate.

B. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

3.3 BEDDING

A. Excavate pipe trench in accordance with Section 31 23 17 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.

- B. Place bedding material at trench bottom, level materials in continuous layers not exceeding 6 inches compacted depth, each layer. Place compacted bedding material to elevation of paving subgrade as indicated on Drawings.
- C. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 INSTALLATION - PIPE

- A. Install pipe, fittings, and accessories in accordance with ASTM D2321, ASTM C12 or manufacturer's published instructions, and state or local requirements. Seal joints watertight.
- B. Install pipe on minimum 6 inch bedding, ½" to 1 ½" crushed angular graded stone compacted to 95% maximum dry density per ASTM D1557.
- C. Lay pipe to slope gradients indicated on Drawings.
- D. Install aggregate at sides and over top of pipe. Provide top cover to minimum compacted thickness equal to paving subgrade indicated on Drawings.
- E. Refer to Section 31 23 23 for backfilling and compacting requirements. Do not displace or damage pipe when compacting.
- F. Refer to Section 33 05 13 for manhole requirements.
- G. Connect to municipal storm sewer system, manholes, catch basins, and inlets as indicated on Drawings.
- H. Connect to subdrainage tile system piping. Refer to Section 33 46 00.
- I. Install site storm drainage system piping to 5 feet of building.
- J. Install Work in accordance with local government standards.

3.5 INSTALLATION - CATCH BASINS

- A. Form bottom of excavation clean and smooth to elevation indicated on Drawings.
- B. Form and place cast-in-place concrete base pad, with provision for storm sewer to be placed at required elevations.
- C. Level top surface of base pad; sleeve concrete shaft sections to receive storm sewer pipe sections.
- D. Establish elevations and pipe inverts for inlets and outlets as indicated on Drawings.
- E. Mount grate and frame level, in grout, secured to top section to elevation indicated.
- F. Install Work in accordance with local government standards.

3.6 FIELD QUALITY CONTROL

- A. Request inspection prior to and immediately after placing aggregate cover over pipe.

- B. Compaction Testing: In accordance with ASTM D1557.
- C. When tests indicate work does not meet specified requirements, remove work, replace and retest.
- D. Frequency of Compaction Tests: One test for each 50 lineal feet of trench.
- E. Infiltration Test: Test in accordance with applicable local Public Works Department Standard Specifications and requirements.
- F. Deflection Test: Test in accordance with applicable local Public Works Department Standard Specifications and requirements.
- G. Pressure Test: Test in accordance with applicable local Public Works Department Standard Specifications and requirements.

3.7 PROTECTION OF FINISHED WORK

- A. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
 - 1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
 - 2. Repair or replace pipe that is damaged or displaced from construction operations.

****END OF SECTION****

SUBDRAINAGE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Retaining wall drainage system.

B. Related Sections:

1. Section 31 05 16 – Soils and Aggregates.
2. Section 33 41 00 - Storm Utility Drainage Piping: Connection to weep drainage system.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M252 – Standard Specification for Corrugated Polyethylene Drainage Pipe.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate dimensions, layout of piping, high and low points of pipe inverts, and gradient of slope between corners and intersections.

- B. Product Data: Submit data on pipe drainage products and pipe accessories.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record location of pipe runs, connections, cleanouts and principal invert elevations.

- B. Operation and Maintenance Data: Procedures for submittals.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with local governing agency standards.

PART 2 PRODUCTS

2.1 PIPE MATERIALS

- A. Furnish materials in accordance with local governing agency standards.

- B. HDPE corrugated polyethylene pipe: ASHTO M-252; Flexible type, with required fittings.

- C. Use perforated pipe at subdrainage system.

2.2 AGGREGATE AND BEDDING

- A. Filter Aggregate and Bedding Materials: Drainage aggregate as specified in Section 31 05 16.

2.3 ACCESSORIES

- A. Pipe Coupling: pre-fabricated coupling with solvent weld.
- B. Filter Fabric: Water pervious type, polyester; ADS Sock, or approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify excavated base is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

- A. Hand trim excavations to required elevations.
- B. Remove large stones or other hard matter which could damage drainage piping or impede consistent backfilling or compaction.

3.3 INSTALLATION

- A. Place drainage pipe on clean cut subsoil.
- B. Lay pipe to slope gradients noted on Drawings; with maximum variation from indicated slope of 1/8 inch in 10 feet.
- C. Place pipe with perforations facing down.
- D. Install pipe couplings.
- E. Install Drainage aggregate at sides, over joint covers and top of pipe.
- F. Place filter fabric over leveled top surface of aggregate cover prior to subsequent backfilling operations.
- G. Place aggregate in maximum 6 inch lifts, consolidating each lift.
- H. Refer to Section 31 23 23 for compaction requirements. Do not displace or damage pipe when compacting.

3.4 FIELD QUALITY CONTROL

- A. Request inspection prior to and immediately after placing aggregate cover over pipe.
- B. When inspections indicate work does not meet specified requirements, remove work, replace and retest.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Protect pipe and aggregate cover from damage or displacement until backfilling operation begins.

****END OF SECTION****