

Project Manual For

**COMMUNITY HIGH SCHOOL DISTRICT 99**

Project No. 07-5274-36A

**Downers Grove South – Electrical Work**

Prepared For

**COMMUNITY HIGH SCHOOL DISTRICT 99**

1436 Norfolk Street

**DOWNERS GROVE, IL 60516**

**BID PACKAGES-GROUP 1**

**Bid Package # 01.....Electrical**

January 04, 2017



DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00010 - TABLE OF CONTENTS

Project: Community High School District 99  
Downers Grove South- Electrical Work  
Project No. 07-5274-36A

Owner: Community High School District 99  
4436 Main St.  
Downers Grove, IL 60515

Architect: Wight & Company  
2500 North Frontage Road  
Darien, Illinois 60561

Date: January 4, 2017

<u>SECTION</u>	<u>TITLE</u>	<u>PAGES</u>
<u>DIVISION 0 - BIDDING &amp; CONTRACT REQUIREMENTS</u>		
00010	Table of Contents	00010-1-2
00200	Notice to Bidders	00200-1-3
00201	General Provisions	00201-1-38
00280	Prevailing Wage Rates	00280-1-6
00300	Scope Document	00300-1-7
00301	Bid Form Bid Package #01 –Electrical	00301-1-18

DIVISION 1 - GENERAL CONDITIONS

01010	Summary of Work	01010-1-5
01025	Payment, Modification & Completion Procedures	01025-1-6
01200	Progress Documentation & Procedures	01200-1-5
01250	Construction Schedule	01250-1-1
01300	Submittals	01300-1-6
01400	Quality Control Procedures	01400-1-3
01510	Temporary Utilities	01510-1-2
01600	Product Requirements	01600-1-7
01630	Product Options & Substitutions	01630-1-4
01700	Construction Procedures	01700-1-10
01800	Project Record Documents	01800-1-3
017419	Construction Waste Management and Disposal	017419-1-7

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00010 - TABLE OF CONTENTS

DIVISION 26 – ELECTRICAL

260500	Common Work Results for Electrical
260519	Low Voltage Electrical Power Conductors and Cables
260526	Grounding and Bonding For Electrical
260533	Raceway and Boxes for Electrical Systems
260553	Identification for Electrical Systems
261000	Electric Utility Service
262200	Low Voltage Transformers
262413	Switchboards
262416	Panelboards
264313	Surge Protection for Low-Voltage Electrical Power Circuits

**END OF SECTION 00010**

**NOTICE TO BIDDERS:**

Notice is hereby given that *Community High School District 99* is accepting sealed bids for *the Downers South High School Electrical Work*. Such proposals as herein concerned shall be for the following as described:

**BID GROUP NO. 1 BID PACKAGE #01:**

Bid Package #01 – Electrical

SEALED BIDS will be received by *Community High School District 99* at the place, date and time stated below and publicly opened and read there:

**PLACE:**  
Administrative Center  
6301 Springside Avenue  
Downers Grove, IL 60516

**DUE DATE:**  
Wednesday, January 18, 2017

**TIME:**  
1:00 PM (CST)  
(as Date/Time stamped by  
District 99's Receptionist)

All bids must be sealed and marked on the envelope with the bid package title and bid package number.

Pre-qualification of all bidders in this bid group is required prior to the bid due date. Submit one fully executed copy of AIA Document A305 "Contractor's Qualification Statement" prior to submitting this bid form. In addition to supplying this form, each trade Contractor is also required to answer the following questions and provide these answers with your AIA Document A305.

The Construction Manager for this project is Wight Construction, Inc. All questions concerning this project or those concerning bidding requirements should be directed to Craig Polte at 630-918-8120. Questions must be received in writing, or via email ([cpolte@wightco.com](mailto:cpolte@wightco.com)), until 10:00 AM, Friday, January 13, 2017.

The competency, experience and responsibility of the bidders will be considered in making awards. Bid security in the form of a Bid Bond, certified or Bank Draft in the amount equal to not less than 10% of the bid and made payable to Community High School District 99.

All Contracts for the Construction of Public Works are subject to the Illinois Prevailing Wage Act (820 ILCS 130/1-12).

A non-mandatory building walk thru will be held at the Downers Grove South High School on Wednesday, January 11, 2016 at 7:00 AM. Walk thru will start at the maintenance shop located on the north side of the school by the loading dock. Bidders can also make arrangements to visit the site by contacting Craig Polte at 630-918-8120.

DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00200 –NOTICE TO BIDDERS

The Board of Education of District #99 reserves the right to accept or reject any or all bids.

- 1) Plans and Specifications can be viewed or downloaded electronically via ISQFT.com Please send email to [cpolte@wightco.com](mailto:cpolte@wightco.com) to receive electronic invitation after 2:00 PM on Wednesday, January 4, 2017.

<b><u>COMMUNITY HIGH SCHOOL DISTRICT 99 SOUTH ELECTRICAL WORK</u></b>		
<b><u>SHEET INDEX FOR BID GROUP 1</u></b>		
	<b><u>DOWNERS GROVE SOUTH ELECTRICAL WORK</u></b>	
	<b><u>GENERAL</u></b>	
G0.0	Cover Sheet, Index, Team, Location Map	1/4/17
G1.0	Basement Floor Reference Plan	1/4/17
G1.1	First Floor Reference Plan	1/4/17
	<b><u>ELECTRICAL</u></b>	
E0.1	Notes and Symbols	1/4/17
E1.1	First Floor Electrical Plan	1/4/17
E1.2	Power Floor Plan Basement	1/4/17
E3.1	Riser Diagrams	1/4/17
E4.1	Panel Schedules	1/4/17

This invitation is issued in the name of *Community High School District 99*

**END OF SECTION 00200**

**1.0 In General**

This section contains provisions governing the rights and responsibilities of the Construction Manager and each of its Subcontractors. Each Subcontractor shall be bound by the provisions of this section as if the provisions were contained in the subcontract between the Construction Manager and the individual Subcontractor.

**1.1 Execution, Correlation and Intent**

- 1.1.1 Execution of the Contract by the Subcontractor is a representation that the Subcontractor has visited the site, become familiar with the local conditions under which the Work is to be performed and correlated personal observations with the requirements of the Contract Documents.
- 1.1.2 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Subcontractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all; performance by the Subcontractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- 1.1.3 Organization of the Specifications into divisions, sections and articles and the arrangement of Drawings shall not control the Subcontractor in dividing the work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- 1.1.4 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.
- 1.1.5 Should discrepancies appear among the Contract Documents or between the Contract Documents and existing conditions, the Subcontractor shall request an interpretation from the Construction Manager before bidding. If the Subcontractor fails to make such request, it is presumed that both provisions were included in the bid and the Construction Manager shall determine which of the conflicting requirements shall govern. The Subcontractor shall perform the Work at no additional cost to the Owner in accordance with the Construction Manager's determination. Where conflicts exist between or within the Contract Documents and applicable standards, codes, ordinances or manufacturer's recommendations, and clarification has not been requested from the Construction Manager prior to bidding as provided for above, the more stringent or higher quality standard shall prevail. Large-scale drawings shall take precedence over small-scale drawings, figured dimensions on the drawings over scaled dimensions and noted material over graphic representations.
- 1.1.6 The Subcontractor shall provide all work and materials which any section or part of the Drawings, Specifications or conditions require him to provide regardless of whether such requirement is or is not faithfully repeated in other parts of documents thereof to which the provision might be appropriate

**2.0 Subcontractor's Responsibilities**

- 2.1 Subcontractor's Work. Subcontractor shall furnish all labor, materials and equipment, provide supervision, and direct the work, inspect, test, and provide tools, construction equipment and specialty items necessary to execute and complete construction of the Subcontract Work. Subcontractor warrants that it has inspected the site and has satisfied itself regarding all conditions affecting the Subcontract Work and the meaning and intention of the Subcontract Documents. Subcontractor is solely responsible for the means, methods, techniques, sequences and coordination of the Subcontract Work.
- 2.2 Review of Contract Documents and Field Conditions by Subcontractor. The Subcontractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner and shall at once report to the Construction Manager errors, inconsistencies or omissions discovered. The Subcontractor shall not be liable to the Owner or Construction Manager for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Subcontractor recognized such error, inconsistency or omission and knowingly failed to report it to the Construction Manager. If the Subcontractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Construction Manager, the Subcontractor shall assume responsibility for such performance and shall bear the amount of the attributable costs for correction.
- 2.3 The Subcontractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Subcontractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Construction Manager at once.
- 2.4 The Subcontractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 2.14.
- 2.5 Supervision and Construction Procedures. The Subcontractor shall supervise and direct the Work, using the Subcontractor's best skill and attention. The Subcontractor 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 Contract Documents give other specific instructions concerning these matters.
- 2.6 The Subcontractor shall be responsible to the Construction Manager for acts and omissions of the Subcontractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Subcontractor.
- 2.7 The Subcontractor 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 in the Construction Manager's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Subcontractor.
- 2.8 The Subcontractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.9 Workmanship and Construction Equipment. The Subcontract Work shall be executed in accordance with the provisions of the Subcontract and in a thorough, first-class, sound, workmanlike, safe, and substantial manner. All construction equipment shall be in first-class operating condition, safe, fit for the uses for which intended, and suitable for the safe and efficient performance of the Subcontract Work. Subcontractor agrees to perform the Subcontract Work and provide construction equipment to the satisfaction and approval of Construction Manager.
- 2.10 Protection of the Work. The Subcontractor shall take necessary precautions to properly protect the Subcontractor's Work and the work of others from damage caused by the Subcontractor's operations. Should the Subcontractor cause damage to the Work or property of the Owner, the Construction Manager or others, the Subcontractor shall promptly remedy such damage to the satisfaction of the Construction Manager, or the Construction Manager may remedy the damage and deduct its cost from any amounts due or to become due the Subcontractor, unless such costs are recovered under applicable property insurance.
- 2.11 Compliance with Law
- 2.11.1 The Subcontractor shall conform to all Illinois statutory requirements, including, but not limited to, the following Acts:
- 2.11.1.1 Equal Employment Opportunity - Applicable Laws. Employment opportunities shall be free from discrimination. The prohibition in employment discrimination contained in 775 ILCS 10/1 is incorporated into the Contract and is intended to insure compliance with the applicable laws and with the Illinois Department of Human Rights Rules and Regulations for Public Contracts (44 Ill. Admin. Code, Ch. X, §750 Appendix A) (to the extent constitutionally required).
  - 2.11.1.2 The Human Rights Act, as amended, Administrative Rules promulgated by the Illinois Human Rights Commission to the extent constitutionally required.
  - 2.11.1.3 An Act to prohibit unjust discrimination in employment because of age and providing penalties, as amended. 775 ILCS 5/1-101.
  - 2.11.1.4 An Act to give preference to veterans of the United States Military and Naval Service in appointments and employment upon public works by, or for the use of the State or its political subdivisions, as amended. 330 ILCS 55/1, et seq.
  - 2.11.1.5 The Service Men's Employment Tenure Act. 330 ILCS 60/1, et seq.
  - 2.11.1.6 In no event shall minors be employed except as authorized under an Act to regulate the employment of children. 820 ILCS 205/1, et seq.
  - 2.11.1.7 An Act requiring employment of Illinois Workers on public works projects, as amended, to the extent constitutionally required. 30 ILCS 570/1, et seq.
  - 2.11.1.8 The Worker's Compensation Act, as amended. 820 ILCS 305/1, et seq.
  - 2.11.1.9 Certification required by the Drug-Free Workplace Act. 30 ILCS 580/1, et seq.



DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.11.1.10 The Subcontractor, by executing this Agreement, certifies that it is not barred from contracting with any unit of state or local government as a result of a violation of §33E-3 or §33E-4 of 720 ILCS 5/33E-1, et seq.
- 2.11.1.11 Where bid specifications do not require a current license and the contract is capable of securing a license before commencement of the project. (The deficiency is waivable).
- 2.11.1.12 Compliance with Illinois Drug-Free Workplace Act (Ill. Rev. Stat., ch 127,par.)
- 2.11.1.13 Employment of Illinois Workers on Public Works Act, 30ILCS 570/0.01 et.al.
- 2.11.2 Prevailing Wage Act
  - 2.11.2.1 Subcontractor shall pay the then prevailing rate of wages for the county where the project is to be located, as established by the Illinois Department of Labor for each craft or type of worker needed to execute the contract in accordance with 820 ILCS 130/0.01, et seq.
  - 2.11.2.2 The Subcontractor shall prominently post the current Schedule of Prevailing Wages at the project site, and shall notify immediately in writing all of its Subcontractors, etc., of all changes in the Schedule of Prevailing Wages.
  - 2.11.2.3 Any increases in costs to the Subcontractor due to changes in the prevailing rate of wages or labor law during the term of any contract shall be at the expense of the Subcontractor and not the expense of Construction Manager or Owner.
  - 2.11.2.4 Change Orders shall be computed using the prevailing wage rates applicable at the time the change order work is scheduled to be performed.
  - 2.11.2.5 Project Expenses. Subcontractor shall maintain, for a minimum of five years after the completion of the contract, adequate books, records, and supporting documents to verify the amounts, receipts, and uses of all disbursements of funds passing in conjunction with the contract. Those records shall be available for review and audit by the Owner. The Subcontractor agrees to cooperate fully with any such audit and shall provide full access to all relevant materials.
  - 2.11.2.6 Subcontractor shall comply with federal, state and local tax laws, social security acts, and unemployment compensation acts insofar as applicable to the performance of the Subcontract.
- 2.11.3 Subcontractor shall secure and pay for permits and governmental fees, license and inspections necessary for the proper execution and completion of the Subcontract Work.
- 2.11.4 Subcontractor represents it has a valid license authorizing it to do business within the political unit or municipality of the Project site if such license is required and agrees to maintain same throughout the duration of the Subcontract Work at its expense.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.11.5 Subcontractor shall submit to Construction Manager within five days of notification, Subcontractor payroll documentation as proof of prevailing wage compliance.
- 2.12 Accounts and Schedule of Values. Subcontractor shall keep such accounts as may be necessary for financial management under the Subcontract. Subcontractor shall base its Applications for Payment on the Verified Schedule of Values provided to Construction Manager in the bid documents unless Subcontractor and Construction Manager agree to a different Schedule of Values. In the event the Schedule of Values is changed as a result of a Change Order, a new Schedule of Values will be provided to Construction Manager and shall be used for all subsequent Applications for Payment.
- 2.13 Cooperation/Coordination
- 2.13.1 Subcontractor shall cooperate and coordinate work with Construction Manager, Owner and other Subcontractors in scheduling and performing the Subcontract Work to avoid conflict, delay or interference in the Project or in the work of Construction Manager, Owner or other Subcontractors. Subcontractor shall avoid interference with the operation of adjacent facilities, streets, sidewalks, railroad tracks and utilities.
- 2.13.2 If any part of the Subcontract Work depends on timely and proper execution or results of the work of Construction Manager, Owner or other Subcontractors, Subcontractor shall promptly report any delays, discrepancies or defects in such other work to Construction Manager in writing before proceeding with the Subcontract Work. Subcontractor's failure to make such reports shall constitute acceptance of such other work as being fit, proper, and ready to receive the Subcontract Work.
- 2.13.3 If the Subcontract Work takes place in or around an existing facility, Subcontractor shall abide by the Owner's rules for the facility; Subcontractor's access to the facility will be restricted to those areas which are the subject of the Subcontract Work; and there shall be no interruption in Owner's operating systems, equipment or utilities without the written authorization of Construction Manager.
- 2.13.4 Subcontractor shall protect benchmarks and monuments whether of record or by other Subcontractors, and replace same if damaged by Subcontractor.
- 2.13.5 Subcontractor shall use the site entrances and staging and parking areas (if available) designated by Construction Manager.
- 2.14 Submittals
- 2.14.1 Subcontractor shall prepare or cause to be prepared, all shop drawings, samples, and other submittals, which are required by the Subcontract Documents or are necessary to the performance of Subcontractor's obligations hereunder. Such submittals shall bear the Subcontractor's approval stamp and shall be submitted to Construction Manager in accordance with the Subcontract Schedule and in any case in time to permit adequate review by the Construction Manager and in such sequence as to cause no delay in the Project or in the work of Owner, Construction Manager or Construction Manager's other Subcontractors. All required submittals shall be transmitted to the Construction Manager according to the master project schedule or as adjusted upon a mutually agreed schedule revision. This Subcontractor acknowledges and agrees to a \$100.00 per day back-charge for each working day beyond the agreed to date that these documents are not submitted to Construction Manager.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.14.2 By approving and forwarding submittals, Subcontractor represents that it has determined and verified all materials, field measurements, and field construction criteria related thereto, and that it has checked and coordinated the information contained within such submittals with the requirements of the Subcontract Work and of the Subcontract Documents.
- 2.14.3 Subcontractor shall not be relieved of responsibility for any deviation from the requirements of the Subcontract Documents or for errors or omissions in the approval of submittals by the Architect.
- 2.14.4 Subcontractor shall direct specific attention, in writing or on resubmitted submittals, to revisions other than those requested by the Architect on previous submittals.
- 2.14.5 No portion of the Subcontract Work shall be commenced until the submittals required by the Subcontract Documents have been reviewed and approved by the Architect for conformance with the design concept of the Subcontract Work and information given in the Subcontract Documents. Commencement of the Work prior to review and approval of the submittals by the Architect shall constitute an absolute warranty of sufficiency by Subcontractor. Approval of submittals by the Architect shall in no way relieve Subcontractor of any warranty or responsibility concerning the submittals.
- 2.15 Royalties and License Fees. Subcontractor shall pay royalties and license fees required by the Subcontract Work. Subcontractor shall defend suits or claims for infringement of patent or copyrights and shall defend, indemnify and save Construction Manager and Owner harmless from loss on account thereof.
- 2.16 Clean Up. Subcontractor shall keep the premises in which Subcontract Work is performed, or which is used or affected by the Subcontractor, free from the accumulation of trash and other debris caused by its operations. If Subcontractor fails to comply with this Section within twenty-four (24) hours after receipt of notice of noncompliance from Construction Manager, Construction Manager may perform such necessary clean up and deduct the costs for same from any amounts due or to become due to Subcontractor. Within five (5) days of completion of the Subcontract Work, Subcontractor shall remove its tools, surplus materials, temporary construction, construction equipment and machinery from the Project site and leave the premises "broom clean," or cleaner if so provided in the Subcontract Documents.
- 2.17 Record Drawings. Subcontractor shall maintain one reproducible record copy of the drawings, specifications, product data, samples, shop drawings, Change Orders and other modifications, in good order at the site. They shall be marked currently to record changes made during construction. They shall be delivered to the Construction Manager within ten working days of substantial completion. This Subcontractor acknowledges and agrees to a \$100.00 per day back-charge for each day these documents are not submitted to Construction Manager after the aforementioned to working day period. They shall become the property of Owner upon completion of the Subcontract Work or termination under Article 10 of this Agreement.
- 2.18 Reports and Communication. Subcontractor shall furnish Construction Manager with periodic progress reports on Subcontract Work as requested, including information on the status of materials and equipment which may be in the course of preparation, manufacture or delivery. Subcontractor's communications concerning the Subcontract Work shall be exclusively with Construction Manager.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.19 Property. Subcontractor shall take necessary precautions to protect Owner's property, its property, the Subcontract Work, and the work and property of other Construction Manager Subcontractors, whether located on or off the Project site from damage or loss caused by operations under the Subcontract. Subcontractor shall also take the necessary precautions to protect property off the Project site from damage or loss caused by its operations including, but not limited to, adjacent facilities, streets, sidewalks, and utilities. Subcontractor shall be responsible for damages or loss caused by its operations.
- 2.20 Representative. Five (5) days prior to commencement of the Subcontract Work, Subcontractor shall furnish to Construction Manager written designation of its representative who shall be at the site to represent Subcontractor, and to receive notices, orders and instructions on Subcontractor's behalf, and to be in charge of and responsible for Subcontract Work. Subcontractor's representative shall be competent, fully acquainted with the Subcontract Work, and have the authority to approve changes in the Subcontract Work. Subcontractor's representative shall render approvals and decisions promptly and furnish information expeditiously and in time to meet the dates set forth in the Subcontract Schedule. Construction Manager reserves the right to reject any Subcontractor representative, at which time Subcontractor shall have five (5) working days to provide adequate representative acceptable to Construction Manager
- 2.21 Labor
- 2.21.1 Subcontractor shall supply a sufficient and adequate number of properly and jurisdictionally skilled workmen and competent supervisors to insure the prompt and efficient performance of the Subcontract Work in accordance with the Subcontract Schedule.
- 2.21.2 Subcontractor shall give proper consideration to any collective bargaining agreements which may affect the Subcontract Work or other work at the site. Subcontractor shall perform the Subcontract Work in compliance with the provisions of any collective bargaining agreements binding upon it, shall not interfere with or cause the breach of any collective bargaining agreements to which Subcontractor is not signatory. Subcontractor shall plan and conduct its operations so that its employees will work in a harmonious relationship with other labor at the site. Subcontractor shall take any action necessary to assure that there will be no delays, work stoppages, excessive labor costs or other labor difficulties of any kind due to, or arising out of, any such agreements or due to, or arising out of any labor disputes.
- 2.21.3 Subcontractor shall defend and indemnify Construction Manager and Owner against all claims resulting from failure by Subcontractor to comply with Section 2.14. Subcontractor assumes all responsibility for any loss or damage attributable to any labor difficulty of any kind caused by or involving Subcontractor or its employees.

- 2.21.4 Kotecki Waiver: Subcontractor (and any Subcontractor into whose subcontract this clause is incorporated) agrees to assume the entire liability for all personal injury claims suffered by its own employees, including without limitation claims suffered by its own employees asserted by persons allegedly injured on the Project; waives any limitation of liability defense based upon the Worker's Compensation Act, court interpretations of said Act or otherwise; and agrees to indemnify and defend Owner, Design Professional and Construction Manager and their agents, employees and consultants ("the indemnities") from all such loss, expense, damage or injury, including reasonable attorney's fees, that the indemnities may sustain as a result of such claims, except to the extent that Illinois law prohibits indemnity for the indemnities' own negligence.
- 2.22 Safety of Persons and Property
- 2.22.1 The Subcontractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:
- 2.22.1.1 employees on the Work and other persons who may be affected thereby;
- 2.22.1.2 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 Subcontractor or the Sub-subcontractors; and
- 2.22.1.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 2.22.2 The Subcontractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.
- 2.22.3 The Subcontractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.
- 2.22.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Subcontractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- 2.22.5 The Subcontractor 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 Clauses 2.21.1.2 and 2.21.1.3 caused in whole or in part by the 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 Subcontractor is responsible under Clauses 2.21.1.2 and 2.21.1.3, except damage or loss attributable to acts or omissions of the Owner or Construction Manager or anyone directly or indirectly employed by either of them, or by anyone for whose acts either or them may be liable, and not attributable to the fault or negligence of the Subcontractor.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.22.6 The Subcontractor shall designate a responsible member of the Subcontractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Subcontractor's superintendent unless otherwise designated by the Subcontractor in writing to the Owner and Construction Manager.
- 2.23 Emergencies
- 2.22.1 In an emergency affecting safety of persons or property, the Subcontractor shall act, at the Subcontractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Subcontractor on account of an emergency shall be determined per the contract documents.
- 2.24 Safety Precautions and Procedures
- 2.24.1 Subcontractor shall be solely and exclusively responsible for protecting its employees and all other persons from risk of death, injury or bodily harm arising out of or in any way connected with the Subcontract Work. Subcontractor shall furnish a written designation of a representative responsible for implementation and enforcement of Subcontractor's safety program. This representative shall be at the site whenever Subcontract Work is being performed.
- 2.24.2 Subcontractor shall furnish the Construction Manager's Project Safety Manager with the past 3 years OSHA 200 Logs, Incident Rates, and Lost Work Day Rates for review.
- 2.24.3 Subcontractor agrees to comply with all applicable federal, state, city and county laws, ordinances, rules and regulations for the safety of persons or property in the performance of the Subcontract Work including, but not limited to, the requirements of the Occupational Safety and Health Act of 1970, and amendments, and regulations promulgated and issued pursuant thereto. Failure to comply may result in fines to be assessed as back-charges.
- 2.24.4 Subcontractor shall develop and enforce a written safety program to ensure compliance with the obligation under Section 2.23. Contractor shall submit this written safety program to Construction Manager with ten days of award notification. Construction Manager will review the program for the limited purpose of determining that Subcontractor has a legitimate program. Construction Manager will not review the program to determine its adequacy. Construction Manager will monitor Subcontractor's program at the site in connection with Construction Manager's general inspection functions. Construction Manager's review of such program or monitoring of Subcontractor's enforcement efforts does not in any way absolve Subcontractor from its sole responsibility for safety. Subcontractor shall report any injury to an employee, agent, supplier, or material men to Construction Manager within twenty-four (24) hours of its occurrence and provide Construction Manager with a copy of its safety/incident report.
- 2.24.5 Subcontractor shall provide sufficient, safe and proper facilities, labor and material needed for the access and inspection of Subcontractor's Work by Construction Manager, Owner and other Subcontractors.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 2.24.6 Subcontractor agrees to comply with the "Hazard Communication Standard" of the Occupational Safety and Health Administration. To the extent required by such standard, Subcontractor will adopt and implement a written hazard communication program to protect its employees from potential exposure of hazardous chemicals at the job site and will provide lists or inventories of hazardous chemicals in its possession at the job site, warning and handling labels for such chemicals, and material safety data sheets for such chemicals to Construction Manager.
  - 2.24.7 When the use or storage of explosives or other hazardous materials or equipment is necessary for execution of the Subcontract Work, Subcontractor shall carry on such activities with properly qualified personnel under properly qualified supervision.
  - 2.24.8 Subcontractor shall abide by its safety program and procedures, or those of the Construction Manager, whichever is most stringent. A copy of the Construction Managers Safety Program will be provided to the Subcontractor.
  - 2.24.9 Subcontractor shall provide for protection of persons and for vehicle passing around or through the work area of this Subcontractor.
  - 2.24.10 Subcontractor shall adopt the Construction Manager's Drug and Alcohol Program to include pre-employment, post accident, random and suspicion drug testing. All non-negative testing results will disqualify a contractor's employee from working on the project. The Construction Manager's Drug and Alcohol Program is included in the Project Safety Manual. All expenses associated with the Drug and Alcohol Program are the requirement of the subcontractor. Subcontractor shall provide sufficient evidence of negative drug testing results to the Project Safety Manager prior to a contractor's employee being admitted to the project site.
- 2.25 Warranties
- 2.25.1 Subcontractor warrants to Construction Manager and Owner that all materials and equipment furnished under its contract will be new, unless otherwise specified, and that all construction work will be of first-class quality, free from improper workmanship and defective materials, and fit for the purpose intended. Subcontractor agrees to correct all Contract Work performed and material supplied by it under its contract which proves to be defective in material or workmanship within a period of one (1) year from the date of Substantial Completion as defined in Paragraph 5.3 or for such longer period of time as may be provided in the Contract Documents. Any warranty or guarantee obtained by Subcontractor from any manufacturer shall be deemed to have been obtained for the benefit of Construction Manager and Owner. This warranty shall be in addition to all other warranties and remedies, expressed or implied, under the law.
  - 2.25.2 Subcontractor shall collect all equipment manuals and deliver them to Construction Manager upon completion, together with all written warranties or guarantees from equipment manufacturers.

- 2.26 Field Office. Subcontractor shall provide any office or storage trailer complete with all necessary utilities, gas, telephone and water needed for its own use. Location of such facilities shall be subject to approval by Construction Manager and shall be subject to relocation at Subcontractor's expense. Any temporary installation required for these facilities shall be paid for by Subcontractor. Subcontractor shall be responsible for the security and protection of its materials, equipment and tools.
- 2.27 Equipment and Materials
- 2.27.1 Subcontractor shall be responsible for arranging for the shipment of materials and equipment which it is to provide to the Project site and shall consign all such shipments to itself as consignee at the Project shipping address, freight fully prepaid. Subcontractor shall make all delivery payments promptly, including any demurrage charges.
- 2.27.2 Subcontractor shall advise Construction Manager in advance of all major shipments of equipment and materials, and shall coordinate the arrival and unloading of same with Construction Manager.
- 2.27.3 Subcontractor shall promptly unload its shipments and promptly release its carrier's equipment. In the event Subcontractor is unable to promptly unload a shipment, Subcontractor shall notify Construction Manager of such inability not less than five (5) working days in advance of the shipment's arrival. Construction Manager, at its sole option, may unload or make arrangements for others to unload such shipments and Subcontractor will be responsible for the cost thereof.
- 2.27.4 If Construction Manager or Owner is to furnish materials or equipment to Subcontractor for the Subcontract Work, Subcontractor shall notify Construction Manager sufficiently in advance of the date they are needed to permit Construction Manager or Owner to accomplish their delivery by the date needed. Such materials and equipment shall be unloaded and received by Subcontractor in the presence of Construction Manager's authorized representative and the quantities thereof shall be checked jointly by Subcontractor and Construction Manager. The delivery and acceptance of all such materials and equipment shall be recorded in writing and Subcontractor shall sign forms satisfactory to Construction Manager to acknowledge receipt and acceptance of such materials and equipment. Subcontractor shall note any damage to Construction Manager or Owner furnished materials and equipment prior to Subcontractor's acceptance of delivery. Subcontractor shall notify Construction Manager of any materials and equipment supplied to Subcontractor by Construction Manager or Owner which are surplus and shall cooperate with Construction Manager and Owner in the disposition of such surplus as directed by Construction Manager. In the event of misfit of Construction Manager or Owner furnished materials or equipment, Subcontractor shall promptly notify Construction Manager, take steps to avoid standby time due to such misfit, and continue to progress with other portions of the Subcontract Work pending correction of such misfit.
- 2.27.5 Subcontractor shall store and install all materials and equipment necessary for the Subcontract Work in such a way as to preserve their quality and fitness which includes, but is not limited to, actions required to protect same from damage due to weather, fire, theft, and construction operations. This responsibility begins when Subcontractor accepts delivery of the materials and equipment procured by it or Construction Manager and continues until Substantial Completion.



2.28 Layout. Subcontractor shall provide such layout as is necessary for completion of the Subcontract Work from basic control points and benchmarks provided by Construction Manager.

**3.0 Construction Manager's Responsibilities and Rights**

- 3.1 Construction Manager shall sequence, and coordinate activities of the Subcontractors in accordance with the latest approved construction schedule.
- 3.2 Information. Construction Manager will make information which affects the Subcontract Work and which becomes available to Construction Manager promptly available to Subcontractor.
- 3.3 Instructions. Construction Manager shall give instructions or orders only to persons designated as authorized representatives of the Subcontractor.
- 3.4 Contractor shall accept instructions or orders only from persons designated as authorized representatives of Construction Manager.
- 3.5 Stop Work Orders. Construction Manager may order the Subcontract Work or any portion thereof stopped when Subcontractor fails to correct work not in conformance with the Subcontract Documents or fails to supply adequate labor, materials or construction equipment until the cause for such order has been eliminated. Construction Manager's failure to exercise this right does not absolve Subcontractor of its responsibilities.
- 3.6 Completing and Correcting Work. After giving twenty-four (24) hours' notice to Subcontractor, Construction Manager may complete or correct any part of the Subcontract Work which Subcontractor has neglected to show itself otherwise unable to expeditiously complete or correct and deduct the cost of doing so from Subcontractor's payments. If the work not accomplished involves more than one Subcontractor, the cost will be divided in accordance with Construction Manager's determination. Construction Manager may avail itself of the above procedure and of such other rights and remedies which are available under its subcontract, applicable law, or both.

**4.0 Subcontracts**

- 4.1 Selection of Subcontractors. Subcontractor shall submit to Construction Manager a list of its Subcontractors and material men with a description of the corresponding items of work within ten (10) days of execution of this Agreement and in any event prior to commencing the Subcontract Work if it has not previously submitted same with its bid submittal. Construction Manager reserves the right to approve or disapprove any organization listed thereon for any reason. The list shall be updated as necessary by Subcontractor. Subcontractor shall select competent Subcontractors and shall be responsible for the management of its Subcontractors' performance of their work.

- 4.2 Sub-Subcontractor's Contract. No contractual relationship shall exist between Owner or Construction Manager and any of Subcontractor's Subcontractors. Subcontractor shall use an appropriate written subcontract for its Subcontractors under which its Subcontractors assume all obligations and responsibilities Subcontractor has assumed toward Construction Manager and Owner under the Subcontract Documents including, but not limited to, naming Construction Manager and Owner as additional insured's as required at Paragraph 8.2.1.4.6 and satisfying all other requirements of Section 8.2.

**5.0 Subcontractors Construction Scheduling**

5.1 Schedule

- 5.1.1 Subcontractor shall accomplish the Subcontract Work within the period of time set forth in the Subcontract Documents (Project Manual Section 01010) and as indicated in the Subcontractor's Schedule prepared pursuant to this Section. Within ten (10) days after execution of this Agreement or prior to commencing the Subcontract Work, whichever occurs first, Subcontractor shall propose a schedule in a form and content acceptable to which minimally includes durations, planned crew sizes, planned procurement dates, and planned submission dates of required submittals.
- 5.1.2 Subcontractor's proposed Schedule shall anticipate the usual amount of delay from all causes encountered in the locale of the site and for the type of work involved. Construction Manager shall review the proposed Schedule and make such revisions as are necessary to make it consistent with the Schedule for the Project. Subcontractor will perform in accordance with the Subcontract Schedule which is approved by Construction Manager.
- 5.1.3 Construction Manager reserves the right to modify the construction schedule. The subcontractor shall adjust their material procurement and on-site activities in accordance with the Construction Managers revised schedule.

5.2 Subcontract Time

- 5.2.1 The Subcontract Work to be performed under the Subcontract shall commence, progress, and be completed in accordance with the Subcontract Schedule provided pursuant to Paragraph 5.1.2. Time is of the essence.
- 5.2.2 The term day, as used in the Subcontract Documents, shall mean calendar day, unless otherwise specifically designated.

5.3 Substantial Completion and Commencement of Warranties

- 5.3.1 The date of Substantial Completion of the Project, or a designated portion thereof, is the date when construction is sufficiently complete in accordance with the drawings and specifications so Owner can occupy or utilize, or in fact does occupy or utilize this Project, or designated portion thereof, for the use for which it is intended.
- 5.3.2 The date of Substantial Completion shall be established by a Certificate of Substantial Completion signed by the Owner and Construction Manager.
- 5.3.3 Owner shall have the right to occupy or use that portion of the Project which has been found to be substantially complete and Subcontractor shall not be entitled to any extra compensation on account of Owner's occupancy or use, nor shall Subcontractor be relieved of any of its responsibilities, including the required times of completion.

5.3.4 Warranties or guarantees called for by the Subcontract, or by the drawings and specifications and addenda attached as Exhibit 1, shall commence on the date of Substantial Completion of the Project, or designated portion thereof, as reflected by the Certificate of Substantial Completion.

5.4 Delays

5.4.1 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by causes inherent in the Subcontract Work's scope and complexity and in the locale of the Project site, Subcontractor shall overcome such delays, using premium time if necessary at no additional cost to Construction Manager. Subcontractor agrees it will make no claim for damages of any sort or schedule extensions for delays of this nature. Subcontractor acknowledges the Subcontract Price and Subcontract Schedule are based on the fact it shall not recover such damages or costs and shall not be given extensions for such delays.

5.4.2 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by Construction Manager, Owner, or any separate Subcontractor employed by either of them, or by the action of any governmental or regulatory body, or by changes ordered in the Subcontract Work or by labor disputes not directly involving Subcontractor's employees, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, acts of God or any causes beyond the control of Subcontractor, then the Subcontract Schedule may be extended by Change Order for the period of such delay. The time extensions shall be solely determined and fixed by Construction Manager and contingent on Owner's approval, but no such extension shall be made unless a written claim with detailed substantiation therefore is presented to Construction Manager within five (5) days of occurrence causing the delay. Except as provided in Paragraph 5.4.3. Subcontractor shall have no claim against Construction Manager or Owner for damages or additional costs for its direct material and labor costs, its indirect job site costs, extended overhead, disruption and financing costs, lost profits, consequential damages, or other compensation for such delays. Subcontractor acknowledges that the Subcontract Price is based on the fact it shall not recover such damages or costs.

5.4.3 If Subcontractor is delayed in the commencement, prosecution or completion of the Subcontract Work by the bad faith or active interference of Construction Manager, Owner or any separate Subcontractor employed by Owner, the Subcontract Price may be adjusted by Change Order. The price adjustment, if any, shall be limited to Subcontractor's direct material and labor costs and its indirect job site costs, including field supervision, field office costs and rental equipment, incurred during the period of the delay. No claim shall be made by Subcontractor for any other compensation, including, but not limited to, the recovery of extended overhead, financing costs, lost profits or consequential damages. The time extension and/or price adjustment shall be solely determined and fixed by Construction Manager and contingent upon Owner's approval, but no such extension or adjustment shall be made unless a written claim with detailed substantiation therefore is presented to Construction Manager within five (5) days of the occurrence of the wrongful event causing the delay. Subcontractor acknowledges that the Subcontract Price is based on the fact it may not recover such costs or damages due to such delay.

- 5.4.4 If Subcontractor is delayed by the acts or failures to act of other Construction Manager Subcontractors, its sole remedy for delay damages resulting therefrom shall be against such other Subcontractor. Subcontractor shall be responsible to other Construction Manager Subcontractors for delay damages which arise from Subcontractor's acts or failures to act. Subcontractor shall defend, indemnify and hold harmless Owner and Construction Manager from claims against them by other Construction Manager Subcontractors for delays which result from Subcontractor's acts or failures to act.
- 5.4.5 Construction Manager may direct Subcontractor to complete the Subcontract Work ahead of the Subcontract Schedule or to maintain the Subcontract Schedule when delays are caused by the circumstances described at Paragraphs 5.4.3, 5.4.2, and 5.4.4. Upon written Change Order to this effect, Subcontractor shall accelerate the Subcontract Work and the Subcontract Price will be adjusted by Change Order. The price adjustment shall be limited to the premium time necessary to accomplish the accelerated Subcontract Schedule and the fringe benefits and social security tax on same less any reduction in indirect job site costs, including field supervision, field office costs and rental equipment, which occur as a consequence of the acceleration. Subcontractor will make no claim for any other compensation and acknowledges that the Subcontract Price is based on the fact it may not recover any other costs.

**6.0 Changes in the Subcontract Work**

- 6.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 6 and elsewhere in the Contract Documents.
- 6.2 A Change Order shall be based upon agreement among Subcontractor and Construction Manager; a Construction Change Directive may or may not be agreed to by the Subcontractor; an order for a minor change in the Work may be issued by the Construction Manager alone.
- 6.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Subcontractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.
- 6.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner Construction Manager or Subcontractor, the applicable unit prices shall be equitably adjusted.
- 6.5 Change Orders
  - 6.5.1 Construction Manager may, at any time and without invalidating its Subcontract or Subcontractor's bond, make changes in Subcontractor's Work whether it be an addition, deletion or other revision thereof, by written Change Order, provided said changes are within the general scope of the Subcontract.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 6.5.2 Subcontractor shall notify Construction Manager in writing if it contests the Change Order's changes in the Subcontract Price and/or Subcontract Schedule no later than ten (10) days after Subcontractor's receipt of the Change Order. Timely contesting of the Change Order is a condition precedent to making a claim related to the Change Order. If no agreement is reached between the parties regarding the adjustment of the Subcontract Price, then Subcontractor shall be reimbursed for the costs of such work, as determined appropriate by Construction Manager, pursuant to Section 7.2, plus 10% of such costs for overhead and profit in the case of work performed with Subcontractor's forces and 10% in the case of work performed by Subcontractor's Subcontractors. In the event the Change Order causes a decrease in the cost of the Subcontract Work, the Subcontract Price shall be decreased by the amount of Construction Manager's determination of the decrease in the costs of labor, materials and equipment no longer required, based upon the most recent Schedule of Values.
- 6.5.3 Subcontractor shall proceed with the changes required in a Change Order upon receipt of the Change Order so as not to delay the progress of the work whether or not the changes in the Subcontract Work or changes in the Subcontract Price or Subcontract Schedule are contested by Subcontractor.
- 6.5.4 If Subcontractor makes changes in the Subcontract Work without a written Change Order, Subcontractor shall not be entitled to adjustments to the Subcontract Price or Subcontract Schedule and shall be responsible for any costs or damages incurred by Construction Manager, Owner and their Subcontractors as a result of the change.
- 6.6 Cost of Work. The Cost of Work in any Change Order shall be limited to the costs of materials and equipment (excluding sales tax where applicable); costs of delivery and unloading; costs of labor (including social security, unemployment insurance and fringe benefits required by Subcontractor's agreement with its employees); rental costs of equipment and machinery not owned by Subcontractor, exclusive of hand tools; and the additional costs of supervision and field office personnel directly attributable to said Change Order.
- 6.7 Concealed, Unknown or Hazardous Conditions
  - 6.7.1 If Subcontractor encounters conditions at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Subcontract Documents or (2) unknown physical conditions of an unknown nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Subcontract Documents, then Subcontractor shall give written notice promptly to Construction Manager but in no event later than ten (10) days after the conditions are encountered and in all cases before the conditions are disturbed. The Subcontract Price and Subcontract Schedule may be adjusted for such concealed or unknown condition by Change Order.
  - 6.7.2 In the event Subcontractor encounters material reasonably believed to be asbestos or a hazardous substance which has not been rendered harmless, Subcontractor shall immediately stop work in the area affected and report the condition to Construction Manager. Work shall be resumed as directed by Construction Manager.

- 6.8 Construction Change Directives
- 6.8.1 A Construction Change Directive is a written order prepared by the Construction Manager, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum of Contract Time, or both. The Construction Manager may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract sum and Contract Time being adjusted accordingly.
- 6.8.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.
- 6.8.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
- 6.8.3.1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- 6.8.3.2 unit prices stated in the Contract Documents or subsequently agreed upon;
- 6.8.3.3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- 6.8.3.4 as provided in Subparagraph 6.8.6.
- 6.8.4 Upon receipt of a Construction Change Directive, the Subcontractor shall promptly proceed with the change in the Work involved and advise the Construction Manager of the Subcontractor'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.
- 6.8.5 A Construction Change Directive signed by the Subcontractor indicates the agreement of the Subcontractor 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.
- 6.8.6 If the Subcontractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Construction Manager 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, a reasonable allowance for overhead and profit. In such case, and also under Clause 6.8.3.3, the Subcontractor 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 Subparagraph 6.8.6 shall be limited to the following:
- 6.8.6.1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' or workmen's compensation insurance;
- 6.8.6.2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- 6.8.6.3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Subcontractor or others;

- 6.8.6.4 costs of premiums for all bonds and insurance, permit fees, and sales, use of similar taxes related to the Work; and
- 6.8.6.5 additional costs of supervision and field office personnel directly attributable to the change.
- 6.8.7 Pending final determination of cost to the Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by the Subcontractor to the Construction Manager for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager. 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, in any, with respect to that change.
- 6.8.8 If the Construction Manager and Subcontractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Construction Manager for determination.
- 6.8.9 When the Construction Manager and Subcontractor agree with the determination made by the Construction Manager concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.
- 6.9 Minor changes in the Work. The Construction Manager will have 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 shall be effected by written order and shall be binding on the Construction Manager and Subcontractor. The Subcontractor shall carry out such written orders promptly.

## 7.0 **Payments to Subcontractor**

### 7.1 Progress Payments

- 7.1.1 On or before the 7<sup>th</sup> day of each month, after the contract work has commenced, subcontractor shall submit a "pencil draft" application for payout to Construction Manager. Having made such changes as directed by Construction Manager and on or before the 25<sup>th</sup> day of each month after the Subcontract Work has commenced, Subcontractor shall submit an Application for Payment to Construction Manager for the period ending on the 30<sup>th</sup> day of the same month which shall indicate the percentage of work completed or material stored at the site for each major segment of the work on the Schedule of Values, and the current amounts due therefore. Subcontractor's verified Application for Payment shall be submitted on forms acceptable to Construction Manager with such additional substantiating information as may be requested by Construction Manager. Construction Manager, Owner, and any other party whose approval is required by the Subcontract Documents shall have the right of inspection and verification of the Application for Payment. Each Application for Payment shall be accompanied by an unconditional partial waiver of lien stating that the subcontractor waives and releases any and all of the undersigned's rights and claims under the Illinois Public Construction Bond Act to the same extent the undersigned waives and releases any and all lien or claim of, or right to lien under the statutes of Illinois relating to mechanics liens. Subcontractor shall also

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- provide partial lien waivers from its Subcontractors and suppliers when required by Construction Manager.
- 7.1.2 Such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Changed Orders.
- 7.1.3 Such applications may not include requests for payment of amounts the Subcontractor does not intend to pay to a Sub-subcontractor or material supplier because of a dispute or other reason.
- 7.1.4 Construction Manager shall include Subcontractor's Application for Payment in Construction Manager's next Application for Payment to Owner provided Subcontractor's Application is timely received, there has been a reasonable opportunity for inspection and verification, and it has been accompanied by the required lien waivers and submissions required under Paragraph 7.1.7.
- 7.1.5 Construction Manager shall pay Subcontractor within ten (10) days of its receipt of payment by Owner, subject to the conditions of Paragraphs 7.1.6 and 7.1.7, as follows:
- 7.1.5.1 Ninety percent (90%) of currently due amounts shown on the Application for Payment.
- 7.1.5.2 When a major segment of work is one hundred percent (100%) completed, or materials one hundred percent (100%) purchased and accepted by Owner and Construction Manager, Construction Manager may, at its sole discretion, release the proportionate retainage with respect to that segment, and make full payment therefore to Subcontractor.
- 7.1.6 Approval of an Application for Payment for stored items on or off the site shall be conditioned on submission by the Subcontractor of bills of sale and applicable insurance or such other documents satisfactory to the Owner and Construction Manager to establish Owner's title to materials and equipment or otherwise protect Owner's and Construction Manager's interest therein, including transportation to the site. Stored items shall be marked as belonging to Owner upon payment for same. Subcontractor shall submit evidence satisfactory to Construction Manager and Owner that goods are marked belonging to Owner.
- 7.1.7 Subcontractor warrants and guarantees that title to all Subcontract Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will pass to the Owner upon receipt of such payment by Construction Manager, free and clear of all liens, claims, security interests or encumbrances hereinafter referred to as Liens. Subcontractor shall indemnify, defend and save harmless Construction Manager and Owner against Liens filed on the property of Owner by Subcontractor's Subcontractors, material men or suppliers for amounts they claim are due them from Subcontractor for Subcontract Work. Within ten (10) days of receiving notice from Owner or Construction Manager to do so, Subcontractor shall obtain the release of any such Liens. If Subcontractor fails to do so within the time provided herein, Construction Manager may satisfy such Liens by payment, notwithstanding Subcontractor's defenses thereto and without liability to Subcontractor or its surety therefore and may retain out of any payment due, or to become due to Subcontractor thereafter, an amount sufficient to indemnify Construction Manager and Owner for such payment and any other expenses incurred by either of them as a result of such Lien. Subcontractor shall also be responsible for the



amount of any premium for any bond given by Construction Manager or Owner to obtain the discharge of any Lien, or for the interest on any money deposited for the purpose of discharging any Lien.

7.2 Certificates for Payment

7.2.1 The Construction Manager will, within seven days after receipt of the Subcontractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Subcontractor, for such amount as the Construction Manager determines is properly due, or notify the Subcontractor and Owner in writing of the Construction Manager's reasons for withholding certification in whole or in part as provided in Subparagraph 7.3.1.

7.2.2 The issuance of a Certificate for Payment will constitute a representation by the Construction Manager to the Owner, based on the Construction Manager's observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Construction Manager'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. The issuance of a Certificate for Payment will further constitute a representation that the Subcontractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Construction Manager has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Subcontractor's right to payment or (4) made examination to ascertain how or for what purpose the Subcontractor has used money previously paid on account of the Contract Sum.

7.3 Decisions to Withhold Certification

7.3.1 The Construction Manager may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's opinion the representations to the Owner required by Subparagraph 7.2.2 cannot be made. If the Construction Manager is unable to certify payment in the amount of the Application, the Construction Manager will notify the Subcontractor and Owner as provided in Subparagraph 7.2.1. If the Subcontractor and Construction Manager cannot agree on a revised amount, the Construction Manager will promptly issue a Certificate for Payment for the amount for which the Construction Manager is able to make such representations to the Owner. The Construction Manager may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's opinion to protect the Owner from loss because of:

7.3.1.1 defective Work not remedied;

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 7.3.1.2 third party claims filed or reasonable evidence indicating probable filing of such claims;
  - 7.3.1.3 failure of the Subcontractor to make payments properly to Sub-subcontractors or for labor, materials or equipment;
  - 7.3.1.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
  - 7.3.1.5 damage to the Owner or another Subcontractor;
  - 7.3.1.6 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
  - 7.3.1.7 persistent failure to carry out the Work in accordance with the Contract Documents.
- 7.3.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.
- 7.4 Final Payment
- 7.4.1 Subject to Paragraph 7.4.2, Final Payment shall be made to Subcontractor when Subcontractor has achieved final completion in accordance with the requirements of the Subcontract Documents. Final completion includes, but is not limited to, completion of the Subcontract Work to the satisfaction of Owner and Construction Manager; Subcontractor's payment of all its Subcontractors and material men; settlement of all claims; payment and recorded release of all mechanics' liens; delivery of all guarantees, warranties, equipment operation and maintenance manuals, record documents, appropriate certificates, and all other required approvals and acceptances by city, county, and state governments, or other authorities having jurisdiction; removal of all rubbish tools, scaffolding, and surplus material and equipment from the site; consent to release of Final Payment from Subcontractor's surety; receipt of appropriate certificates of insurance evidencing continuing insurance obligations; and submittal of Subcontractor's Final Application for Payment.
  - 7.4.2 Final payment to Subcontractor will be made upon Application for Payment and paid no later than thirty (30) days after inspection and verification by Construction Manager and Owner, payment by Owner to Construction Manager, and the satisfaction of all other conditions required for payment. The word "FINAL" shall be placed on the last Application for Payment and an unconditional Final Waivers of Lien shall be attached thereto stating that the subcontractor waives and releases any and all of the undersigned's rights and claims under the Illinois Public Construction Bond Act to the same extent the undersigned waives and releases any and all lien or claim of, or right to lien under the statutes of Illinois relating to mechanics liens. Acceptance of Final Payment by Subcontractor shall constitute a release and waiver by Subcontractor of all claims Subcontractor has or may have against Construction Manager, Construction Manager's surety, and Owner.
- 7.5 Effect of Payment and Occupancy. Progress payments, final payment, partial or entire use or occupancy by Owner and/or Construction Manager shall not constitute acceptance of any work not in conformance with the Subcontract Documents.

7.6 Condition Precedent to Payment. Payment by Owner to Construction Manager for the Subcontract Work is a condition precedent to Subcontractor's payment by Construction Manager. Subcontractor is entitled to payment only for that portion of the Subcontract Work for which Construction Manager has been paid by Owner. Subcontractor expressly assumes the risk of nonpayment by Owner.

**8.0 Indemnity, Insurance and Bonds**

8.1 Indemnity. To the fullest extent permitted by law, Subcontractor shall defend and indemnify and hold harmless Construction Manager, the Architect and the Owner, their subsidiaries and affiliates and officers, directors, shareholders, partners, managers, members, agents and employees of any of them (and the foregoing's respective successors, assigns, heirs, estates and personal representatives), against all claims, damages, losses, and suits for loss or damage to property (other than the Work itself), or personal and bodily injury, including death, to persons, and from all judgments recovered therefore, and from all expenses for defending such claims or suits, including court costs, litigation expenses, and attorney's fees, which result from the performance of the Subcontract by Subcontractor, its Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable to the extent caused, in whole or in part, by negligent acts or omission of Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable. All indemnification provisions contained in this Contract shall survive the termination of the Contract.

**8.2 Insurance**

8.2.1 Without limiting the liability of Subcontractor under its Subcontract, Subcontractor shall purchase and maintain the following insurance to cover its operations under its Subcontract. Said insurance shall be provided by insurance companies acceptable to Construction Manager and licensed to do business in the state where the Project is located and have a policyholder's rating of "A-" and a financial size rating of "VII" or higher in the most current Best's Key Rating Guide.

8.2.1.1 Worker's Compensation Insurance, which affords insurance with statutory limits as required by Illinois (all states endorsement including occupational diseases), together with Employer's Liability Coverage with limits of not less than the following:

\$500,000 each accident Bodily Injury by Accident

\$500,000 policy limit Bodily Injury by Disease

\$500,000 each employee Bodily Injury by Disease.

Such insurance shall include a Waiver of Subrogation endorsement in favor of Construction Manager, Construction Manager, Architect/Engineer and Owner and coverage extensions as required by applicable state or federal jurisdictions i.e. (U. S. Longshoremen's and harbor Worker's Act Coverage, Maritime Coverage (Jones Act) etc.

Evidence of coverage is still required from Employee Leasing Company should employees be leased.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 8.2.1.2 Comprehensive Automobile Liability Insurance covering all owned, hired (rented) and non-owned vehicles with the following minimum limit of liability \$1,000,000 bodily injury and property damage each accident.
- 8.2.1.3 Commercial General Liability Insurance which is written on an occurrence basis, with the following minimum limits of liability:
- |   |             |
|---|-------------|
| General aggregate per project           | \$2,000,000 |
| Products/completed operations aggregate | \$2,000,000 |
| Personal and advertising injury         | \$1,000,000 |
| Each occurrence                         | \$1,000,000 |
- 8.2.1.4 The Commercial General Liability policy shall include bodily injury, property damage, personal injury and broad form contractual liability coverage with the following coverages:
- 8.2.1.4.1 Products and completed operations coverage for at least two years beyond the completion date of the project and the project is put to its intended use.
- 8.2.1.4.2 Blanket contractual liability coverage which sets forth that coverage exists for the indemnification agreement as applicable to the Subcontractor's obligations under Paragraph 8.1.
- 8.2.1.4.3 Exclusions for property in the care, custody and control of the Subcontractor shall be deleted.
- 8.2.1.4.4 Exclusions for explosion, collapse and underground property damage shall be deleted.
- 8.2.1.4.5 **Construction Manager shall be the certificate holder. Wight Construction, Inc., ("Construction Manager"), Architect/Engineer and the Owner shall each be named as additional insured's on the Commercial General Liability Policy per form CG2010 (11/85) or its equivalent language which is CG2010 (10/01) with the CG2037 (10/01), Auto Liability, Pollution Liability and any required Excess policies.** The Commercial General Liability, Auto Liability, Pollution Liability and required Excess policies shall include a severability of interest or cross-liability clause; a waiver of subrogation in favor of the additional insured's and shall be endorsed to apply on a primary and non-contributory basis with respect to any applicable insurance maintained by Construction Manager, Construction Manager, Architect/Engineer or Owner. Such inclusion as an additional insured shall extend to completed operations coverage and shall not be limited by an insured vs. insured exclusion.
- 8.2.1.4.6 Personal injury with the employee and contractual liability exclusions deleted.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

8.2.1.5 Umbrella liability insurance excess of the coverages in provisions 8.2.1.1-8.2.1.4 and with a coverage form at least as broad as underlying insurance including any special coverage extensions for the following limits of liability:

Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

The insurance limits in provisions 8.2.1.1-8.2.1.5 above may be provided by any combination of primary insurance policies and excess liability (“umbrella”) insurance policies provided the resulting insurance is equivalent to the insurance stated hereunder.

8.2.1.6 Aircraft or Watercraft Liability Insurance

This section is applicable only if the Work involves the use of an aircraft or watercraft of any type being used by the Subcontractor or any tier of Subcontractor. The Subcontractor shall maintain or require the operator of the aircraft or watercraft public bodily injury and property damage liability insurance. Aircraft liability insurance is to include passenger liability with combined single limits for bodily injury and property damage of \$5,000,000 each occurrence. Watercraft liability is to be provided in an amount not less than \$1,000,000 per vessel including coverage for wages, maintenance and cure for any master(s) or member(s) of the crew. Workers’ Compensation coverage is to include applicable coverage extensions for crew and passengers.

8.2.1.7 Physical Damage Insurance

All-risks of direct physical loss insurance on all vehicles, valuable papers, construction equipment, scaffolding, towers, forms, supplies, trailers, mobile office trailers tools including tools owned by mechanics, and any other property of similar nature which are not consumed in forming a part of the completed Work that are owned, borrowed, rented by, or in the care, custody and control of, Subcontractor to their full insurable value. The requirement to secure and maintain such insurance is solely for the benefit of the Subcontractor.

8.2.2 Subcontractor shall furnish certificates for Construction Manager and Owner evidencing satisfaction of the insurance requirements of Section 8.2 before beginning the Subcontract Work and upon renewal of such coverages during the performance of its Subcontract. Additionally, certificates of insurance are to be provided annually as evidence thereof of extended completed operations coverage. The certificates shall provide that thirty (30) days written notice shall be given to Construction Manager before the policies are changed or canceled. Subcontractor shall, itself, give written notification to Construction Manager as soon as it receives notice of change or cancellation from its insurance company. The certificates of insurance shall plainly designate the name of the Project. Failure to furnish such certificates shall not relieve Subcontractor from its obligations under Section 8.2. Certificates of insurance must evidence the

- inclusion of the Additional Insured's on a primary and non-contributory basis; severability of interest clause; the required General Liability per project aggregate; and waiver of subrogation clauses. Any applicable deductible or self-insured retention shall be stated on such certificate.
- 8.2.3 Failure to carry and keep the insurance coverages required herein in force shall constitute an event of default under this Contract. The Construction Manager reserves the right to withhold the issuance of the Notice to Proceed, to deny access to the Project, or to withhold payments under this Contract until proper evidence of insurance as required herein is received by the Construction Manager.
- 8.2.4 The insurance coverages as required herein are not intended to preclude the Subcontractor from obtaining, at their own expense, other coverages and higher limits where required by law or as required by the Subcontractor's operations. Failure of the Subcontractor to secure insurance or to maintain adequate amounts of insurance shall not obligate the Construction Manager, Construction Manager, Architect/Engineer and Owner for any losses hereunder.
- 8.2.5 Notwithstanding the insurance proceeds available and collectible by the Subcontractor, the limits of liability specified herein do not in any way limit the liability of the Subcontractor. Any applicable deductible or self-insured retention shall be paid by the Subcontractor.
- 8.2.6 The Subcontractor shall require certificates of insurance of their respective vendors, suppliers, material dealers, independent truckers/haulers, and others who merely transport, pick up, deliver or carry materials, personnel, parts equipment or any other items or persons to or from the Project. Such certificates of insurance shall evidence the Workers' Compensation, General Liability, Automobile Liability, and Umbrella Liability coverages carried.
- 8.2.7 Warranty Work: If Subcontractor and all others for whose work the Subcontractor is responsible for is required to return to the Project during a warranty period, insurance shall be proved and maintained as required in Article 8.
- 8.2.8 Subcontractor shall require evidence of insurance substantially the same as required of Subcontractor from each tier of Subcontractor prior to commencement of work by each tier of Subcontractor.
- 8.3 Waiver of Subrogation. Construction Manager and Subcontractor waive all rights against (1) each other and any of their Subcontractors, agents and employees, each of the other, and (2) the Owner and any of its Subcontractors, agents and employees, for damages caused by fire or other perils covered by builder's risk insurance provided under the Prime Contract or other property insurance applicable to the Subcontract Work, except such rights as they may have to proceeds of such insurance held by the Owner as fiduciary. The Subcontractor shall require of its Subcontractors, agents and employees, by appropriate agreements, written where legally required for validity, similar waivers 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.

8.4 Bonds

- 8.4.1 Subcontractor shall furnish a Performance and Payment Bond, in an amount at least equal to the Subcontract Price as security for the faithful performance and payment of its obligations under the Subcontract and it shall not be a violation of the terms of the bond to order changes in the Subcontract Work. The penal sum of each bond shall be adjusted to include the amounts of all change orders. This bond shall be provided within ten (10) calendar days of execution of this agreement. This bond shall remain in effect at least until the later of two (2) years after the date when final payment becomes due or Subcontractor completes its warranty obligations. The bond shall be in the form prescribed by law, regulation or by the Subcontract Documents and be executed by such sureties as are acceptable to Construction Manager and Owner and are licensed to do business in Illinois. The bond shall be signed by an agent and must be accompanied by a certified and current copy of the authority to act. The bond shall name Construction Manager and Owner as dual obligees.
- 8.4.2 The Performance, Labor and Material Bond shall be executed in conformity with American Institute of Architects, Doc. A312™-2010 with coverage provided by a Surety having a policyholder's rating of "A" and minimum class of FSC VIII financial rating in the Best's Insurance Guide, latest edition. A certified copy of the power of attorney from the surety company stating that the person executing the bond shall accompany the bond.
- 8.4.3 If at any time the Construction Manager or the Owner shall become dissatisfied with any Surety or Sureties, or for any other reason, such bond shall cease to be adequate security. Subcontractor shall within five (5) days after receipt of notice to do so, substitute an acceptable bond in such form and sum and signed by such other Sureties as may be satisfactory to Construction Manager. No further payment shall be deemed due nor shall be made until the new Sureties shall have qualified.
- 8.4.4 Whenever the Subcontractor shall be and is declared by the Owner or Construction Manager to be in default under the Subcontract, the Surety of the Subcontractor shall be responsible to reimburse the Construction Manager or Owner in a timely manner and at Construction Manager's or Owner's prevailing rates up to the penal sum of the bond for any and all Work and expense incurred time and material billing by the Construction Manager as a result of the Subcontractor's default including but not limited to additional construction management, architectural fees, miscellaneous costs and expenses, testing, consulting fees, engineering fees or accounting fees. The provisions of the clause for charging of costs, fees and extra work against the Subcontractor shall apply to subparagraphs 3.5, 9.1.1, and 9.1.2.
- 8.4.5 It shall be the duty of the Surety to give an unequivocal notice of intent to remedy the default or defaults promptly or to perform the contracts promptly or to pay to the Construction Manager or Owner the completion cost to remedy the default or defaults up to the penal sum of the bond. Surety shall give such notice in writing to the Construction Manager and Owner within ten (10) days after receipt of the Construction Manager's or Owner's declaration of default and notice of termination of the Subcontractor. Time is of the essence in the Surety's election to remedy the default. In said notice of election, the Surety shall indicate the date on which the remedy or performance will commence, and it shall then be the duty of the Surety to give prompt notice in writing to Construction Manager and Owner immediately upon completion of (a) the remedy and/or

correction of each default, (b) the remedy and/or correction of each item of condemned Work, (c) the furnishing of each omitted item of Work, and (d) the performance of the contract. The Surety shall conduct a due diligence investigation before asserting solvency of its Principal or rely solely on its Principal's denial of default as justification for its failure to give notice of election or for its failure to promptly remedy the default or defaults or perform the contract. If in the event Surety requires additional time to investigate the declaration of default, the Construction Manager or Owner may, without prejudice to its rights under the Bond, temporarily continue construction of the Project and charge the costs of such Work, including Work performed on a time and material basis at the firm's prevailing time and material rates.

Upon the Subcontractor's default and the Owner's declaration of Subcontractor's default, Owner shall provide notice, along with a copy of Section 8.4 of the General Conditions of the Subcontract, to Surety of same.

- 8.4.6 In the event the said Surety shall fail to act promptly as provided herein, then Construction Manager or Owner shall cause ten (10) days notice of such failure to be given, both to said Principal and Surety, and at the expiration of said ten (10) days, the Obligee shall have the authority to cause said Work to be done, and when the same is completed and the cost thereof ascertained, the said Principal and Surety shall and hereby agree to pay any completion costs in excess of the remaining contract balance, but not exceeding the penal sum of the bond.

After declaration of default and termination, and as the contract is completed by a completing contractor or by Surety in accordance with the terms of the Contract Documents, to the extent the construction funds remain and are attributable to the defaulted contractor, Construction Manager or Owner shall pay completing contractor or Surety in accordance with the Schedule of Values as certified by the Architect, and upon completion, any funds which remain due on said contract, the same shall be paid to said Surety.

- 8.4.7 Whenever the Subcontractor shall be and is declared by the Owner or Construction Manager to be in default under the Subcontract, the Subcontractor and Surety further agree as part of this obligation to pay all such damages of any kind arising out of incomplete Work or damaged Work, that may result from a failure in any respect to perform and complete said contract, including, but not limited to, all repair and replacement costs necessary to rectify construction error, architectural and engineering costs and fees, all consultant fees, construction management fees and expenses, all testing and laboratory fees, and all legal fees, expenses and litigation expenses and costs incurred by the Construction Manager or Owner as a result of the default.

After the Surety's receipt of the Obligee's declaration of the Subcontractor's default, the Construction Manager and Owner hereby agree to cooperate with the Surety in its independent investigation of the claim on the Performance Bond including but not limited to (a) providing prompt access to the construction site to the Surety or its consultants, (b) provide a detailed description of any alleged default or defaults by the Subcontractor under its contract along with supporting documentation and (c) provide the results of all testing. However, it is and remains exclusively the Surety's obligation to secure and provide necessary resources to satisfy its obligations under the Performance Bond without unduly burdening the Construction Manager or Owner and provided that the Surety's



due diligence does not unreasonably impede project progress or delay the project as time is of the essence.

- 8.4.8 The Surety agrees that other than as is provided in this Bond, it may not demand of Owner that Owner shall (a) perform any thing or act, (b) give any notice, (c) furnish any clerical assistance, (d) render any service, (e) furnishing any papers or documents, or (f) take any other action of any nature or description which is not required of Owner to be done under Contract Documents.
- 8.4.9 In the event the Surety shall make any assignment for the benefit of creditors or commit any act of bankruptcy, or if it shall be declared bankrupt, or if it shall file a voluntary petition in bankruptcy, or shall in the opinion of the Construction Manager or Owner be insolvent, the Construction Manager and Owner shall have the right to access any reinsurer of said Surety. Further, the Subcontractor agrees forthwith upon request of the Construction Manager and Owner to furnish and maintain other corporate surety with respect to said bond satisfactory to Owner.
- 8.4.10 Any dispute shall be resolved as set forth in the mediation paragraph 1.3.4 of the AIA Document B141-1997; provided, however, that the Surety may fully participate in such dispute resolution. Such proceedings shall begin within three calendar days of request.

**9.0 Construction Manager's Right to Perform Subcontractor's Responsibilities and Termination of Agreement**

**9.1 Failure of Performance**

- 9.1.1 Notice to Cure. If the Subcontractor refuses or fails to supply enough properly skilled workers, proper materials, or maintain the Schedule of Work, or fails to make prompt payment to its workers, subcontractors or suppliers, or disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a material breach of a provision of this Agreement, the Subcontractor shall be deemed in default of this Agreement. If the Subcontractor fails within three (3) working days after written notification to commence and continue satisfactory correction of the default with diligence and promptness, then the Construction Manager without prejudice to any other rights or remedies, shall have the right to any or all of the following remedies:
  - 9.1.1.1 supply workers, materials, equipment and facilities as the Construction Manager deems necessary for the completion of the Subcontractor's Work or any part which the Subcontractor has failed to complete or perform after written notification, and charge the cost, including reasonable overhead, profit, attorney's fees, costs and expenses to the Subcontractor;
  - 9.1.1.2 contract with one or more additional Subcontractors to perform such part of the Subcontractor's Work as the Construction Manager determines will provide the most expeditious completion of the Work, and charge the cost to the Subcontractor as provided under Clauses 9.1.1.1; and/or
  - 9.1.1.3 withhold any payments due the Subcontractor pending corrective action in amounts sufficient to cover losses and compel performance to the extent required by and to the satisfaction of the Construction Manager.

In the event of any emergency affecting the safety of persons or property, the Construction Manager may proceed as above without notice.

- 9.1.2 Termination by Construction Manager. If the Subcontractor fails to commence and satisfactorily continue correction of a default within three (3) working days after written notification issued under Subparagraph 9.1.1, then the Construction Manager may, in lieu of or in addition to Subparagraph 9.1.1, issue a second written notification, to the Subcontractor and its surety, if any. Such notice shall state that if the Subcontractor fails to commence and continue correction of a default within seven (7) working days of the written notification, the Agreement will be deemed terminated. The Construction Manager also may furnish those materials, equipment and/or employ such workers or subcontractors as the Construction Manager deems necessary to maintain the orderly progress of the Work. All costs incurred by the Construction Manager in performing the Subcontractor's Work, including reasonable overhead, profit and attorney's fees, costs and expenses, shall be deducted from any moneys due or to become due the Subcontractor. The Subcontractor shall be liable for the payment of any amount by which such expense may exceed the unpaid balance of the Contract Price.
- 9.1.3 Use of Subcontractor's Equipment. If the Construction Manager performs work under this Article, either directly or through other Subcontractors, the Construction Manager or other Subcontractors shall have the right to take and use any materials, implements, equipment, appliances or tools furnished by, or belonging to the Subcontractor and located at the Project site.

9.2 Bankruptcy

- 9.2.1 Termination Absent Cure. If the Subcontractor files a petition under the Bankruptcy Code, this Agreement shall terminate if the Subcontractor or the Subcontractor's trustee rejects the Agreement or, if there has been a default, the Subcontractor is unable to give adequate assurance that the Subcontractor will perform as required by this Agreement or otherwise is unable to comply with the requirements for assuming this Agreement under the applicable provisions of the Bankruptcy Code.
- 9.2.2 Interim Remedies. If the Subcontractor is not performing in accordance with the Schedule of Work at the time a petition in bankruptcy is filed, or at any subsequent time, the Construction Manager, while awaiting the decision of the Subcontractor or its trustee to reject or to assume this Agreement and provide adequate assurance of its ability to perform, may avail itself of such remedies under this Article as are reasonably necessary to maintain the Schedule of Work. The Construction Manager may offset against any sums due or to become due the Subcontractor all costs incurred in pursuing any of the remedies provided including, but not limited to, reasonable overhead, profit and attorney's fees. The subcontractor shall be liable for the payment of any amount by which costs incurred may exceed the unpaid balance of the Contract Price.
- 9.2.3 Suspension by Owner. Should the Owner suspend its agreement with the Construction Manager or any part which includes the Subcontractor's Work, the Construction Manager shall notify the Subcontractor in writing and upon receiving notification the Subcontractor shall immediately suspend the Subcontractor's Work. In the event of Owner suspension, the Construction Manager's liability to the Subcontractor shall be limited to the extent of the Construction Manager's recovery on the Subcontractor's behalf under the Contract Documents. The Construction Manager agrees to cooperate with the

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

Subcontractor, at the Subcontractor's expense, in the prosecution of any Subcontractor claim arising out of an Owner suspension and to permit the Subcontractor to prosecute the claim, in the name of the Construction Manager, for the use and benefit of the Subcontractor.

- 9.2.4 Termination by Owner. Should the Owner terminate its contract with the Construction Manager or any part which includes the Subcontractor's Work, the Construction Manager shall notify the Subcontractor in writing and upon written notification, this Agreement shall be terminated and the Subcontractor shall immediately stop the Subcontractor's Work, follow all of Construction Manager's instructions, and mitigate all costs. In the event of Owner termination, the Construction Manager's liability to the Subcontractor shall be limited to the extent of the Construction Manager's recovery on the Subcontractor's behalf under the Contract Documents. The Construction Manager agrees to cooperate with the Subcontractor, at the Subcontractor's expense, in the prosecution of any Subcontractor claim arising out of the Owner termination and to permit the Subcontractor to prosecute the claim, in the name of the Construction Manager, for the use and benefit of the Subcontractor, or assign the claim to the Subcontractor.
- 9.2.5 Contingent Assignment of Subcontract. The Construction Manager's contingent assignment of the Subcontract to the Owner, as provided in the Construction Manager's agreement with the Owner, is effective when the Owner has terminated the Contract for cause and has accepted the assignment by notifying the Subcontractor in writing. This contingent assignment is subject to the prior rights of a surety that may be obligated under the Construction Manager's bond, if any. Subcontractor consents to such assignment and agrees to be bound to the assignee by the terms of this Subcontract.
- 9.2.6 Suspension by Construction Manager. The Construction Manager may order the Subcontractor in writing to suspend all or any part of the Subcontractor's Work for such period of time as may be determined to be appropriate for the convenience of the Construction Manager. Phased Work or interruptions of the Subcontractor's Work for short periods of time shall not be considered a suspension. The Subcontractor shall notify the Construction Manager in writing within ten (10) working days after receipt of the Construction Manager's order of the effect of such order upon the Subcontractor's Work. To the extent allowed the Construction Manager under its agreement with the Owner, the Contract Price or Schedule of Work shall be adjusted by Subcontract Change Order for any increase in the time or cost of performance of this Agreement caused by such suspension. No claim under this Article shall be allowed for any costs incurred more than ten (10) working days prior to the Subcontractor's notice to the Construction Manager. Neither the contract Price nor the Schedule of Work shall be adjusted for any suspension, to the extent that performance would have been suspended, due in whole or in part to the fault or negligence of the Subcontractor or by a cause for which Subcontractor would have been responsible. The Contract Price shall not be adjusted for any suspension to the extent that performance would have been suspended by a cause for which the Subcontract would have been entitled only to a time extension under this Agreement.

9.2.7 Wrongful Exercise. If the Construction Manager wrongfully exercised any option under this Article, the Construction Manager shall be liable to the Subcontractor solely for the reasonable value of Subcontractor's Work performed by the Subcontractor prior to the Construction Manager's wrongful action, including reasonable overhead and profit on the Subcontractor's Work performed, less prior payments made, and attorney's fees, costs and expenses.

## 10.0 Claims and Disputes

10.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment of interpretation of Contract terms, payment of money, extension of time 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 Subcontractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

10.2 Decision of Construction Manager. Claims, including those alleging an error or omission by the Construction Manager, shall be referred initially to the Construction Manager for action as provided in Paragraph 11.0. A decision by the Construction Manager, as provided in Subparagraph 11.4, shall be required as a condition precedent to arbitration or litigation of a Claim between the Subcontractor and Owner as to all such matters arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and progress of the Work or (2) the extent to which the Work has been completed. The decision by the Construction Manager in response to a Claim shall not be a condition precedent to arbitration or litigation in the event (1) the position of Construction Manager is vacant, (2) the Construction Manager has not received evidence or has failed to render a decision within agreed time limits, (3) the Construction Manager has failed to take action required under Subparagraph 11.4 within 30 days after the Claim is made, (4) 45 days have passed after the Claim has been referred to the Construction Manager or (5) the Claim relates to a mechanic's lien.

10.3 Time Limits on Claims. Claims by either party must be made within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. 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.

10.4 Continuing Contract Performance. Pending final resolution of a Claim including arbitration, unless otherwise agreed in writing the Subcontractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

10.5 Waiver of Claims: Final Payment. The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

10.5.1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;

10.5.2 failure of the Work to comply with the requirements of the Contract Documents;  
or

10.5.3 terms of special warranties required by the Contract Documents.

- 10.6 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which 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, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Construction Manager will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Subcontractor'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 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 Construction Manager shall so notify the Owner and Subcontractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Construction Manager has given notice of the decision. If the Owner and Subcontractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Construction Manager for initial determination, subject to further proceedings pursuant to Paragraph 11.0.
- 10.7 Claims for Additional Cost. If the Subcontractor wishes to make 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 Paragraph 2.22. If the Subcontractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Construction Manager, (2) an order by the Owner to stop the Work where the Subcontractor was not at fault, (3) a written order for a minor change in the Work issued by the Construction Manager, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with the procedure established herein.
- 10.8 Claims for Additional Time.
- 10.8.1 If the Subcontractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Subcontractor'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.
- 10.8.2 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 and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the scheduled construction.
- 10.9 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, 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 first observance. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided in Subparagraphs 10.7 or 10.8.

**11.0 Resolution of Claims and Disputes**

- 11.1 The Construction Manager will review claims and take on or more of the following preliminary actions within ten days of receipt of a Claim: (1) request additional supporting data from the claimant, (2) submit a schedule to the parties indicating when the Construction Manager expects to take action, (3) reject the Claim in whole or in part, stating reasons for rejection, (4) recommend approval of the claim by the other party or (5) suggest a compromise. The Construction Manager may also, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim.
- 11.2 If a Claim has been resolved, the Construction Manager will prepare or obtain appropriate documentation.
- 11.3 If a claim has not been resolved, the party making the Claim shall, within ten days after the Construction Manager's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested by the Construction Manager, (2) modify the initial Claim or (3) notify the Construction Manager that the initial Claim stands.
- 11.4 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Construction Manager, the Construction Manager will notify the parties in writing that the Construction Manager's decision will be made within seven days, which decision shall be final and binding on the parties but subject to arbitration. Upon expiration of such time period, the Construction Manager will render to the parties the Construction Manager's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both. If there is a surety and there appears to be possibility of a Subcontractor's default, the Construction Manager may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**12.0 Arbitration**

- 12.1 Controversies and Claims Subject to Arbitration. Any controversy or Claim arising out of or related to the contract, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator or arbitrators may be entered in any court having jurisdiction thereof, except controversies or Claims relating to aesthetic effect and except those waived as provided for in Subparagraph 10.5. Such controversies or Claims upon which the Construction Manager has given notice and rendered a decision as provided in Subparagraph 11.4 shall be subject to arbitration upon written demand of either party. Arbitration may be commenced when 45 days have passed after a Claim has been referred to the Construction Manager as provided in Paragraph 10.0 and no decision has been rendered.
- 12.2 Rules and Notices for Arbitration. Claims between the Owner and Subcontractor not resolved under Paragraph 11.0 shall, if subject to arbitration under Subparagraph 12.1, be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect, unless the parties mutually agree otherwise. Notice of demand for arbitration shall be filed in writing with the other party to the Agreement between the Owner and Subcontractor and with the American Arbitration Association, and a copy shall be filed with the Construction Manager.
- 12.3 Contract Performance During Arbitration. During arbitration proceedings, the Owner and Subcontractor shall comply with Subparagraph 10.4.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 12.4 When Arbitration May Be Demanded. Demand for arbitration of any Claim may not be made until the earlier of (1) the date of which the Construction Manager has rendered a final written decision on the Claim, (2) the tenth day after the parties have presented evidence to the Construction Manager or have been given reasonable opportunity to do so, if the Construction Manager has not rendered a final written decision by that date, or (3) any of the five events described in Subparagraph 10.2.
- 12.5 When a written decision of the Construction Manager states that (1) the decision is final but subject to arbitration and (2) a demand for arbitration of a Claim covered by such decision must be made within 30 days after the date on which the party making the demand receives the final written decision, then failure to demand arbitration within said 30 days' period shall result in the Construction Manager's decision becoming final and binding upon the Owner and Subcontractor. If the Construction Manager renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence, but shall not supersede arbitration proceedings unless the decision is acceptable to all parties concerned.
- 12.6 A demand for arbitration shall be made within the time limits specified in Subparagraphs 12.1 and 12.4 and clause 12.5 as applicable, and in other cases within a reasonable time after the Claim has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations as determined pursuant to Paragraph 15.0.
- 12.7 Limitation on Consolidation or Joinder. No arbitration arising out of or relating to the Contract Documents shall include, but consolidation or joinder or in any other manner, the Construction Manager, the Construction Manager's employees or consultants, except by written consent containing specific reference to the Agreement and signed by the Construction Manager, Owner, Subcontractor and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the Owner, Subcontractor, a separate Subcontractor and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Owner, Subcontractor or a separate Subcontractor shall be included as an original third party of additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a dispute not described therein or with a person or entity not named or described therein. 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.
- 12.8 Claims and Timely Assertion of Claims. A party who files 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. When a party fails to include a Claim through oversight, inadvertence or excusable neglect or when a Claim has matured or been acquired subsequently, the arbitrator or arbitrators may permit amendment.
- 12.9 Judgment on Final Award. 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.

**13.0 Uncovering and Correction of Work**

13.1 Uncovering of Work

13.1.1 If a portion of the Work is covered contrary to the Construction Manager's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Construction Manager, be uncovered for the Construction Manager's observation and be replaced at the Subcontractor's expense without change in the Contract Time.

13.1.2 If a portion of the Work has been covered which the Construction Manager has not specifically requested to observe prior to its being covered, the Construction Manager may request to see such Work and it shall be uncovered by the subcontractor. If such Work is in accordance with the Subcontract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Subcontractor shall pay such costs unless the condition was caused by the Owner or separate contractor in which event the Owner shall be responsible for payment of such costs.

13.2 Correction of Work

13.2.1 The Subcontractor shall promptly correct Work rejected by the Construction Manager or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Subcontractor shall bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the Construction Manager's services and expenses made necessary thereby.

13.2.2 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, 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 Subcontract Documents, the Subcontractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Subcontractor a written acceptance of such condition. This period of one year 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 performance of the Work. This obligation under Subparagraph 13.2.2 shall survive acceptance of the Work under the Subcontract and termination of the Subcontract. The Owner shall give such notice promptly after discovery of the condition.

13.2.3 The Subcontractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Subcontract Documents and are neither corrected by the Subcontractor nor accepted by the Owner.

13.2.4 If the Subcontractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Paragraph 3.5. If the Subcontract does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Construction Manager, the Owner may remove it and store the salvable materials or equipment at the Subcontractor's expense. If the Subcontractor does not pay costs of such removal and storage within ten days after written notice, the Owner may upon ten additional days' written notice, sell such materials and equipment at auction or at



private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Subcontractor, including compensation for the Construction Manager's services and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Subcontractor should have borne, the Subcontract Sum shall be reduced by the deficiency. If payments then or thereafter due the Subcontractor are not sufficient to cover such amount, the Subcontractor shall pay the difference to the Owner.

13.2.5 The Subcontractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Subcontractor's correction or removal of Work which is not in accordance with the requirements of the Subcontract Documents.

13.2.6 Nothing contained in this paragraph 13.2 shall be construed to establish a period of limitation with respect to other obligations which the Subcontractor might have under the Subcontract Documents. Establishment of the time period of one year as described in Subparagraph 13.2.2 related only the specific obligation of the Subcontractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Subcontract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Subcontractor's liability with respect to the Subcontractor's obligations other than specifically to correct the Work.

13.3 Acceptance of Nonconforming Work

13.3.1 If the Owner prefers to accept Work which 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.

14.0 **Miscellaneous**

14.1 Successors and Assigns. The Subcontract shall be binding on the successors, assigns, and legal representatives of Subcontractor and Construction Manager. Subcontractor shall not assign, sublet or transfer an interest in the Subcontract without the written consent of Construction Manager, nor shall Subcontractor assign any moneys due or to become due hereunder without the previous written consent of Construction Manager.

14.2 Severability and Waiver. The partial or complete invalidity of any one or more provisions of the Subcontract shall not affect the validity or continuing force and effect of any other provision. The failure of Construction Manager to insist, in any one or more instances, upon the performance of any of the terms and conditions of the Subcontract, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such terms, conditions or rights.

14.3 Governing Law. The Subcontract shall be governed by the law of Illinois.

14.4 Notice. Any notice required shall be written and sent to each party's local business address. Notice is effective on the date of receipt.

14.5 Independent Subcontractor. Subcontractor is an independent Subcontractor. No contractual relationship shall exist between Owner and Subcontractor.

14.6 Titles. The title given to the Articles, sections, or paragraphs of the Subcontract are for reference only and shall not be relied upon or cited for any other purpose.

**15.0 Commencement of Statutory Limitation Period**

15.1 As between the Owner and Subcontractor:

15.1.1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;

15.1.2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and

15.1.3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Subcontractor pursuant to any warranty provided under Paragraph 2.24, the date of any correction of the Work or failure to correct the Work by the Subcontractor under Paragraph 13.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Subcontractor or Owner, whichever occurs last.

**16.0 Harmony Clause**

16.1 All Subcontractors agree that no labor dispute of any kind involving any Subcontractor, or their employees or agents shall be permitted to occur or be manifested on the Project and the Subcontractors agree to that end to only employ persons on the Work who will work at all times in harmony with other persons employed on the Project.

16.2 The Subcontractors agree that their employees shall not participate in or accede to any work stoppage, slow down or any type of interference with the performance of work by other persons on the project which may occur as a result of any labor dispute involving their employees.

16.3 Should there be a work stoppage, slow down or any type of interference with the performance or work on the project involving the Subcontractor or his employees resulting from a labor dispute and which in the judgment of the Construction Manager will cause, or threatens to cause delay in the progress of construction, then upon twenty-four (24) hours written notice the Construction Manager shall have the right to declare the Subcontractor in default under this Contract and take such steps as are necessary to finish the uncompleted portion of the Work. In such event the Construction Manager shall have the right to take possession of and use all of the Subcontractor's materials (exclusive of tools) intended for use on the Work. The cost of completion including all expenses, attorney's fees and costs incurred in resolving the labor dispute shall be charged against the Subcontractor's remaining interest in the Contract amount.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00201 - GENERAL PROVISIONS

- 16.4 Should the Subcontractor(s) become involved in a labor dispute resulting in a work stoppage, slow down or any type of interference with progress of construction and resulting in an increase in interest charges to the Construction Manager, the Subcontractor(s) shall be liable to the Construction Manager for this increased cost. If the Subcontractor's remaining interest in the Contract amount exceeds cost of completion, the Subcontractor(s) agree to pay the Construction Manager such excess within thirty (30) days after written demand for such excess has been made upon him by the Construction Manager.
- 16.5 Harmony clause provisions similar to the provisions of the immediately preceding paragraphs shall be included in any of the Subcontractor's subcontracts relating to the Work.

END SECTION 00201

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS  
SECTION 00280 - PREVAILING WAGE RATES

PREVAILING RATE OF WAGES

- 0.1 Pursuant to Public Act 86-799, these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

**Attached is a copy of the latest available prevailing wage rates from the State of Illinois web site. Contractor is required to be current with and pay the current prevailing wage rates in effect for this project.**

### Du Page County Prevailing Wage for July 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====
ASBESTOS ABT-GEN		ALL		39.400	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500
ASBESTOS ABT-MEC		BLD		36.340	38.840	1.5	1.5	2.0	11.47	10.96	0.000	0.720
BOILERMAKER		BLD		47.070	51.300	2.0	2.0	2.0	6.970	18.13	0.000	0.400
BRICK MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030
CARPENTER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
CEMENT MASON		ALL		43.750	45.750	2.0	1.5	2.0	13.05	14.45	0.000	0.480
CERAMIC TILE FNSHER		BLD		36.810	0.000	1.5	1.5	2.0	10.55	9.230	0.000	0.770
COMMUNICATION TECH		BLD		32.650	34.750	1.5	1.5	2.0	9.550	15.16	1.250	0.610
ELECTRIC PWR EQMT OP		ALL		37.890	51.480	1.5	1.5	2.0	5.000	11.75	0.000	0.380
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390
ELECTRIC PWR GRNDMAN		ALL		29.300	51.480	1.5	1.5	2.0	5.000	9.090	0.000	0.290
ELECTRIC PWR GRNDMAN		HWY		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310
ELECTRICIAN		BLD		38.160	41.980	1.5	1.5	2.0	9.550	18.29	4.680	0.680
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600
FENCE ERECTOR	NE	ALL		37.340	39.340	1.5	1.5	2.0	13.05	12.06	0.000	0.300
FENCE ERECTOR	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700
GLAZIER		BLD		40.500	42.000	1.5	2.0	2.0	13.14	16.99	0.000	0.940
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720
IRON WORKER	E	ALL		44.200	46.200	2.0	2.0	2.0	13.65	21.14	0.000	0.350
IRON WORKER	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700
LABORER		ALL		39.200	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500
LATHER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
MACHINIST		BLD		45.350	47.850	1.5	1.5	2.0	7.260	8.950	1.850	0.000
MARBLE FINISHERS		ALL		32.400	34.320	1.5	1.5	2.0	10.05	13.75	0.000	0.620
MARBLE MASON		BLD		43.030	47.330	1.5	1.5	2.0	10.05	14.10	0.000	0.780
MATERIAL TESTER I		ALL		29.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500
MATERIALS TESTER II		ALL		34.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500
MILLWRIGHT		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
OPERATING ENGINEER		BLD 1		48.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 2		46.800	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 3		44.250	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 4		42.500	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 5		51.850	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 6		49.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		BLD 7		51.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		FLT		36.000	36.000	1.5	1.5	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		HWY 1		46.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 2		45.750	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 3		43.700	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 4		42.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 5		41.100	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 6		49.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
OPERATING ENGINEER		HWY 7		47.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250
ORNAMNTL IRON WORKER E		ALL		45.000	47.500	2.0	2.0	2.0	13.55	17.94	0.000	0.650
ORNAMNTL IRON WORKER W		ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700
PAINTER		ALL		41.730	43.730	1.5	1.5	1.5	10.30	8.200	0.000	1.350
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780
PLASTERER		BLD		43.430	46.040	1.5	1.5	2.0	10.05	14.43	0.000	1.020
PLUMBER		BLD		46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880
ROOFER		BLD		41.000	44.000	1.5	1.5	2.0	8.280	10.54	0.000	0.530
SHEETMETAL WORKER		BLD		44.720	46.720	1.5	1.5	2.0	10.65	13.31	0.000	0.820
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550
STEEL ERECTOR	E	ALL		42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350
STEEL ERECTOR	W	ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700
STONE MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030
<del>SURVEY WORKER</del>												
SURVEY WORKER												
TERRAZZO FINISHER		BLD		38.040	0.000	1.5	1.5	2.0	10.55	11.22	0.000	0.720
TERRAZZO MASON		BLD		41.880	44.880	1.5	1.5	2.0	10.55	12.51	0.000	0.940

TILE MASON	BLD	43.840	47.840	1.5	1.5	2.0	10.55	11.40	0.000	0.990
TRAFFIC SAFETY WRKR	HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500
TRUCK DRIVER	ALL 1	35.920	36.120	1.5	1.5	2.0	8.280	8.760	0.000	0.150
TRUCK DRIVER	ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCKPOINTER	BLD	42.620	43.620	1.5	1.5	2.0	10.05	13.34	0.000	0.670

**Legend:** RG (Region)  
 TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)  
 C (Class)  
 Base (Base Wage Rate)  
 FRMAN (Foreman Rate)  
 M->8 (OT required for any hour greater than 8 worked each day, Mon through Fri.  
 OSA (Overtime (OT) is required for every hour worked on Saturday)  
 OSH (Overtime is required for every hour worked on Sunday and Holidays)  
 H/W (Health & Welfare Insurance)  
 Pensn (Pension)  
 Vac (Vacation)  
 Trng (Training)

## Explanations

DUPAGE COUNTY

IRON WORKERS AND FENCE ERECTOR (WEST) - West of Route 53.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

### EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

### CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

## COMMUNICATIONS TECHNICIAN

Low voltage installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

## MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

## OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft.; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

#### OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

#### OPERATING ENGINEER - FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender



SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

#### TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turntrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turntrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

#### TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

#### Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

#### LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

#### MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

PART 1 GENERAL

1.1 SUMMARY

A. General Notes Pertaining to all and or specific Bid Packages:

Bid Pkg. #	Trade	Scope Item #	Scope – This Trade Contractor’s scope shall include but not be limited to the scope listed below. Please see entirety of bid documents for all scope.
ALL	ALL	0.1	Each Trade Contractor shall submit one fully executed copy of AIA Document A305 “Contractor’s Qualification Statement” prior to the bid due date as identified in the Notice to Bidders. Faxed submittals are acceptable. A305 document copies may be obtained from the Chicago AIA office located at 222 Merchandise Mart Plaza, Suite 1049, Chicago, IL 60654
ALL	ALL	0.2	Each Trade Contractor shall coordinate all on-site activities including but not limited to site access, site parking, deliveries, etc. with Wight Construction Services, Inc. on-site supervision.
ALL	ALL	0.3	ALL TRADE CONTRACTORS shall be responsible for keeping scrap and debris cleared from the construction site on a continuing basis. TRADE CONTRACTORS will be required to list their respective dollar value for clean up on the Schedule of Values Form G703 <b>no later than 5 business days from the issuance of Notice to Proceed.</b> Each TRADE CONTRACTOR providing work during any week period will be required to furnish DAILY cleanup personnel, for the needed time to clean the building as directed by the Construction Manager. If this cleanup is not completed to the satisfaction of the Construction Manager, the Construction Manager will contract clean up to be done, and the TRADE CONTRACTOR will be back-charged accordingly.
ALL	ALL	0.4	This Trade Contractor’s field personnel shall complete a safety orientation (managed by the Construction Manager; approximate duration is 1-hour) prior to any on-site activities. At a minimum, the Trade Contractor’s Project Manager and site foreman will be required to attend. If this Trade Contractor fails to attend this meeting on the specified date and time, the Trade Contractor will be charged for a separate orientation at the hourly billing rates for Wight Construction’s Safety Officer.
ALL	ALL	0.5	All Trade Contractors shall be responsible for safety for this portion of work. Provide all necessary scaffolding, handrails, ladders, equipment, etc. necessary to perform the described work. Comply with all O.S.H.A., local, state, or federal safety authorities having jurisdiction.
ALL	ALL	0.6	Each Trade Contractor shall exclude tax payment of Retailers’ Occupation Tax, the Service Occupation Tax (both state and local), the Use Tax and the Service Use Tax, as required by IL Law. The tax exempt letter for District 99 will be furnished to all of the successful bidders.
ALL	ALL	0.7	Control line surveying will be by others. All Trade Contractors shall protect and maintain all survey work by others. This Trade Contractor shall be responsible for all layout and in field measurements related to this Trade Contractor’s work and shall coordinate this layout work with the layout of adjacent work by others.
ALL	ALL	0.8	Each Trade Contractor shall conduct all contract related activities within the guidelines for phasing and scheduling established on this project. It is the responsibility of each Trade Contractor to review and accept, as part of contract, the regular and ongoing schedule updates on this project.

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.9	<p>The industry rule of thumb term “Use is Acceptance” will be enforced.</p> <ul style="list-style-type: none"> <li>a) When work is performed, it will be assumed this Trade Contractor has inspected and accepted the quality and coordination of the work of other trade contractors that this Trade Contractor is working on or against.</li> <li>b) Start of work by this Trade Contractor on top of or against any other surface means this Trade Contractor has accepted the quality and completeness of that surface.</li> <li>c) This Trade Contractor is responsible for preparing (i.e. cleaning) adjacent surfaces including but not limited to those surfaces completed by others prior to proceeding.</li> </ul>
ALL	ALL	0.10	<p>As defined by the American Institute of Architects, “the Contractor is the person or entity identified as such in the agreement and is referred to throughout the Contract as if singular in number. The term “Contractor” means the Contractor or the Contractor’s authorized agent.” Trade Contractor, Subcontractor, Sub-Tier Contractor or any derivative thereof shall be all considered synonymous with Contractor.</p>
ALL	ALL	0.11	<p>Each Trade Contractor shall complete the payment application Schedule of Values sheet including full disclosure and listing of each aspect of Trade Contractor’s work valued in excess of \$5,000, within 5 working days of the issuance of a Letter of Intent from Wight Construction.</p>
ALL	ALL	0.12	<p>ALL TRADE CONTRACTORS furnishing material for delivery and installation at any time on this project shall be responsible for the purchase and storage of that material at no additional cost to the Owner. Payment for off-site stored material will not be considered.</p>
ALL	ALL	0.13	<p>ALL TRADE CONTRACTORS shall promptly notify the Construction Manager of any damage caused to their work by another TRADE CONTRACTOR and shall be responsible to remedy their claim with the party causing the damage. Should the responsible party, within 24 hours’ notice, fail to remedy all damages or loss, the Construction Manager shall have the right to remedy the situation and the cost thereof will be back charged to the TRADE CONTRACTOR responsible for the damage or loss.</p>

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.14	<p>Performance Clause: All Trade Contractors shall at all times supply a sufficient number of jurisdictionally skilled workers to perform, with promptness and diligence, the work covered by contract. Should any workers performing work covered by contract engage in a strike, work stoppage and/or slowdown of any kind or cease to work because of picketing or a labor dispute of any kind, Construction Manager may, at its option and without prejudice to any other remedies it may have, after twenty-four (24) hours written notice to Contractor, provide any such labor and deduct the cost thereof from any moneys then due or thereafter to become due to Contractor. Further, Construction Manager may at its option, without prejudice to any other remedies it may have, terminate the employment of Contractor for work under this contract. Construction Manager shall have the right to enter upon the premises and take possession, for the purpose of completing the work hereunder, of all Contractors' materials, tools and equipment thereon. Further, Construction Manager may finish the work either with its own employees or those of other contractors. When terminated by Construction Manager, Contractor will not receive any further payments under the contract or otherwise. Contractor shall remain liable for any damages that Construction Manager incurs. If expenses incurred by Construction Manager, in completing the work, exceed the unpaid balance due Contractor, Contractor shall pay difference to Construction Manager. In addition, Construction Manager may collect other damages incurred as a result of Contractor's default. Construction Manager shall have a lien upon all on-site material, tools, equipment or other property of Contractor to secure payment thereof. In the event of any inconsistency between the provisions of the performance clause and any other provisions of the contract or the contract documents, the provisions for the performance clause shall prevail. Any provisions of the contract or the contract documents with respect to arbitration or determination of disputes arbitrator or others shall not apply to this performance clause.</p>
ALL	ALL	0.15	<p>If the work of this Trade Contractor is determined by Construction Manager to be deficient in any way this Trade Contractor understands and accepts that in-progress and/or completed work will be redone at the full expense of this Trade Contractor on a time line as established by Construction Manager.</p>
ALL	ALL	0.16	<p>Warranty will be executed upon substantial completion of the entire project. Based on the sequencing of work this Trade Contractor understands that portions of the work may be completed well in advance of this substantial completion date.</p>
ALL	ALL	0.17	<p>All TRADE CONTRACTORS are required to conduct a preliminary punch list walk through with the Construction Manager. TRADE CONTRACTORS will have an allotted time frame to complete deficiencies. TRADE CONTRACTOR is also required to conduct a final walk through with the Construction Manager and Owner and correct and complete those deficiencies within 2 weeks of final punch list. If the TRADE CONTRACTOR fails to complete punch list within allotted time frame, the Construction Manager reserves the right to hire a separate trade contractor to make the corrections to complete those punch list items not addressed and back charge the TRADE CONTRACTOR at the cost of the work.</p>
ALL	ALL	0.18	<p>It is the responsibility of each TRADE CONTRACTOR to assure that his respective area of construction is watertight and protected from the elements, as necessary and as a result of his work, throughout the construction period.</p>

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.19	All drawings, specification sections, and scopes of work should be referenced for the extent of the work under all accounts.																	
ALL	ALL	0.20	Although Specifications are allocated to the respective "Scopes of Work", it is the intention of the Construction Manager that each TRADE CONTRACTOR read all Specification Sections, and that the Scopes of Work shall take precedence over any allocation of work made by the Architect.																	
ALL	ALL	0.21	All TRADE CONTRACTORS shall be responsible for repair of ruts and removal of trapped water on a continuous basis caused by the use of their motorized equipment.																	
ALL	ALL	0.22	All TRADE CONTRACTORS shall be responsible for damage caused by the use of their motorized lifts, rolling scaffold or other elevated type equipment used on the project.																	
ALL	ALL	0.23	All TRADE CONTRACTORS shall be responsible for cleaning mud and stone off of the tires and tracks of their vehicles and construction equipment prior to entering public roadways off of the project site.																	
ALL	ALL	0.24	All TRADE CONTRACTORS shall be responsible for submitting a work schedule for all of their work on the site within ten working days from of the issuance of a Letter of Intent from Wight Construction. This is to include all durations for each phase of work to be performed by this TRADE CONTRACTOR.																	
ALL	ALL	0.25	<p><b>It is hereby acknowledged that TRADE CONTRACTOR will provide the following insurance coverage as noted in the project manual:</b></p> <p><b>General Liability</b> – Per Project Aggregate, including CG 2010 (11/85) or its equivalent language which is CG2010 (10/01) the CG2037 (10/01) and Waiver of Subrogation endorsement in favor of Additional Insured's</p> <table style="margin-left: 40px;"> <tr> <td>General aggregate per project</td> <td style="text-align: right;">\$2,000,000</td> </tr> <tr> <td>Products/completed operations aggregate</td> <td style="text-align: right;">\$2,000,000</td> </tr> <tr> <td>Personal and advertising injury</td> <td style="text-align: right;">\$1,000,000</td> </tr> <tr> <td>Each occurrence</td> <td style="text-align: right;">\$1,000,000</td> </tr> </table> <p><b>Automobile Liability Insurance</b> – In favor of additional insured's</p> <table style="margin-left: 40px;"> <tr> <td>Bodily Injury and Property Damage Each Accident</td> <td style="text-align: right;">\$1,000,000</td> </tr> </table> <p><b>Excess/Umbrella Liability Insurance</b> – Per Occurrence, In favor of additional insured's</p> <table style="margin-left: 40px;"> <tr> <td>Aggregate</td> <td style="text-align: right;">\$5,000,000</td> </tr> <tr> <td>Each occurrence</td> <td style="text-align: right;">\$5,000,000</td> </tr> </table> <p><b>Workman's Compensation</b> – Including Waiver of Subrogation endorsement in favor of Additional Insured's</p> <table style="margin-left: 40px;"> <tr> <td>\$500,000 each accident Bodily Injury by Accident</td> </tr> <tr> <td>\$500,000 policy limit Bodily Injury by Disease</td> </tr> <tr> <td>\$500,000 each employee Bodily Injury by Disease</td> </tr> </table>	General aggregate per project	\$2,000,000	Products/completed operations aggregate	\$2,000,000	Personal and advertising injury	\$1,000,000	Each occurrence	\$1,000,000	Bodily Injury and Property Damage Each Accident	\$1,000,000	Aggregate	\$5,000,000	Each occurrence	\$5,000,000	\$500,000 each accident Bodily Injury by Accident	\$500,000 policy limit Bodily Injury by Disease	\$500,000 each employee Bodily Injury by Disease
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\$500,000 policy limit Bodily Injury by Disease																				
\$500,000 each employee Bodily Injury by Disease																				
ALL	ALL	0.26	Each Trade Contractor shall be responsible for removal and disposal of their waste. All reporting of disposal shall follow spec. section 017419.																	
ALL	ALL	0.27	Pay Applications AND Waivers are to be submitted in original signature triplicates.																	
ALL	ALL	0.28	Provide sufficient equipment, material, skilled manpower, supervision and/or <b>premium time/shift work</b> (all without additional compensation) as may be required to complete the work of this Trade Contractor in accordance with the overall project substantial completion date. Reference Division 0 – Bidding and Contract Requirements, Section 01250 – Construction Schedule.																	
ALL	ALL	0.29	TRADE CONTRACTOR shall be prepared to meet within one week of bid opening to conduct scope reviews, provide submittal log and discuss award of contract.																	

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

ALL	ALL	0.30	Contact J.U.L.I.E. 72 hours minimum prior to any excavation work. Record and document all contact with J.U.L.I.E. including but not limited to Dig Number; present J.U.L.I.E. dig number and all other J.U.L.I.E. related documentation to the Construction Manager 24-hours minimum prior to any excavation. All these J.U.L.I.E. documentation shall be included as part of the close out documentation.
All	All	0.31	Weekly Certified Payroll Reports are required with monthly pay application. Certified Payroll reports are also required on any sub-tiers performing labor.
All	All	0.32	Contractors to provide all necessary signage to alert traffic or other of the work being performed and to provide all related traffic control items as shown on the drawings and/or contract documents. <b>Any TRADE CONTRACTOR not adhering to the traffic control requirements will result in the Construction Manager bringing a flagger onsite at the cost of the TRADE CONTRACTOR(S).</b>
All	All	0.33	All mobilizations and demobilizations related costs of this TRADE CONTRACTOR are to be included without consideration of additional compensation.
All	All	0.34	<b>Change orders are required to be turned in no later than 15 days after the work has been completed and must be accompanied by a signed T&amp;M ticket from the Superintendent. Change orders turned in later than 15 days and/or not accompanied by signed T&amp;M ticket will be subject to rejection.</b>
All	All	0.35	All TRADE CONTRACTORS shall be responsible for his/her for any temporary power needed by that TRADE CONTRACTOR
All	All	0.36	All TRADE CONTRACTORS shall be responsible for the coordination with all other contractors through the Wight Superintendent to achieve final result
All	All	0.37	<b>IT IS THE RESPONSIBILITY OF EACH TRADE CONTRACTOR TO READ THE SCOPES OF WORK FOR ALL TRADES.</b>
All	All	0.38	All TRADE CONTRACTORS must wear High visibility shirts or a high visibility vest at all times. Hard hats and safety glasses must be worn at all times.
All	All	0.39	Each trade contractor must sign in and sign out on the sign-in sheet located in the jobsite trailer every day.
All	All	0.40	Daily Reports are required by trade contractors each day by 8am to the project superintendent in the jobsite trailer. Weekly Tool Box talks will be provided by Superintendent and are to be returned the following day in the jobsite trailer.
All	All	0.41	All trade contractors are required to submit Job Hazard Analysis and method statements as required by the construction manager.

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

Bid Pkg. #	Trade	Scope Item #	Scope – This Trade Contractor’s scope shall include but not be limited to the scope listed below. Please see entirety of bid documents for all scope.
06	Electrical	06.1	This TRADE CONTRACTOR shall be responsible for furnishing and installing all, but not limited to, conduit; boxes; panels; transformers; switchgear; transfer switches; dimming equipment; etc. and other electrical/lighting requirements as required within the specifications and as indicated on drawings.
06	Electrical	06.2	This TRADE CONTRACTOR shall be responsible for testing of electrical systems as required in obtaining approval of inspection authorities having jurisdiction.
06	Electrical	06.3	This TRADE CONTRACTOR shall be responsible for furnishing and installing all material per construction documents and specifications.
06	Electrical	06.4	This TRADE CONTRACTOR shall be responsible for all excavation work as required.
06	Electrical	06.5	This TRADE CONTRACTOR shall be responsible for all providing all items for support of contractor’s work, including all clip hangers, angles, and miscellaneous metal of any nature as required within the specifications and indicated on drawings.
06	Electrical	06.6	This TRADE CONTRACTOR shall be responsible for all work shown and described in the drawings and specifications for this project.
06	Electrical	06.7	Repair of landscaping will be by owner. Any excavated areas are to be finished graded.
06	Electrical	06.8	This TRADE CONTRACTOR shall be responsible for all directory label charts, identification and tagging requirements of work as required within the specifications and as indicated on the drawings.
06	Electrical	06.9	Left Blank
06	Electrical	06.10	Left blank
06	Electrical	06.11	This TRADE CONTRACTOR shall be responsible for all demolition of existing electrical systems to be removed or relocated. This trade contractor shall temporarily support all conduit and equipment as required for the concrete roof demolition. This trade contractor will demolish all conduit as shown and shall disconnect existing controls.
06	Electrical	06.12	This TRADE CONTRACTOR shall be responsible for furnishing, installing and maintaining all temporary service equipment as required until permanent service equipment is installed and live, and switchover of temporary system to permanent service has occurred. This TRADE CONTRACTOR is responsible for all temporary lighting for the duration of the construction.

DIVISION 1 – GENERAL CONDITIONS  
SECTION 00300– Bid Package Scope Document

06	Electrical	06.13	<p>This TRADE CONTRACTOR shall be responsible for the following: Furnishing, installing and maintaining temporary feeders to permanent mechanical equipment repairing service if permanent feeders are not ready for same.</p> <p>Furnishing, installing, rerouting, and removal of temporary electrical power and lighting systems in accordance with job progress to allow other contractors to complete work.</p> <p>Providing temporary electrical outlets on circuits separate from temporary lighting.</p>
06	Electrical	06.14	This TRADE CONTRACTOR shall be responsible for all maintenance of all temporary items, including replacement of lamps, breakers, and fuses etc. as required due to attrition, theft, etc.
06	Electrical	06.15	This TRADE CONTRACTOR shall provide all sleeves and coring of walls, floors, etc., including caulking, patching of walls and floors, packing and safing of sleeves and openings as indicated on construction documents and/or as specified in the project manual. Contractor to protect all floor openings left in floors for passage of piping and other items.
06	Electrical	06.16	This TRADE CONTRACTOR shall be responsible for fire stopping all thru wall penetrations
06	Electrical	06.17	All shut downs and/or interruptions in service, if required, shall be coordinated through the Construction Manager. Such activities will be scheduled to minimize project disruption.
06	Electrical	06.18	This TRADE CONTRACTOR shall be responsible for applications, inspection coordination, scheduling, testing and all things required to satisfy the requirements of local code enforcement inspection services shall be by this trade contractor. This trade contractor to submit verification of conversations, inspections, and/or approvals to Construction Manager within 72 hours of said occurrence.
06	Electrical	06.19	This TRADE CONTRACTOR shall include training as required for the District 99 maintenance staff as scheduled by Construction Manager.
06	Electrical	06.20	This TRADE CONTRACTOR is responsible for disconnection of all electrical devices prior to the start of demolition.
06	Electrical	06.21	<b>This Trade Contractor shall include a \$30,000.00 allowance in the base bid. These funds can only be used with written approval from the construction manager and owner.</b>

**END OF SECTION 00300**



BID DATE: January 18, 2017 at 1:00 p.m. (CST)  
(as date/time stamped by Community High School District's Receptionist)

BID TO: Community High School District 99  
Administrative Center  
6301 Springside Avenue  
Downers Grove, IL 60516

RECEIVED BY:

BID FROM: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

BID FOR: Bid Group 1 - Bid Package #01 Electrical  
**South High School**  
1436 Norfolk Street  
Downers Grove, IL 60516

***It is required to have one original bid form and one copy of your bid form.***

THE UNDERSIGNED:

Acknowledges receipt of:

Plans and specifications for the work indicated above.

Addenda: No. \_\_\_\_\_ dated \_\_\_\_\_  
No. \_\_\_\_\_ dated \_\_\_\_\_  
No. \_\_\_\_\_ dated \_\_\_\_\_  
No. \_\_\_\_\_ dated \_\_\_\_\_

Having examined the site of the work, and having familiarized himself or herself with local conditions affecting the cost of the work and with all requirements of the bidding documents including Instructions to Bidders, drawings, specifications and duly issued addenda as prepared by the architect, Wight & Company, hereby agrees to perform all work and furnish all labor, material and equipment specifically required of him by the bidding documents and such additional work as may be included as related requirements in other divisions or sections of the specifications, exclusive of alternate bids.

Agrees:

To furnish and install the described material and/or services for stated lump sum price.

To hold this bid open until **90** calendar days after bid opening date.

To accept the provisions of the General Provisions (Project Manual Division 0 – Bidding & Contracting

Requirements Section 00201) and disposition of bid security.

To enter into and execute a contract with the Owner, if awarded on the basis of this bid, and in connection therewith to:

1. Furnish all bonds and insurance required by the bidding documents.
2. Accomplish the work in accordance with the contract.
3. Complete the work within the contract time herein specified.

Completion Time:

The undersigned agrees to begin construction immediately, or as directed by the Construction Manager, upon notice of contract award and to perform the following components of the work in accordance with the Construction Manager’s Construction. This schedule is bound in the Project Manual. See attached scope of work in section 0300.

SCOPE OF WORK:

The work in this agreement (without additional compensation) shall include, but shall not necessarily be limited to, all skilled labor, supervision, premium time, materials, tools, equipment, plant, supplies, samples, shop drawings, design/engineering drawings, layout, transportation, supervision, contributions, insurance, taxes (if applicable), compliance with all agencies (City / Village, County, State, Federal and/or any other jurisdictional agency, as may be required) and/or all services and facilities necessary and/or required for the performance of all Work shown, detailed, and/or implied by the following documents and as defined herein.

It is understood that this Trade Contractor shall perform the Work for a complete and operational system as indicated or implied in all Contract Documents. It is recognized and understood that the documents upon which the bid is based are at a conceptual phase and this Contractor who has certain skills and judgments based upon his knowledge of techniques, procedures, systems, general state of the art of his specialty is expected to include in the scope of work, all items required in order to carry out a complete and functional system whether or not shown or described in the contract documents. This contract will be awarded on the basis of such documents with the understanding that this contractor is to furnish and install all items required for the proper completion of this work without adjustment to this contract price. No extra payments shall be made of claims entertained as a result of such items, unless it can be clearly demonstrated to be added scope to the contract and beyond the original intent of the documents.

**Contractor to provide all Trade Contract work referenced in:**

1. Any sheet of this bid group package including (reference Division 0 – Bidding and Contract Requirements, Section 00200 – Notice to Bidders).
2. Specification 00300 Bid Packages Scope Document.

WORK BASE BID: For providing all work including all allowances as required for the completion of the construction of the base bid project as shown on the drawings and specifications and NOT including alternate bids and/or contractor's proposed alternates and substitutes.

BASE BID

**TOTAL BASE BID AMOUNT Downers Grove South – Electrical Work**

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

Award Basis:

The project will be awarded based upon the attached Evaluation Criteria, Section 301a. Owner and Construction Manager alternate's may be considered to find the most qualified bidder if the result of combining the base bid and the selected alternate(s) is the most qualified bid, and is to the benefit of the owner.

Each of the following amounts for alternate construction includes the entire cost of such construction, except as otherwise noted. Acceptance of any or all of the alternates for inclusion in the contract is the sole prerogative of the owner.

All additional costs due to the alternates are included in the amount to be added to the base bid, so that no additional costs will be borne by the owner due to acceptance of alternates. This alternate price is not to be included in the base bid price.

Owner Requested Alternates:

Each of the following amounts for alternate construction includes the entire cost of such construction, except as otherwise noted. Acceptance of any or all of the alternates for inclusion in the contract is the sole prerogative of the owner.

All additional costs due to the alternates are included in the amount to be added to the base bid, so that no additional costs will be borne by the owner due to acceptance of alternates.

Proposed Alternates: (Contractors Proposed Alternates)

Item Specified	Proposed Alternate	Change in Bid Price
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Owner Requested Scheduling Information:

Note: The work of this Trade Contractor is to be completed in accordance with the overall project schedule as identified elsewhere in this project manual and/or as subsequently directed by Construction Manager. This Trade Contractor shall submit a proposed submittals list/schedule/material log within five (5) calendar days of Notice To Proceed.

1. Shop drawings / Submittal for this trade contractor will be submitted within 10 calendar days of receipt of notice to proceed.

Bid Acceptance:

If written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned within the time noted herein, after the date of opening of bids or at any time thereafter before this bid is withdrawn, the undersigned agrees that he will execute a construction contract in accordance with the bids as accepted.

The Owner reserves the right to award the contract to its best interests, review and accept any and all value engineering alternatives, negotiate with the lowest responsible bidder, to reject any or all bids, to waive any informalities in bidding and to hold all bids for the bid guarantee period. The Owner reserves the right to award separate contracts for any of the items of work bid herein.

Bid Deposit:

The undersigned furnishes herewith, as required in the Instructions to Bidders, a bid deposit in the amount of ten percent (10%) of the amount bid in the form of Cashier's Check, or Certified Check, made payable to the Owner or Bid Bond, naming the Owner as obligee. (Bidder to check form of deposit furnished.)

It is understood and agreed that should the undersigned fail to enter into a contract with the Owner or furnish acceptable contract security within the time and in the manner herein provided, the bid deposit shall be retained by the Owner as liquidated damages and not as a forfeiture. As it is impossible to determine precisely an exact amount of damages the Owner will sustain, it is agreed that the bid deposit is a fair and equitable estimate of such damages.

REPRESENTATIONS AND CERTIFICATIONS:

The bidder makes the following representations and certifications as part of his bid on the project herein identified in the Bid Form. In the case of a joint venture bid, each party represents and certifies as to his own organization.

AVAILABILITY. The number and amount of contracts and awards pending which I am and/or will be obligated to perform, now and during the course of the project, will not interfere with or hinder the timely prosecution of my work.

SURETY. I have notified a Surety Company that I am submitting a bid for work to be performed on the project. The Surety Company has agreed to issue a performance and labor and material payment bond for my work, if my bid is accepted and the contract awarded to me.

INDEPENDENT PRICE DETERMINATION. The contract sum in this bid has been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.

PREVAILING WAGE. The contractor and each subcontractor shall pay not less than the general prevailing rate of hourly wages for work of a similar character in the locality in which the work is performed and not less than general prevailing rate of hourly wages for legal holidays and overtime work in the performance of work under this contract, as established by the Illinois Department of Labor, pursuant to an act of the General Assembly of the State of Illinois approved June 26, 1941 as amended according to Section 820 ILCS 130/1.

Pursuant to Section 820 ILCS 130/5, the contractor and each subcontractor shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them, and also showing the actual hourly wages paid to each such individual, which record shall be open at all reasonable hours to inspection by the Owner, its officers and agents, and to agents of the Illinois Department of Labor.

The contractor and each subcontractor hereby agree, jointly and severally, to defend, indemnify and hold harmless the Owner from any and all claims, demands, liens or suits of any kind or nature whatsoever (including suits for injunctive relief) by the Illinois Department of Labor under the Illinois Prevailing Wage Act, Section 820 ILCS 130/1., or by any laborer, worker or mechanic employed by the contractor or the subcontractor who alleges that he has been paid for his services in a sum less than prevailing wage rates required by Illinois law. The Owner agrees to notify the contractor or subcontractor of the pendency of any such claim, demand, lien or suit.

By submitting a bid, each bidder agrees to waive any claim it has or may have against the Owner, the Architect, Engineer, Construction Manager and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid; waiver of any requirements under the Bid Documents; or the Contract Document; acceptance or rejection of any bids; and award of the Contract.

Signature:

Respectfully submitted this \_\_\_\_\_ day \_\_\_\_\_, 2017

Type of Firm (Bidder to indicate)

\_\_\_\_\_ Individual

\_\_\_\_\_ Partnership

\_\_\_\_\_ Corporation

\_\_\_\_\_ Joint Venture

\_\_\_\_\_ Other

(CORPORATE SEAL)

\_\_\_\_\_  
(Firm Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Telephone Number)      (FAX)

\_\_\_\_\_  
(E-mail Address)

\_\_\_\_\_  
(Bidder's Signature)

\_\_\_\_\_  
(Title)

Subscribed and sworn to me  
this \_\_\_\_\_ day of \_\_\_\_\_, 2013

\_\_\_\_\_

---

**NOTE: All pages of this bid form must be returned with your proposal. Failure to do so shall disqualify your bid.**

---

**CERTIFICATE OF BIDDER ELIGIBILITY**

720 ILCS 5/33E-11 REQUIRES THAT ALL CONTRACTORS BIDDING FOR PUBLIC AGENCIES IN THE State of Illinois certify that they are not barred from bidding on public contracts for bid rigging or bid rotation.

The following certification must be signed and submitted with bidder’s bid proposal. FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

\_\_\_\_\_, as part of its bid for the \_\_\_\_\_work for Community High School District 99, Downers Grove, Illinois, DuPage County, Illinois certified that said contractor is not barred from bidding on the aforementioned contract as a result of violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33-E4.

Firm: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This \_\_\_\_\_ day of \_\_\_\_\_, 2017

\_\_\_\_\_  
NOTARY PUBLIC

**CRIMINAL CODE CERTIFICATION  
AS REQUIRED BY:  
STATE OF ILLINOIS CRIMINAL CODE OF 2012, 720 ILCS 5/33E-11**

I, \_\_\_\_\_ the individual whose signature appears below on this bid/contract  
for \_\_\_\_\_ hereby certify that the bidding party/contracting  
party is not barred from bidding on the contract as a result of a violation of either Section 33E-3 or Section 33E-4  
of 720 ILCS 5/33E-3 or 5/33E-4 of the Illinois Compiled Statutes, as amended.

By: \_\_\_\_\_  
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before  
me this \_\_\_\_ day \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

**EQUAL EMPLOYMENT OPPORTUNITY**

Section I. This EQUAL EMPLOYMENT OPPORTUNITY CLAUSE is required by the Illinois Human Rights Act and the Rules and Regulations of the Illinois Department of Human Rights published at 44 Illinois Administrative Code Section 750, *et seq.*

Section II. In the event of the Contractor's noncompliance with any provision of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Rules and Regulations of the Department of Human Rights (hereinafter referred to as the Department) the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and this Contract may be canceled or voided in whole or in part, and other sanctions or penalties may be imposed or remedies involved as provided by statute or regulation.

During the performance of this Agreement, the Contractor agrees:

A. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.

B. That, if it hires additional employees in order to perform this Contract, or any portion hereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

C. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizenship status, age, or physical or mental handicap unrelated to ability, military status or an unfavorable discharge from military service.

D. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Vendor's obligations under the Illinois Human Rights Act and Department's Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with the Act and Rules and Regulations, the Contractor will promptly notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations under the Contract.

E. That it will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and Department's Rules and Regulations.



F. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and Department's Rules and Regulations.

G. That it will include verbatim or by reference the provisions of this Equal Employment Opportunity Clause in every subcontract it awards under which any portion of this Contract obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as the other provisions of this Agreement, the Contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Department to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

ACKNOWLEDGED AND AGREED TO:

By: \_\_\_\_\_  
Authorized Agent of Contractor (name and title)

DATE: \_\_\_\_\_

**SEXUAL HARASSMENT POLICY**

\_\_\_\_\_, having submitted a bid for \_\_\_\_\_ (Name of Contractor)  
\_\_\_\_\_ to Community High School District No. 99, hereby certifies  
that said contractor has a written sexual harassment policy in place in full compliance with 775 ILCS 5/2-105 (A) (4).

By: \_\_\_\_\_  
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before  
me this \_\_\_\_ day \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

TAX CERTIFICATION

I, \_\_\_\_\_, having been first duly sworn depose and state as follows:

I, \_\_\_\_\_, am the duly authorized agent for  
to \_\_\_\_\_, which has submitted a proposal  
Community High School District No. 99 for

\_\_\_\_\_ and I hereby certify that \_\_\_\_\_ is not delinquent in the payment of  
any tax administered by the Illinois Department of Revenue, or if it is:

- a. it is contesting its liability for the tax or the amount of tax in accordance with procedures established by the appropriate Revenue Act; or
- b. it has entered into an agreement with the Department of Revenue for payment of all taxes due and is currently in compliance with that agreement.

By: \_\_\_\_\_  
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before  
me this \_\_\_\_ day \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

**SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS PROJECTS**

The Contractor certifies that it has in place a written program that meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (Public Act 95-0635), and will provide a copy thereof to Community High School District No. 99 prior to commencement of work on the Project.

By: \_\_\_\_\_  
Authorized Agent of Contractor (name and title)

SUBSCRIBED AND SWORN to before  
me this \_\_\_\_ day \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

**CERTIFICATE REGARDING  
EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS**

\_\_\_\_\_ agrees if at the time the Agreement is executed, or if during the term of the Agreement, there is excessive unemployment in Illinois as defined in the Employment of Illinois Workers on Public Works Act, 30- ILCS 570/0/01 et seq., as two consecutive months of unemployment exceeding 5%, then \_\_\_\_\_ agrees to employ Illinois laborers in accordance with the Employment of Illinois Workers on Public Works Act. An "Illinois laborer" is defined as any person who has resided in Illinois for at least thirty (30) days and intends to become or remain an Illinois resident.

Firm: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This \_\_\_\_\_ day of \_\_\_\_\_, 2017

\_\_\_\_\_  
NOTARY PUBLIC

**PREVAILING WAGE AFFIDAVIT**

AFFIDAVIT: "I (we) hereby certify and affirm that if awarded a contract with Community High School District 99, we will comply fully with the "Illinois Prevailing Wage Act (Ill. Rev. Stat., 1987 Ch. 48, Sections 398 s-1-12 as amended by Public Act 86-693 and 86-799 effected January 1, 1990, and any other amendments effective thereafter)". We further understand that current prevailing wage standards are included in the Supplementary General Conditions.

The following affidavit must be signed and submitted with bidder's bid proposal. FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

\_\_\_\_\_, as part of its bid for the \_\_\_\_\_ work for Community High School District 99, Downers Grove, Illinois, certifies that said contractor is not barred from bidding on the aforementioned contract as a result of a violation of the Illinois Prevailing Wage Act (Ill. Rev. Stat., 1987 Ch. 48, Sections 398 s-1-12 as amended by Public Act 86-693 and 86-799 effected January 1, 1990).

Firm: \_\_\_\_\_

By: \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This \_\_\_\_\_ day of \_\_\_\_\_, 2017

\_\_\_\_\_  
NOTARY PUBLIC

**NON-COLLUSION AFFIDAVIT**

AFFIDAVIT: "I (we) hereby certify and affirm that my (our) proposal was prepared independently for this project and that it contains no fees or amounts other than that for the legitimate execution of this work as specified and that it includes no understanding or agreements in restraint of trade."

The following affidavit must be signed and submitted with bidder's bid proposal.  
FAILURE TO DO SO MAY RESULT IN DISQUALIFICATION OF THE BIDDER.

\_\_\_\_\_, as a part of its bid for the \_\_\_\_\_ work for Community High School District 99, Downers Grove, Illinois, certifies that said Contractor is not barred from bidding on the aforementioned contract as a result of a violation of the above Non-Collusion Affidavit.

Firm: \_\_\_\_\_

By: \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(Printed Name & Title)

SUBSCRIBED AND SWORN TO before me

This \_\_\_\_\_ day of \_\_\_\_\_, 2017

\_\_\_\_\_  
NOTARY PUBLIC

**Criminal Background Investigations**

Contractor hereby represents, warrants and certified that no officer or director thereof has any knowledge that any employee thereof has been convicted of committing or attempting to commit "Criminal Code of 1961," 720 ILCS, Sections 5/11-6 (Indecent solicitation of a child), 5/11-9 (Public indecency), 5/11-14 (Prostitution), 5/11-15 (Soliciting for a prostitute), 5/11-15.1 (Soliciting for a juvenile prostitute), 5/11-19 (Pimping), 5/11-19.1 (Juvenile pimping), 5/11-19.2 (Exploitation of a child), 5/11-20 (Obscenity), 5/11-20.1 (Sexual assault), 5/12-14 (Aggravated criminal sexual assault), 5/12-15 (Criminal sexual abuse), and 5/120-16 (Aggravated criminal sexual abuse), and/or those offenses defined in the "Cannabis Control Act," 720 ILCS, 550/1 et seq. (except the "Illinois Controlled Substances Act," 720 ILCS 570/100 et seq. and/or any offense committed or attempted in any other state or against the laws of the United States, which if committed or attempted in this State, would have been punishable as one or more of the foregoing offenses.

Contractor further agrees that it shall not employ any person who have or may have direct, daily contact with the pupils of any school in the district, and for whom a criminal background investigation has not been conducted pursuant hereto, and further represents and agrees that all applicants for any such employment shall furnish with their applications the attached written "Authorization for Criminal Background Information" form authorizing the Board of Education to request a criminal background investigation of said applicant pursuant to Section 5/10-21.9 of the School Code of Illinois and to receive criminal history record information pursuant thereto to determine if the applicant has been convicted of committing or attempting to commit any of the criminal or drug offenses enumerated above. Contractor further agrees to submit with said authorization payment for any costs and expenses associated with the criminal background investigation.

Contractor further represents, warrants, and certifies that no applicant for employment with respect to whom the criminal investigation reveals any conviction for committing and/or attempting to commit any of the above enumerated offenses shall be employed thereby in any position that involves or may involve contact with the students of the school district.

This certification is executed on the date hereinafter indicated by the designated contractor by its duly authorized officer.

Firm: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name & Title)

Date: \_\_\_\_\_



**Criminal Background Investigation**

The undersigned hereby authorizes in Board of Education of Community High School District 99, Downers Grove, Illinois, to request a criminal background investigation from the Illinois State Police, pursuant to Section 5/10-21.9 of the School Code of Illinois, 105 ILCS 5/10-21.9 and to receive criminal history record information pursuant thereto.

By: \_\_\_\_\_  
(Signature of Applicant of Employee)

\_\_\_\_\_  
(Printed or Typed Name of Applicant Employee)

Date: \_\_\_\_\_

**BUSINESS CLASSIFICATION**

a) **Business Entity (check one)**

Corporation (Publicly held)\*     Not-for-Profit\*     Government Agency/Public Institution\*  
 Corporation (Privately held)     Partnership     Sole Proprietor

\* If checked, do not complete section III (b) and (c) below.

b) **Business Ownership (check one)** If minority or woman owned, attach copy of certification evidence.

Large Business:     Male Owned     Woman Owned  
Small Business:     Male Owned     Woman Owned

**BUSINESS DEFINITIONS**

**Small Business Concern** - an independently owned and operated concern certified, or certifiable, as a small business by the Federal Small Business Administration (SBA). Standard Industrial Classification (SIC) codes may be found in the Federal Acquisition Regulations, Section 19.102 or in the Federal Procurement Regulations, Section 1-1.701.

**Small Disadvantaged or Minority Business Concern** - a small business concern which is at least fifty-one percent (51%) owned by one or more socially and economically disadvantaged individuals or in the case of any publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by such individuals; and whose management and daily business operations are controlled by one or more of such individuals. Business owners who certify that they are members of named groups (Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans) are considered socially and economically disadvantaged.

**Woman-Owned Business** - a business concern that is at least fifty-one percent (51%) owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management.

c) **Race/Ethnicity of Ownership (check one)** based on definitions below.

Black     Asian/Pacific or Asian/Indian     Caucasian  
 Hispanic     Native American (American Indians, Eskimos, Aleuts and native Hawaiians)

**ETHNIC GROUP DEFINITIONS**

**Black Americans:** United States citizens whose origins are in any of the Black racial groups of Africa.

**Hispanic Americans:** United States citizens whose origins are in Mexico, Puerto Rico, Cuba, Portugal, Central or Central America.

**Native Americans:** United States citizens whose origins are in any of the original peoples of North America, i.e., American Indians, Eskimos, Aleuts and native Hawaiians.

**Asian Pacific/Asian Indian Americans:** United States citizens whose origins are in Japan, China, Korea, Taiwan, Cambodia, Laos, Vietnam, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands, the Northern Mariana Islands, India, Pakistan, or Bangladesh.

I certify that the business classification and ethnicity indicated above reflects the true and correct status of this business in accordance with current Federal Small Business Administration criteria. I agree to inform Community High School District 99 immediately in writing of any changes to the information contained herein, including changes in ownership, controlling interest or operations. I understand that falsely certifying this information may result in suspension from participation in Community High School District 99 - North High School Phase II project.

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
(Print or Type)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**END OF SECTION 00301**

PART 1 - GENERAL

1.1 SUMMARY

- A. The Owner is: Community High School District 99  
6301 Springside Avenue  
Downers Grove, IL 60516
  
- B. The Architect is: Wight & Company  
2500 North Frontage Road  
Darien, Illinois 60561
  
- C. The Construction Manager is: Wight Construction Services, Inc.  
2500 North Frontage Road  
Darien, Illinois 60561
  
- D. Section Includes:
  - 1. Project description.
  - 2. Contracts scope description.
  - 3. Applicable regulatory requirements.
  - 4. Permits and licenses.
  - 5. Access to the site.
  - 6. Contractor's use of the premises.
  - 7. Coordination requirements.
  - 8. Work sequence.
  
- E. Related Sections:
  - 1. Contract responsibilities and general requirements: Elsewhere in Division 1.
  - 2. Scope of Work for each trade is identified bid package scope document 00300.

1.2 PROJECT DESCRIPTION

- A. The Bid Group consists of completing scope as associated with the project identified as Community High School District 99 Downers Grove North Boiler House Upgrades.
  
- B. The project location is: South High School  
1436 Norfolk Street  
Downers Grove, IL 60516
  
- C. The Group No. 1 Bid Package(s) work consists of:  
Bid Package #01 – Electrical
  
- D. The work consists of:
  - 1. Access to site.
  - 2. Contractor's use of the premises.
  - 3. Coordination requirements.
  - 4. Coordination drawings.
  
- E. Sequencing:
  - 1. Refer to the attached Construction Schedule for construction sequences for this project.

1.3 PRIME CONTRACTS

- A. Each prime contract shall include the work described in:
  - 1. The agreement.
  - 2. The General Provisions.
  - 3. The Bid Form.
  - 4. Division 1 specification sections, except as specifically indicated to be the responsibility of a particular Contractor.
  
- B. Other sections which include descriptions of the scope of work of prime contracts are:
  - 0. Section 01010 – Summary of Work
  - 1. Section 01025 – Payment, Modification and Completion Procedures.
  - 2. Section 01200 – Progress Documentation and Procedures.
  - 3. Section 01250 – Construction Schedule.
  - 4. Section 01300 – Submittals.
  - 5. Section 01400 – Quality Control Procedures.
  - 6. Section 01510 – Temporary Utilities.
  - 7. Section 01600 – Product Requirements.
  - 8. Section 01630 – Product Options & Substitutions
  - 9. Section 01700 – Construction Procedures.
  - 10. Section 01800 – Project Record Documents.
  
- C. All Contractors' Duties:
  - 1. Owner is exempt from sales tax on products permanently incorporated in work.
  - 2. Obtain sales tax exemption certificate number from Owner.
  - 3. Place exemption certificate number on invoices for materials incorporated in work.
  - 4. All contractors shall provide Performance, Labor and Material Payment Bonds.
  - 5. Secure and pay for, as necessary for proper execution and completion of work, and as applicable at times of receipt of bids:
    - a. Permits: All permits required (except Building Permit).
    - b. Government fees.
    - c. Licenses.
  - 6. All contractors working on site must be licensed and bonded according to requirements of Will County.
  - 7. Contact inspecting agencies associated with contractor specific work to: a) schedule any and all required inspections, b) complete that work required for acceptance of contractor specific work by the jurisdictional inspecting agency, and c) submit all inspecting agency sign-off related documentation to Construction Manager.

1.4 DEFINITIONS

- A. Furnish: To supply products to the project site, including delivering ready for unloading and replacing damaged and rejected products.
  
- B. Install: To put products in place in the work ready for the intended use, including unloading, unpacking, handling, storing, assembling, installing, erecting, placing, applying, anchoring, working, finishing, curing, protecting, cleaning, and similar operations.
  
- C. Provide: To furnish and install products.
  
- D. Indicated: Shown, noted, scheduled, specified, or drawn, somewhere in the contract documents.

- A. 1.5 AS ADOPTED BY THE ILLINOIS ADMINISTRATIVE CODE, TITLE 23: EDUCATION AND CULTURAL RESOURCES, SUBTITLE a: EDUCATION, CHAPTER 1: STATE BOARD OF EDUCATION, SUBCHAPTER D: CONSTRUCTION AND BUILDING MAINTENANCE, PART 180 HEALTH/LIFE SAFETY CODE FOR PUBLIC SCHOOLS, SECTION 180.60 APPLICABILITY:

ILLINOIS ADMINISTRATIVE CODE, TITLE 23,180

1. 2009 International Building Code
2. 2009 International Energy Conservation (IECC)
3. 2009 International Existing Building Code (IEBC)
4. 2009 International Fire Code (IFC); excluding Chapter 4;
5. 2009 International Fuel Gas Code (IFGC);
6. 2009 International Mechanical Code (IMC);
7. 2009 International Property Maintenance Code (IPMC)

B. AMENDMENTS

1. The provisions of 29 Ill. Adm. Code 1500 (Joint Rules of the Office of the State Fire Marshal and the Illinois State Board of Education: School Emergency and Crisis Response Plans) shall apply instead of Chapter 4 of the International Fire Code.
2. The administrative provisions of this part shall apply instead of the administrative provisions contained in Sections 101.4, 103-108, 110-113, and 115 of Chapter 1 of the International Building Code.
3. The Illinois Accessibility Code (71 Ill. Adm. Code 400) shall apply instead of the accessibility provisions set forth in Chapter 11 of the International Building Code.
4. The requirements set forth in the Illinois Plumbing Code (77 Ill. Adm. Code 890) shall apply instead of those expressed in Section 101.4.4 of Chapter 1 and incorporated in Chapter 35 of the International Building Code.
5. The requirements set forth in the Illinois State Fire Marshal's rules titled Boiler and Pressure Vessel Safety (41 Ill. Adm. Code 120) shall apply instead of those expressed in the Boiler and Pressure Vessel Safety Code (ASME 98) published by the American Society of Mechanical Engineers and incorporated in Chapter 35 of the International Building Code.

C. Authorities

1. Downers Grove Fire Department.
2. City of Downers Grove.

D. Other regulations may also be applicable.

E. Obtain copies of the regulations listed above and keep at the project site for the use of all parties.

F. Submit copies of all permits, licenses, and similar permissions obtained, and receipts for fees paid, to the Construction Manager directly.

1.6 ACCESS TO THE SITE AND USE OF THE PREMISES

A. The space available to the Contractor for the performance of the work, either exclusively or in conjunction with others performing other construction as part of the project, is the areas of construction.

B. ***Other areas are off limits to all construction personnel unless permission is granted by the Owner and Construction Manager.***

- C. Access to site will be restricted as required by the Construction Manager.
- D. The following existing facilities may be used by construction personnel:
  - 1. NONE
- E. The Owner will continue to occupy the existing building adjacent to the areas where construction is to occur.
  - 1. Conduct the work so as to cause the least interference with the Owner's operations.
  - 2. Limited storage areas will be available at the project site.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 COORDINATION WITH OCCUPANTS / VILLAGE

- A. Occupied areas include all areas in which the Owner's regular operations will be going on or to which the Owner requires access during the construction period, whether conducted by the Owner or his customers, clientele, or the public.
- B. Perform all work on weekdays, between 7:00 a.m. and 4:00 p.m., except as otherwise indicated on the drawings, elsewhere in the specifications and or as restricted by local ordinance. Activities which will require temporary shut down of necessary utilities must be scheduled for non-operating hours, and must be scheduled to cause no interruption to Park District and/or any village activity.
- C. Separate occupied areas from construction areas with dust-proof partitions.
  - 1. Where it is absolutely necessary to conduct construction operations in occupied areas, obtain the Owner's approval of the time period, the areas to be used, and the means of separating the work from the occupants.
- D. Limit access through occupied areas to those days and times which the Construction Manager and Owner approves.
- E. Provide separate access from the exterior to the construction areas, without passing through occupied areas.
- F. When the following must be modified, provide alternate facilities acceptable to the Construction Manager:
  - 1. Emergency means of egress.
  - 2. Entrances which must remain open.
  - 3. Utilities which must remain in operation.
  - 4. Informational signage.

3.2 SECURITY PROCEDURES

- A. Limit access to the site to persons involved in the work.
- B. Provide secure storage for materials for which the Owner has made payment and which are stored on site.
- C. Secure completed work as required to prevent loss.

- D. Contractor personnel will be required to check in through the Construction Manager’s office each day.

3.3 COORDINATION

- A. Each prime Contractor shall coordinate his activities with the activities of other Contractors.
- B. If necessary, inform each party involved, in writing, of procedures required for coordination; include requirements for giving notice, submitting reports, and attending meetings.
  - 1. Inform the Owner when coordination of his work is required.
- C. See other requirements in other portions of the contract documents.

**END SECTION 01010**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Schedule of values.
  - 2. Payment procedures.
  - 3. Modification procedures.
  - 4. Completion procedures.
- B. Related Requirements Specified Elsewhere in the Project Manual:
  - 1. Progress payment dates and time limits.

1.2 CONTRACT CONDITIONS

- A. See the General Provisions for additional requirements.
- B. The Owner will retain from each progress payment an amount equal to 10 percent of the value of the work covered by the progress payment.
  - 1. At substantial completion the contractor may apply for release of retainage sufficient to bring the total of payments to 95 percent of the contract sum, less those amounts that are withheld to cover incomplete or incorrect work and unsettled claims, as defined elsewhere.
- C. No payment will be made for materials or equipment stored off site unless specifically approved in advance, in writing by the owner. Submit copy of the owner's agreement to pay for such materials and equipment with the application for payment covering such materials, equipment, receipts and such specific certificates of insurance for such stored material.
- D. Payments may be withheld if the contractor fails to make dated submittals within the time periods specified.

1.3 DEFINITIONS

- A. Change Proposal Request: Any written request from the Construction Manager to the contractor for a quotation, price, or breakdown on a change proposed but not ordered.
- B. Final Completion: The stage at which all incomplete and incorrect work has been completed or corrected in accordance with the contract documents.
- C. List of Incomplete Work: A comprehensive list of items to be completed or corrected, prepared by the contractor for the purpose of obtaining certification of substantial completion. This list is also referred to as a "punchlist."
- D. Modifications: Written amendments to the contract signed by the Construction Manager and the contractor, change orders, construction change directives, and written orders for a minor change in the work issued by the Construction Manager.
- E. Schedule of Values: A detailed breakdown of the contract sum into individual cost items, which will serve as the basis for evaluation of applications for progress payments during construction.



DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

- F. Substantial Completion: The time at which the work, or a portion of the work which the Construction Manager agrees to accept separately, is sufficiently complete in accordance with the contract documents so that the owner can occupy or use the work for its intended purpose.
- G. Time and Material Work: Work which will be paid for on the basis of the actual cost of the work, including materials, labor, equipment, and other costs as defined elsewhere, as documented by detailed records. This basis is also referred to using the terms "cost-plus," "cost of the work," "force account," and similar terms.

#### 1.4 SUBMITTALS

- A. Schedule of Values: First application for payment will not be reviewed without schedule of values.
  - 1. Submit in size not larger than 8-1/2 by 11 inches.
  - 2. Submit 3 copies.
  - 3. Identify with:
    - a. Project name.
    - b. Project number.
    - c. Construction Manager's name.
    - d. Owner's name.
    - e. Contractor's name and address.
    - f. All major subcontractors, material suppliers, etc.
    - g. Submittal date.
- B. Applications for Progress Payments: Submit sufficiently in advance of date established for the progress payment to allow for the processing indicated.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 SCHEDULE OF VALUES

- A. Each prime contractor shall prepare a schedule of values for his work.
- B. Schedule of Values: Break costs down into line items which will be comparable with line items in applications for payment.
  - 1. Coordinate line items in the schedule of values with portions of the contract documents which identify units or subdivisions of work; provide cross-referencing if necessary to clarify.
    - a. Specifically, correlate with the project manual table of contents.
  - 2. Divide major subcontracts and material suppliers into individual cost items.
  - 3. Where applications for payment are likely to include products purchased or fabricated but not yet installed, provide individual line items for material cost, installation cost, and other applicable phases of completion.
  - 4. Show overhead and profit as a single line item.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

5. Include the following information for each line item, using AIA Standard Schedule of Values Form.
    - a. Item name.
    - b. Applicable specification section.
    - c. Dollar value, rounded off to the nearest whole dollar (with the total equal to the contract sum).
    - d. Proportion of the contract sum represented by this item, to the nearest one-hundredth percent (with the total adjusted to 100 percent).
  6. Provide the following supporting data for each line item:
    - a. Subcontractor's name.
    - b. Manufacturer or fabricator's name.
    - c. Supplier's name.
- C. Submit schedule of values within 14 days after execution of the contract.
- D. The Construction Manager will notify the contractor if schedule is not satisfactory; revise and resubmit acceptable schedule.
- E. Submit a revised schedule of values when modifications change the contract sum or change individual line items.
1. Make each modification a new line item.
  2. Show the following information for each line item:
    - a. All information required for original submittal.
    - b. Identification of modifications which have affected its value.
  3. Submit prior to next application for payment.

3.2 APPLICATIONS FOR PAYMENT

- A. Application for Payment Forms: Use AIA original current editions of G702, Application and Certificate for Payment, and AIA G703, Continuation Sheet.
- B. Preparation of Applications for Payment: Complete form entirely.
1. Make current application consistent with previous applications, certificates for payment, and payments made.
  2. Base application on current schedule of values and contractor's construction schedule.
  3. Include amounts of modifications issued before the end of the construction period covered by the application.
  4. Include signature by person authorized by the contractor to sign legal documents.
  5. Notarize each copy.
  6. Submit in 3 copies.
  7. Attach waivers of lien.
  8. Attach revised schedule of values, if changes have occurred, unless application forms already show entire schedule of values.
  9. Attach copy of the owner's agreement to pay for materials and equipment stored off site, and any other supporting documentation required by the Design/Builder or the contract documents.

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

- C. Provide the following information with every application for payment which involves work completed on a time and material basis:
  - 1. Detailed records of work done, including:
    - a. Dates and times work was performed, and by whom.
    - b. Time records and wage rates paid.
    - c. Invoices and receipts for products.
  - 2. Provide similar detailed records for subcontracts.
- D. Transmit application for payment with a transmittal form itemizing supporting documents attached.
  - 1. Transmit to the Construction Manager.

3.3 WAIVERS OF LIEN

- A. Submit, with each application for payment, waivers of lien from every entity who performed work during the period covered by the previous application for payment, and who may be legally entitled to file a mechanic's or other lien against the work.
- B. Waiver of Lien Forms: Use forms acceptable to the owner.

3.4 FIRST PAYMENT PROCEDURE

- A. The first application for payment will not be reviewed until the following submittals have been received:
  - 1. Certificates of insurance.
  - 2. Schedule of values.
  - 3. List of subcontractors, principal suppliers, and fabricators.
  - 4. Submittal schedule.
  - 5. Unit price schedule. (If applicable.)
  - 6. Names of the contractor's principal staff assigned to the project.
  - 7. All submittals specified to occur prior to first application for payment or prior to first payment.

3.5 MODIFICATION PROCEDURES

- A. Designate a single individual authorized to receive change documents and who will be responsible for informing others of changes to the work.
- B. Changes in cost resulting from modifications shall include only those costs specified elsewhere in the contract documents.
- C. When requested in writing, the contractor shall provide sufficient information for evaluation of proposed changes within 7 days.
- D. Provide the following information for every change proposal request:
  - 1. The amount of change in the contract sum, if any.
  - 2. The amount of change in the contract time, if any, with explanation.
  - 3. Cost breakdown, using schedule of values line items, separated into material and labor costs, additions and deletions, and with overhead and profit handled in the same manner as specified for the schedule of values.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

4. The period of time within which the proposed changes in contract sum or time will be valid.
5. A statement describing the effect the change may have on the work of other prime contractors.
6. Upon request, provide the following information:
  - a. Quantities and unit costs of products, labor, and equipment.
  - b. Insurance and bonds.
  - c. Overhead and profit.
- E. When changes are performed on a time and material basis, identify the applicable modification on the application for payment.
- F. Provide the following information with every claim for additional costs:
  1. Origin and date of claim.
  2. Detailed records as specified for time and material work.
- G. The contractor may propose changes.
  1. Do not use change order form.
  2. Provide the information required for change proposal requests.
  3. Describe reasons for change.
  4. Document proposed substitutions as specified elsewhere.

3.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Request for inspection and application for payment may coincide.
- B. The Construction Manager will perform one inspection for substantial completion, upon request of the contractor.
  1. If the Construction Manager is unable to issue the certificate of substantial completion because the work is not considered to be substantially complete, the contractor shall pay all subsequent inspection costs, including compensation for the Construction Manager's services and expenses.
  2. Only one certificate of substantial completion will be issued, for the entire project.
- C. Do not submit request for inspection for substantial completion until the following activities have been completed:
  1. Delivery of maintenance materials and tools.
  2. Demonstration of all equipment and systems.
  3. Instruction of the owner's personnel.
  4. Removal of temporary facilities.
  5. Final cleaning.
  6. All activities specified to occur prior to substantial completion.
- D. Do not submit request for inspection for substantial completion until the following submittals have been completed:
  1. List of incomplete work.
  2. Startup reports.
  3. Final testing, adjusting, and balancing reports.
  4. Demonstration reports.
  5. Instruction reports.
  6. Warranties.
  7. Operation and maintenance data.
  8. Project record documents.

01025-5

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

9. All submittals specified to occur prior to substantial completion.

- E. Submit the following with application for payment following substantial completion:
1. Contractor's affidavit of release of liens.
  2. Meter readings of all utilities services for which the contractor has been paying.
  3. Request for reduction or release of retainage.
  4. Final list of incomplete work.
  5. Other data required by the contract documents.

3.7 FINAL COMPLETION PROCEDURES

- A. Request for final inspection and final application for payment may coincide.
- B. The Construction Manager will perform one inspection for final completion, upon request of the contractor.
1. Submit the following with request for inspection:
    - a. Previous inspection lists indicating completion of all items.
    - b. If any items cannot be completed, obtain prior approval of such delay.
  2. If the Construction Manager is unable to issue the certificate for final payment because the work is not complete, the contractor shall pay all subsequent inspection costs, including compensation for the Construction Manager's services and expenses.
- C. Do not submit request for final inspection until the following activities have been completed:
1. Completion of all work, except those items agreed upon by the owner.
  2. All activities specified to occur between substantial completion and final completion.
- D. Do not submit request for final inspection until the following submittals have been completed:
1. Maintenance agreements.
  2. All other outstanding specified submittals.
- E. Submit the following with the final application for payment:
1. Certified copy of the previous list of items to be completed or corrected, stating that each has been completed or otherwise resolved for acceptance.
  2. Updated final statement, accounting for final changes to the contract sum.
  3. Meter readings of all utilities services for which the contractor has been paying after substantial completion.
  4. Certification that financial obligations to governing authorities and public utilities have been fulfilled.
  5. Description of unsettled claims.
  6. Other data required by the contract documents.

**END SECTION 01025**

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Progress documentation requirements:
    - a. Contractor's construction schedule.
    - b. Progress reports.
  - 2. Progress procedures:
    - a. Progress meetings.
- B. Contract time is indicated elsewhere.
- C. Related Sections:
  - 1. Applications for payment: Elsewhere in Division 1.
  - 2. Coordination meetings: Elsewhere in Division 1.
  - 3. Preconstruction meeting: Elsewhere in Division 1.
  - 4. Schedule of values: Elsewhere in Division 1.
  - 5. Submittal schedule: Elsewhere in Division 1.
  - 6. Quality control activities schedule: Elsewhere in Division 1.

1.2 SUBMITTALS

- A. Contractor's Construction Schedule.
  - 1. Submit within 5 days after notice of Contract Award.
- B. Daily Construction Reports: Submit every week.
- C. Progress Reports: Submit with each application for payment.

1.3 FORM OF SUBMITTALS

- A. Schedules - General:
  - 1. Provide legend of symbols and abbreviations for each schedule.
  - 2. Use the same terminology as that used in the contract documents.
  - 3. When transparencies are submitted, use only media which will not fade or lose contrast over time.
  - 4. When opaque copies are submitted, submit a minimum of 4 copies.
  - 5. Where percentage of completion information is required within time bars, mark updated schedules to show actual percentage of completion.
- B. Reports - General:
  - 1. Submit a minimum of 4 copies.
- C. Photographs: Not Required

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

INFORMATION REQUIRED OF CONTRACTOR

- A. Submit the following information for preparation of construction schedules, and revise at intervals as directed by the Construction Manager:
  - 1. Description of activity; separate into activities of not more than 15 days' duration.
  - 2. Immediately preceding and succeeding activities.
  - 3. Estimated duration in working days.
  - 4. Earliest and latest start dates.
  - 5. Earliest and latest finish dates.
  - 6. Actual start and finish dates.
  - 7. Float time.
  - 8. Monetary value, keyed to schedule of values.
  - 9. Percentage of activity completed.
  - 10. Size of work force required.
  - 11. Entity responsible.

1.4 QUALITY ASSURANCE

- A. Not Used.

1.5 COORDINATION

- A. The Construction Manager is responsible for coordinating scheduling of all contracts.
- B. Each prime Contractor shall provide scheduling information as specified and as required by the Construction Manager.
- C. Each prime Contractor is responsible for coordinating with other contractors.
- D. In preparation of schedules, take into account the time allowed or required for the Construction Manager's administrative procedures.
- E. Notify entity responsible for coordination of schedules promptly when problems are anticipated in meeting schedule dates.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Prepare and submit preliminary construction schedule.
- B. Provide preliminary construction schedule in the form of bar charts:
  - 1. Show activities for the first 90 days of construction in detail; show remainder in skeletal form.
  - 2. Show completion of the work in advance of the date established for substantial completion.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

3. Include dates and description of all submittals required during the first the first 90 days of construction.
  - a. Include those required by the construction schedule.
  - b. Submittal dates may be provided in a separate list rather than on the schedule.

3.2 CONSTRUCTION MANAGER'S CONSTRUCTION SCHEDULE

- A. Prepare and submit all information required for preparation of integrated construction schedule by Construction Manager:
  1. Base construction schedule on preliminary construction schedule, with adjustments due to changes since start of work.
  2. Use the same items of work as shown in the schedule of values.
  3. Show projected progress in increments of 10 percentage points for:
    - a. Site Work
    - b. Carpentry
    - c. Gypsum Board Systems/Plaster & Acoustical Ceilings
    - e. Painting
    - f. Casework
    - g. Masonry
    - h. Flooring
    - l. Electrical
    - j. Data & Communications
    - k. Plumbing
    - l. Fire Protection
    - m. HVAC
  4. Where related activities must be performed in sequence, show relationship graphically.
  5. Indicate activities separately for:
    - a. Each separate work area.
  6. Incorporate the submittal schedule specified elsewhere.
  7. Incorporate the quality control activities schedule specified elsewhere.
  8. Show dates of:
    - a. Each activity that influences the construction time.
    - b. Preconstruction meeting.
    - c. Quality control activities which involve long lead time or long elapsed time.
    - d. Ordering dates for products requiring long lead time.
    - e. All submittals required.
    - f. Completion of structure.
    - g. Substantial and final completion, with time frames for the Design/Builder's completion procedures.
  9. In developing the schedule take into account:
    - a. Phased completion.
    - b. Work under other contracts.
    - c. Continued occupancy.
    - d. Interruption of services to occupied facilities.
    - e. Occupancy by Owner prior to substantial completion.
    - f. Site limitations.
    - g. Provisions made for future work.
- B. Update the schedule whenever changes occur or are made, or when new information is received, but not less often than at the same intervals at which applications for payment are made.
  1. Indicate changes made since last issue; show actual dates for activities completed.



### 3.3 PROGRESS REPORTS

- A. Daily Construction Logs: Every day, record the following information concerning events at the site:
1. Approximate number of persons at the site.
  2. Names of prime Contractors at site.
  3. Visitors to the site.
  4. Modifications to the contract received; modifications implemented.
  5. Delays; reasons for delay.
  6. Emergencies and accidents.
  7. Losses of material and property.
  8. Meetings held and significant decisions made there.
  9. Names of subcontractors at site.
  10. Special reports made.
  11. Orders and requests of representatives of governing authorities.
  12. Unusual events.
  13. Utility service disconnections and connections.
- B. Progress Reports: Prepare a narrative report describing the general state of completion of the work and describing in detail the following:
1. Actual and anticipated delays, their impact on the schedule, and corrective actions taken or proposed.
  2. Actual and potential problems.
  3. Status of change order work.
  4. Effect of delays, problems, and changes on the schedules of other prime Contractors.
  5. Outstanding change proposal requests.
  6. Status of corrective work ordered by the Design/Builder.
- C. Progress Photographs: Not Required

### 3.4 PROGRESS MEETINGS

- A. The Construction Manager will schedule and conduct weekly progress meetings during the construction period.
1. Meetings will be held once a month in the week just prior to submission of application for payment or once a week; progress meeting schedule will be at the discretion of the Construction Manager.
- B. The following are required to attend:
1. All prime Contractors.
  2. Prime Contractors' superintendents.
  3. Major subcontractors and suppliers.
  4. Others as directed by the Construction Manager.
  5. Others who have an interest in the agenda.
- C. Prepare to cover the following topics when applicable:
1. Review minutes of previous meeting.
  2. Status of submittals and impending submittals.
  3. Actual progress of activities in relation to the schedule.
  4. Actual and anticipated delays, their impact on the schedule, and corrective actions taken or proposed.
  5. Actual and potential problems.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

6. Effect of delays, problems, and changes on the schedules of all prime Contractors.
7. Status of corrective work ordered by the Construction Manager.
8. Progress expected to be made during the next period.

**END OF SECTION 01200**

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01250 - CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.1 SUMMARY

The schedule for the scope of work covered under this project is as follows: Prep work can begin April 1, 2017 outside of the building. Work inside the building can begin June 12, 2017. The power shutdown for the change-over will take place July 21, 2017 thru July 30, 2017. Power must be restored to the entire building on July 30, 2017. All miscellaneous work must be completed by August 15, 2017.

**END OF SECTION 01250**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Preparing and processing of submittals for review and action.
  - 2. Preparing and processing of informational submittals.
  
- B. Submit the following for the Design/Builder's review and action:
  - 1. Shop drawings.
  - 2. Product data.
  - 3. Samples.
  - 4. Structural design calculations.
  - 5. Submittals for which procedures are not defined elsewhere.
  
- C. Submit the following as informational submittals:
  - 1. Structural design information required by the contract documents.
  - 2. Certificates.
  - 3. Coordination drawings.
  - 4. Reports.
  - 5. Qualification statements for manufacturers/installers.
  - 6. Certification of structural design.
  
- D. Related Sections: The following are specified elsewhere in Division 1:
  - 1. Payment, modification, and completion submittals.
    - a. Applications for payment.
    - b. Schedule of values.
    - c. Change proposals.
  - 2. Progress of work submittals:
    - a. Contractor's construction schedules.
    - b. Progress reports.
  - 3. Quality control submittals:
    - a. Quality control activities schedule.
    - b. Inspection reports.
    - c. Test reports.
  - 4. Product submittals:
    - a. Product option submittals.
    - b. Requests for substitution.
    - c. Operating and maintenance data.
    - d. Warranties.
    - e. Maintenance materials and tools.
  - 5. Contract closeout submittals:
    - a. Equipment and systems demonstration reports.
    - b. Request for determination of substantial completion.
    - c. Project record documents.
  - 6. Other administrative submittals:
    - a. Survey data.
    - b. Layout data.

## 1.2 DEFINITIONS

- A. Shop Drawings: See General Provisions.
  - 1. Shop drawings also include:
    - a. Product data specifically prepared for this project.
    - b. Shop or plant inspection and test reports, when made on specific materials, products, or systems to be used in the work.
- B. Product Data: See General Provisions.
  - 1. Product data submittals also include:
    - a. Performance curves, when issued by the manufacturer for all products of that type.
    - b. Selection data showing standard colors.
    - c. Wiring diagrams, when standard for all products of that type.
- C. Samples: See General Provisions.
- D. Informational Submittals: Submittals identified in the contract documents as to be submitted for information only.

## 1.3 FORM OF SUBMITTALS

- A. Sheets Larger Than 8-1/2 by 14 Inches:
  - 1. Maximum sheet size: 30 by 42 inches.
    - a. Exception: Full size pattern or template drawings.
  - 2. Number of copies:
    - a. Submittals for review:
      - 1. One correctable reproducible print, not folded and 3 copies of blue- or black-line print(s).
      - 2. Reproducible will be returned.
    - b. Informational submittals:
      - 1. 5 copies of opaque prints.
      - 2. 3 copies will be returned.
- B. Small Sheets or Pages:
  - 1. Minimum sheet size: 8-1/2 by 11 inches.
  - 2. Maximum sheet size for opaque copies: 8-1/2 by 14 inches.
  - 3. Number of copies:
    - a. Transparencies: Same as for larger sheets.
    - b. Opaque copies:
      - 1. For review: 5 copies.
        - a. 3 copies will be retained.
      - 2. Informational submittals: 5 copies.
- C. Samples: 2 sets of each.
  - 1. 1 set will be returned.
- D. If additional sets are needed by other entities involved in work represented by the samples, submit with original submittal.
- E. Copies in excess of the number requested will not be returned.

- F. Provide additional copies, if required for operating and maintenance data, marked to indicate their purpose.
- G. Provide additional copies for project record documents.

#### 1.4 COORDINATION OF SUBMITTALS

- A. Coordinate submittals and activities that must be performed in sequence, so that the Design/Builder has enough information to properly review the submittals.
- B. Coordinate submittals of different types for the same product or system so that the Construction Manager has enough information to properly review each submittal.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 TIMING OF SUBMITTALS

- A. Transmit each submittal at or before the time indicated on the approved schedule of submittals.
  - 1. Prepare and submit for approval a schedule showing the required dates of submittal of principal submittals.
  - 2. Organize the schedule by the applicable specification section number.
  - 3. Incorporate the contractor's construction schedule specified elsewhere.
  - 4. Incorporate the quality control activities schedule specified elsewhere.
  - 5. Submit within 30 days after commencement of the work.
  - 6. Revise and resubmit the schedule for approval when requested.
- B. Deliver each submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary; failure of the Contractor in this respect will not be considered as grounds for an extension of the contract time.
- C. Deliver each informational submittal prior to start of the work involved, unless the submittal is of a type which cannot be prepared until after completion of the work; submit promptly.
- D. If a submittal must be processed within a certain time in order to maintain the progress of the work, state so clearly on the submittal.
- E. If a submittal must be delayed for coordination with other submittals not yet submitted, the Construction Manager may at his option either return the submittal with no action or notify the Contractor of the other submittals which must be received before the submittal can be reviewed.
- F. Allow a minimum of 10 business days for the first processing of each submittal. Allow more time when submittals must be coordinated with later submittals.
- G. Allow a minimum of 6 business days for processing of resubmittals.

### 3.2 SUBMITTAL PROCEDURES - GENERAL

- A. Contractor Review: Sign transmittal form for each submittal certifying compliance with the requirements of the contract documents.
- B. Notify the Construction Manager, in writing and at time of submittal, of all points upon which the submittal does not conform to the requirements of the contract documents, if any.
- C. Do not commence work which requires review of any submittals until receipt of returned submittals with an acceptable action.
- D. Do not allow submittals without an acceptable action marking to be used for the project.
- E. Submit all submittals to the Construction Manager for review.
- F. Do not submit substitute items that have not been approved by means of the procedure specified elsewhere.
- G. Do not include requests for substitution (either direct or indirect) on submittals; comply with procedures for substitutions specified elsewhere.
- H. Preparation of Submittals:
  - 1. Label each copy of each submittal, with the following information:
    - a. Project name.
    - b. Date of submittal.
    - c. Construction Manager's name and address.
    - d. Subcontractor's name and address.
    - e. Supplier's name and address.
    - f. Manufacturer's name.
    - g. Specification section where the submittal is specified.
    - h. Numbers of applicable drawings and details.
    - i. Other necessary identifying information.
    - j. Indicate whether manufacturer or other source is listed on the Owner's preferred vendor list.
  - 2. Pack submittals suitably for shipment.
  - 3. Submittals to receive Design/Builder's action marking: Provide blank space on the label or on the submittal itself for action marking; minimum 4 inches wide by 5 inches high.
- I. Transmittal of Submittals:
  - 1. Submittals will be accepted from the Construction Manager only. Submittals received from other entities will be returned without review or action.
  - 2. Submittals received without a transmittal form will be returned without review or action.
  - 3. Transmittal form: Use AIA G810.
    - a. The Contractor's certification signature.
  - 4. Fill out a separate transmittal form for each submittal; also include the following:
    - a. Other relevant information.
    - b. Requests for additional information.

### 3.3 SHOP DRAWINGS

- A. Content: Include the following information:
  - 1. Dimensions, at accurate scale.
  - 2. All field measurements that have been taken, at accurate scale.
  - 3. Names of specific products and materials used.
  - 4. Details, identified by contract document sheet and detail numbers.
  - 5. Show compliance with the specific standards referenced.
  - 6. Coordination requirements; show relationship to adjacent or critical work.
  - 7. Name of preparing firm.
  
- B. Preparation:
  - 1. Reproductions of contract documents are not acceptable as shop drawings.
  - 2. Copies of standard printed documents are not acceptable as shop drawings.
  - 3. Identify as indicated for all submittals.
  - 4. Space for Construction Manager's action marking shall be adjacent to the title block.

### 3.4 PRODUCT DATA

- A. Submit all product data submittals for each system or unit of work as one submittal.
  
- B. When product data submittals are prepared specifically for this project (in the absence of standard printed information) submit such information as shop drawings and not as product data submittals.
  
- C. Content:
  - 1. Submit manufacturer's standard printed data sheets.
  - 2. Identify the particular product being submitted; submit only pertinent pages.
  - 3. Show compliance with properties specified.
  - 4. Identify which options and accessories are applicable.
  - 5. Include recommendations for application and use.
  - 6. Show compliance with the specific standards referenced.
  - 7. Show compliance with specified testing agency listings; show the limitations of their labels or seals, if any.
  - 8. Identify dimensions which have been verified by field measurement.
  - 9. Show special coordination requirements for the product.

### 3.5 SAMPLES

- A. Samples:
  - 1. Provide samples that are the same as proposed product.
  - 2. Where unavoidable variations must be expected, submit "range" samples, minimum of 3 units, and describe or identify variations among units of each set.
  - 3. Where selection is required, provide full set of all options.
  - 4. Where products are to match a sample prepared by other entities, prepare sample to match.
  
- B. Preparation:
  - 1. Attach a description to each sample.
  - 2. Attach name of manufacturer or source to each sample.



3. Where compliance with specified properties is required, attach documentation showing compliance.
  4. Where there are limitations in availability, delivery, or other similar characteristics, attach description of such limitations.
  5. Where samples are specified to be returned for installation in the work, indicate such requirement on transmittal form.
- C. Keep final sample set(s) at the project site, available for use during progress of the work.

### 3.6 REVIEW OF SUBMITTALS

- A. Submittals for approval will be reviewed, marked with appropriate action, and returned.
- B. Informational submittals: Submittals will be reviewed.
1. "X" action: No action taken.
  2. "Not Approved" action: Revise the submittal or prepare a new submittal complying with the comments made.

### 3.7 RETURN, RESUBMITTAL, AND DISTRIBUTION

- A. The Construction Manager will mail submittals to contractors, unless contractors arrange for pickup at the Construction Manager's office.
- B. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the Construction Manager.
1. Exception: Transmittal number for resubmittal shall be the number of the original submittal plus a letter suffix (example: 14245-1 would become 14245-1A).
- C. Distribution:
1. Distribute one copy to each prime Contractor.
  2. Record distribution on transmittal form with copy to the Construction Manager.

**END OF SECTION 01300**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. General quality control activities.
  - 2. Procedures for the following:
    - a. Testing and evaluation of test results.
    - b. Inspections.
  - 3. Procedures for quality control activities performed by:
    - a. Public authorities having jurisdiction.
    - b. Construction Manager.
  - 4. Procedures for submittal of quality control documentation.
- B. Quality control activities required are specified in other sections.
- C. See General Provisions for additional requirements for testing, inspections, and approvals.
- D. Related Sections:
  - 1. Alternates: See Bid Forms

1.2 SUBMITTALS

- A. Reports: Provide certified copies of reports.
  - 1. Unless otherwise indicated, submit for review by the Construction Manager.
  - 2. Submit reports within 2 weeks after execution of quality control activity, but not later than the date of application for payment for the work to which the quality control activity relates.
  - 3. Reports shall be prepared by the entity performing the quality control activity.
  - 4. Submit copies directly to governing authorities when so directed.
  - 5. Include the following information in all types of reports:
    - a. Date of report.
    - b. Project name (and number, if applicable).
    - c. Description of the quality control activity.
    - d. Name, address, and telephone number of entity performing activity.
    - e. Date quality control activity was performed.
    - f. Specification section(s) involved.
    - g. Basis for evaluation (test method, etc.).
    - h. Results or conclusions, including evaluations and interpretations.
    - i. Title, name, and signature of person performing activity.

1.3 QUALITY ASSURANCE

- A. Qualifications of Testing and Inspection Personnel:
  - 1. As indicated in individual sections.
- B. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either the National Bureau of Standards (NBS) standards or to accepted values of natural physical constants.

#### 1.4 COORDINATION WITH OTHER ENTITIES

- A. Cooperate with other entities performing quality control activities.
- B. Provide samples of materials and design criteria as indicated and when requested.
- C. Provide other assistance, equipment, tools, and storage facilities as specified.
- D. If desired, make arrangements with those entities and pay for additional similar or related testing or inspection required for the contractor's use or convenience.

#### 1.5 SEQUENCING AND SCHEDULING

- A. Coordinate quality control activities to avoid delay and to make it unnecessary to uncover work for testing or inspection.

#### PART 2. - PRODUCTS (NOT USED)

#### PART 3. - EXECUTION

##### 3.1 GENERAL

- A. Provide work of the specified quality; where quality level is not indicated, provide work of quality customary in similar types of work.
  - 1. Where codes, laws, or regulations require work of higher quality or performance, provide work complying with those codes, laws, and regulations.
  - 2. Where two or more quality provisions of the contract documents conflict, comply with the most stringent requirement; where requirements are different but apparently equal, and where it is uncertain which requirement is most stringent, obtain clarification from the Design/Builder before proceeding.
  - 3. Actual quality may exceed the specified quality; verify that such differences are acceptable to the owner (other criteria may make excessive quality undesirable).
- B. Control products, suppliers, manufacturers, site conditions, installers, and workmanship in such a manner as to produce work of the specified quality.
- C. Comply with manufacturers' instructions and recommendations.
  - 1. Keep a record of instructions and recommendations which supplement or conflict with the manufacturer's written instructions.
  - 2. When manufacturers' instructions and recommendations conflict with the contract documents, obtain clarification from the Construction Manager before proceeding.
- D. Use installers who are capable of producing work of the specified quality.
- E. Each prime contractor shall perform all specified quality control activities related to his work unless indicated to be performed by other entities.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01400 - QUALITY CONTROL PROCEDURES

3.2 TESTING

- A. Perform tests specified.
- B. When results of tests are unsatisfactory, make whatever changes or repairs are necessary and retest.
- C. Submit written report of each original test and of each retest.

3.3 INSPECTING

- A. Perform inspections specified.
- B. When inspections reveal unsatisfactory work, make whatever changes or repairs are necessary and re-inspect.
- C. Submit written report of each original inspection and each re-inspection.

3.4 PROTECTION AND REPAIR

- A. When work is uncovered during quality control activities, provide protection from damage.
- B. Correct work damaged by quality control activities; where repair is indicated as an unacceptable method, replace the work.

**END OF SECTION 01400**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Temporary utilities.
    - a. Water supply.
    - b. Use of permanent water service.
    - c. Electric power and lighting, except extension cords.
    - d. Use of permanent electrical systems.
- B. Related Sections:
  - 1. Access to site: Elsewhere in Division 1.
  - 2. Regulatory requirements: Elsewhere in Division 1.
  - 3. Storage and protection of materials and equipment: Elsewhere in Division 1.

1.2 DEFINITIONS

- A. Temporary Facilities: Construction, fixtures, fittings, and other built items required to accomplish the work but which are not incorporated into the finished work.
- B. Temporary Utilities: A type of temporary facility; primary sources of electric power, water, natural gas supply, etc., obtained from public utilities, other main distribution systems, or temporary sources constructed for the project, but not including the fixtures and equipment served.

1.3 SUBMITTALS

- A. Reports of inspections, tests, and approvals for the installation and use of construction facilities, which are made or given by public authorities.

1.4 QUALITY ASSURANCE

- A. Comply with requirements of governing authorities, as to type, quantity, location, and use of temporary facilities.

1.5 PROJECT CONDITIONS

- A. Obtain easements where required.
- B. Locate construction facilities as directed by the construction manager.
- C. Use of permanent facilities prior to substantial completion is subject to the owner's approval and conditions.
  - 1. Each permanent facility used for construction purposes shall be operated, maintained, and protected during such use by the original installer.
  - 2. Specified warranties shall not be reduced or voided by temporary use.

1.6 SEQUENCING AND SCHEDULING

- A. Maintain required facilities until not needed or until shortly before substantial completion; remove facilities before substantial completion.
  - 1. Exception: Where use of permanent facilities is allowed.

DIVISION 1 – GENERAL CONDITIONS  
SECTION 01510 - TEMPORARY UTILITIES

- B. Change over to use of permanent facilities, when applicable, as soon as possible, except when use of permanent facilities is not allowed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide materials which are both suitable for the use and durable enough to withstand the use and abuse to be expected.

2.2 TEMPORARY UTILITIES

- A. Temporary Water Service: By Demolition Contractor if required.
  - 1. Provide water adequate for demand of construction operations.
  - 2. Piped water service:
    - a. Do not use permanent piping system to distribute nonpotable water.
    - b. Existing water service in the building may be used.
    - c. Take precautions to prevent damage due to leaks and spills inside building.
- B. Temporary Power: By Demolition Contractor as required.
  - 1. Provide electricity adequate for demand of construction operations.
    - (a) Existing electrical service in the building may be used.
- C. Temporary Lighting : By Demolition Contractor
  - 1. Provide temporary lighting for construction work. A minimum of 15 footcandles.
  - 2. Basic requirements
    - a. Covered lamps with safety guards.
  - 3. Contractors or subcontractors who require lighting in excess of that specified shall make arrangements with the electrical contractor and pay all additional costs.

PART 3 - EXECUTION

3.1 GENERAL

- A. Cooperate with other contractors in location of temporary facilities.

3.2 TERMINATION AND REMOVAL

- A. Remove temporary facilities when no longer needed, or when use of appropriate permanent facility is approved, but not later than substantial completion.
  - 1. Exception: When longer usage is requested by the Construction Manager.
- B. Complete permanent work delayed until removal of temporary facilities.
- C. Permanent Facilities Used during Construction: Clean; replace parts that are worn in excess of that expected during normal usage.

**END OF SECTION 01510**

01510 - 2

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. General product requirements, including:
    - a. General specification requirements for all products.
    - b. Product options.
    - c. Procedures for substitution requests.
  - 2. General requirements for product documentation, including:
    - a. Requirements and procedures for schedule of products.
    - b. General requirements for operation and maintenance data.
    - c. General requirements for warranties.
  - 3. General procedures for products including:
    - a. Procedures for transportation and handling.
    - b. Procedures for delivery and receiving.
    - c. Procedures for storage.

1.2 DEFINITIONS

- A. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.

1.3 SUBMITTALS

- A. Schedule of Products: Submit for approval.
- B. Final Schedule of Products: Submit for project record.
- C. Operation and Maintenance Data: Submit for project record.
- D. Warranties: Submit for project record.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Components required to be supplied in quantity within a specification section shall be identical, interchangeable, and made by the same manufacturer.
- B. Do not use products removed from existing construction, unless specifically permitted by the contract documents or approved by the owner.

PART 3 - EXECUTION

3.1 PRODUCT OPTIONS

- A. It is the contractor's responsibility to select products which comply with the contract documents and which are compatible with one another, with existing work, and with products selected by other contractors.
  - 1. Verify that electrical characteristics of products are compatible with electrical systems; notify Design/Builder of all discrepancies.
- B. No substitute products will be considered, except in the event of unavailability of the specified product through no fault of the contractor.
- C. Definition of Substitute Product: Any product which does not meet the requirements of the contract documents, whether in product characteristics, performance, quality, or manufacturer or brand names, is considered a substitute.
- D. Product Options: Where products are specified using more than one method, such as description with a manufacturer list, use a product meeting the requirements of both specification methods.
- E. Products Specified by Reference Standard: Use any product meeting the specification. Provisions of reference standards shall not modify the responsibilities of the owner or Construction Manager as defined in the contract documents.
- F. Products Specified by Description: Use any product meeting the specification.
- G. Products Specified by Performance Requirements: Use any product meeting the specification.
- H. Products Covered by an Allowance Included in the Contract Documents: Provide products of types and in quantity as directed by the Construction Manager.
  - 1. At the earliest possible date after execution of the contract, inform the Construction Manager of the latest date by which the final selection of the product is required in order to avoid delay of the work.
  - 2. When requested, provide information for use in making selections.
- I. Products Specified by Listing a Brand Name Product as the "Basis of Design": Provide a product equivalent to the product specified within the limits of variation specified; submit substitution request for all products other than that listed as basis of design.
- J. Products Specified by Listing Brand Names(s): Provide one of the products listed; no substitutions will be allowed.
- K. Products Specified by Listing Manufacturer(s): Provide a product meeting the specification and made by one of the manufacturers listed.



- 3.2 SUBSTITUTION PROCEDURE
- A. Submission of request for substitution shall constitute a representation by the contractor that he:
1. Has investigated the proposed product and determined that it is equal to or better than the specified product. Absence of an explicit comparison of any characteristic of the proposed product to the specified product shall constitute a representation that the proposed product is equal to or better than the specified product with regard to that characteristic.
  2. Will provide the same warranty for the proposed product as for the specified product.
  3. Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
    - a. Redesign.
    - b. Additional components and capacity required by other work affected by the change.
  4. Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
  5. Will reimburse the owner for additional costs for evaluation of the substitution request, redesign if required, and re-approval by authorities having jurisdiction if required.
- B. Substitutions will not be considered when acceptance would require substantial revision of the contract documents.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request.
- D. Substitution requests will not be considered when submitted directly by subcontractor or supplier.
- E. Substitution Request Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the contract documents.
1. Submit request to the Construction Manager.
  2. Submit 3 copies of each request and accompanying data.
  3. Submit request as specified for change order proposals.
  4. Only one request for substitution will be considered for each product.
- F. Data Required with Substitution Request: Provide at least the following data:
1. Identify product by specification section and paragraph number.
  2. Manufacturer's name and address, trade name and model number of product (if applicable), and name of fabricator or supplier (if applicable).
  3. Complete product data.
  4. A list of other projects on which the proposed product has been used, with project name, the design professional's name, and owner contact.
  5. An itemized comparison of the proposed product to the specified product.
  6. Net amount of change to the contract sum.
  7. List of maintenance services and replacement materials available.
  8. Statement of the effect of the substitution on the construction schedule.
  9. Description of changes that will be required in other work or products if the substitute product is approved.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01600 - PRODUCT REQUIREMENTS

- G. The Construction Manager will determine acceptability of the proposed substitution.
- H. When the proposed substitution is not accepted, provide the product (or one of the products, as the case may be) specified.

3.3 SCHEDULE OF PRODUCTS

- A. Prepare a complete schedule of products used, including the following for each product:
  - 1. Manufacturer's name.
  - 2. Brand or trade name.
  - 3. Model number, if applicable.
  - 4. Reference standard, if more than one is applicable.
  - 5. Arrange products in the schedule by specification sections; indicate paragraph where specified.
- B. Prepare and submit a preliminary schedule within 7 days after award of contract; resubmit when revised; submit final schedule prior to final payment.
- C. Schedule of products shall not be used to obtain approval of substitute products; make separate request for substitution.

3.4 OPERATION AND MAINTENANCE DATA

- A. Provide operation and maintenance data as specified in individual product sections.
  - 1. Provide data sufficient for operation and maintenance by owner without further assistance from the manufacturer.
- B. Data Required For Products - General:
  - 1. Name of manufacturer and product.
  - 2. Name, address, and telephone number of subcontractor or supplier.
  - 3. Local source of replacements.
  - 4. Local source of replaceable parts and supplies.
- C. Product Data: Where product data is specified for inclusion in operation and maintenance data, provide manufacturer's data sheets marked to indicate specific product and product options actually installed; delete inapplicable data.
- D. Custom Manufactured Products: Provide all information needed for reordering.
- E. Finish Materials: Manufacturer's product data, color/texture designations, and manufacturer's instructions for care, cleaning, and maintenance.
- F. Products Exposed to Weather and Products for Moisture Protection: Manufacturer's product data, recommended inspection schedule and procedures, maintenance and repair procedures, and maintenance materials required.
- G. Equipment: Provide at least the following information:
  - 1. Product data giving equipment and function description, with normal operating characteristics and limiting conditions.
  - 2. Starting, operating, and troubleshooting procedures.
  - 3. Cleaning and maintenance requirements and procedures.
  - 4. External finish maintenance requirements.
  - 5. List of maintenance materials required.

01600 - 4

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01600 - PRODUCT REQUIREMENTS

6. List of special tools required.
  7. Parts list: List all replaceable parts, with ordering data.
  8. Recommended quantity of spare parts to be maintained in storage.
  9. Recommended maintenance schedule.
- H. Systems: Provide overall function description, with diagrams, prepared especially for this project.
- I. Form of Data: Prepare data in the form of an instructional manual.
1. Arrange content logically, using section numbers and sequence of sections indicated on the table of contents of this project manual.
  2. When multiple volumes are used, arrange by related subjects; identify contents in cover title.
  3. Assemble into 3-ring binders with maximum 2-inch ring size.
    - a. Hardback, cleanable plastic covers.
    - b. Identify each book with title "Operation and Maintenance Instructions" and project name.
    - c. Page size 8-1/2 by 11 inches, maximum.
    - d. Prepare special typewritten data on minimum 20-pound paper.
    - e. Provide tabbed divider for each product and system.
    - f. Drawings: Bind in with other data; provide reinforced binding edge; fold larger drawings to size of pages.
      1. Do not use pockets or loose drawings.
  4. Provide table of contents for each volume listing:
    - a. Name of the project.
    - b. Name, address, telephone number, and contact name of:
      - (i) Construction Manager.
      - (ii) Contractor.
    - c. Index of products and systems included in volume.

3.5 WARRANTIES

- A. Provide warranties as specified in individual product sections.
- B. Manufacturer Warranties: Manufacturer's standard product warranty running for the manufacturer's standard term, unless otherwise indicated.
  1. Submit copies of all manufacturer warranties which extend beyond the end of the contract correction period.
- C. Special Project Warranties: Written warranty commencing at date of substantial completion, running for the term indicated, and signed by the entities specified.
  1. Where completion of warranty item is materially delayed beyond the date of substantial completion, provide warranty commencing on date of acceptance.
  2. Submit each special project warranty.
- D. Provide 2 notarized copies of each executed warranty.
- E. Show actual date of commencement on each warranty.

3.6 TRANSPORTATION AND HANDLING

- A. Require supplier to package finished products in a manner which will protect from damage during shipping, handling, and storage.
- B. Transport products by methods which avoid damage.
- C. Deliver in dry, undamaged condition in manufacturer's unopened packaging.
- D. Provide equipment and personnel adequate to handle products by methods which prevent damage.
- E. Provide additional protection during handling where necessary to prevent damage to products and packaging.
- F. Lift large and heavy components at designated lift points only.

3.7 DELIVERY AND RECEIVING

- A. When possible arrange deliveries so that storage is not required.
- B. Arrange deliveries of products to allow time for inspection prior to installation.
- C. Coordinate delivery to avoid conflict with the work and to take into account both the conditions at the site and the availability of personnel, handling equipment, and storage space.
- D. Clearly mark partial deliveries to identify contents, to permit easy accumulation of entire delivery, and to facilitate assembly.
- E. Promptly inspect shipments and remedy damage, incorrect quantity, incompleteness, improper or illegible labeling, and noncompliance with requirements of contract documents and approved submittals.

3.8 STORAGE

- A. No outdoor storage areas are available on site.
- B. Off-site storage of products for which application for payment will be made: Store only in bonded warehouse.
- C. General Storage Procedures:
  - 1. Store products immediately on delivery.
  - 2. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
  - 3. Store in a manner to prevent damage to the stored products and to the work.
  - 4. Store moisture-sensitive products in weather tight enclosures.
  - 5. Store indoors if necessary to keep temperature and humidity within ranges required by manufacturer.
  - 6. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01600 - PRODUCT REQUIREMENTS

7. Arrange storage to provide access for inspection and inventory.
8. Periodically inspect and remedy damage and noncompliance with required conditions.

**END OF SECTION 01600**

DIVISION 1 – GENERAL REQUIREMENTS  
SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

Part 1. GENERAL

1. SUMMARY

A. Section Includes:

1. Procedures for substitutions during bidding period.
2. General product requirements, including:
  - a. Product options.
  - b. Procedures for substitution requests.

B. Related Sections:

1. Submittal transmission, handling, and action procedures: Elsewhere in Division 1.
2. General installation procedures: Elsewhere in Division 1.
3. Owner instruction for equipment and systems: Elsewhere in Division 1.
4. Project record documents: Elsewhere in Division 1.

Part 2. PRODUCTS (NOT USED)

Part 3. PART - EXECUTION

1. PRODUCT OPTIONS

A. It is the Contractor's responsibility to select products which comply with the contract documents and which are compatible with one another, with existing work, and with products selected by other contractors.

1. Verify that electrical characteristics of products are compatible with electrical systems; notify Design/Builder of all discrepancies.
2. Where visual matching to an established physical sample is required, the Construction Manager's decision will be final.

B. Do not use any substitute products which have not been approved in accordance with the requirements of the contract documents; formal substitution request is required.

C. Where the specification is silent on whether substitutions will be considered, substitutions will not be considered.

D. Definition of Substitute Product: Any product which does not meet the requirements of the contract documents, whether in product characteristics, performance, quality, or manufacturer or brand names, is considered a substitute.

E. Product Options: Where products are specified using more than one method, such as description with a manufacturer list, use a product meeting the requirements of both specification methods.

F. Products Specified by Reference Standard: Use any product meeting the specification. Provisions of reference standards shall not modify the responsibilities of the Owner or Construction Manager as defined in the contract documents.

G. Products Specified by Description: Use any product meeting the specification.

H. Products Specified by Performance Requirements: Use any product meeting the specification.

01630-1

DIVISION 1 – GENERAL REQUIREMENTS  
SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

- I. Products Specified to Match a Physical Sample: Use any product that matches; obtain the Construction Manager's approval.
  - J. Products Specified by Listing a Brand Name Product as the "Basis of Design": Provide a product equivalent to the product specified within the limits of variation specified. Use of a product other than that specified constitutes a representation by the Contractor that he will comply with all the conditions specified for acceptance of substitutions, although formal submittal of a request for substitution is not required.
  - K. Products Specified by Listing Brand Name(s) Accompanied by Language Indicating that Substitutions Are Not Allowed: Provide one of the products listed.
  - L. Products Specified by Listing Brand Name(s) Accompanied by Language Indicating that Substitutions Are Allowed: Provide a product meeting the specification; submit substitution request for any brand-name product that is not listed.
  - M. Products Specified by Listing Manufacturer(s) Accompanied by Language Indicating that Substitutions Are Not Allowed: Provide a product meeting the specification and made by one of the manufacturers listed.
  - N. Products Specified by Listing Manufacturer(s) Accompanied by Language Specifically Indicating that Substitutions Are Allowed: Provide a product meeting the specification; submit substitution request for any manufacturer not listed.
  - O. Language indicating that substitutions are not allowed includes:
    - 1. "Provide one of the following products."
    - 2. "Provide products made by one of the manufacturers listed."
    - 3. "Provide products complying with the contract documents and made by one of the following."
    - 4. "No substitutions."
    - 5. "Provide products complying with the contract documents and made by one of the following"
    - 6. Other similar language.
  - P. Language indicating that substitutions are allowed includes:
    - 1. Substitutions will be considered.
    - 2. "... will be among those considered acceptable."
    - 3. "Or approved equal."
    - 4. Other similar language.
2. SUBSTITUTIONS DURING THE BIDDING PERIOD
- A. Substitution Requests: Attach to the Bid Form.
  - B. Acceptable substitutions will be added to the contract documents by modification.
3. SUBSTITUTIONS AFTER AWARD OF THE CONTRACT
- A. Substitutions will not be considered between the bid date and the award of the contract.

01630-2

DIVISION 1 – GENERAL REQUIREMENTS  
SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

- B. Substitutions will not be allowed after award of the contract except when, through no fault of the Contractor, none of the specified products is available.
4. SUBSTITUTION PROCEDURE
- A. Submission of request for substitution shall constitute a representation by the Contractor that he:
    - 1. Has investigated the proposed product and determined that it is equal to or better than the specified product. Absence of an explicit comparison of any characteristic of the proposed product to the specified product shall constitute a representation that the proposed product is equal to or better than the specified product with regard to that characteristic.
    - 2. Will provide the same warranty for the proposed product as for the specified product.
    - 3. Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
      - a. Redesign.
      - b. Additional components and capacity required by other work affected by the change.
    - 4. Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
    - 5. Will reimburse the Owner for additional costs for evaluation of the substitution request, redesign if required, and re-approval by authorities having jurisdiction if required.
  - B. Substitutions will not be considered when acceptance would require substantial revision of the contract documents.
  - C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request.
  - D. Substitution requests will not be considered when submitted directly by subcontractor or supplier.
  - E. Substitution Request Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the contract documents.
    - 1. Submit request to the Construction Manager.
    - 2. Submit 4 copies of each request and accompanying data.
    - 3. Submit request as specified for change order proposals.
  - F. Data Required with Substitution Request: Provide at least the following data:
    - 1. Identify product by specification section and paragraph number.
    - 2. Manufacturer's name and address, trade name and model number of product (if applicable), and name of fabricator or supplier (if applicable).
    - 3. Complete product data.
    - 4. A list of other projects on which the proposed product has been used, with project name, the design professional's name, and owner contact.

01630-3



DIVISION 1 – GENERAL REQUIREMENTS  
SECTION 01630 - PRODUCT OPTIONS AND SUBSTITUTIONS

5. An itemized comparison of the proposed product to the specified product.
  6. Net amount of change to the contract sum.
  7. List of maintenance services and replacement materials available.
  8. Statement of the effect of the substitution on the construction schedule.
  9. Description of changes that will be required in other work or products if the substitute product is approved.
- G. The Construction Manager will determine acceptability of the proposed substitution.
- H. When the proposed substitution is not accepted, provide the product (or one of the products, as the case may be) specified.

**END OF SECTION 01630**

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. General construction and installation procedures.
  2. Cutting procedures.
  3. Patching procedures.
  4. Existing hazardous material procedures.
  5. Cleaning during construction.
  6. Facility startup.
  7. Project completion procedures.
  8. Final cleaning.

B. Related Sections:

1.2 DEFINITIONS

- A. Concealed Spaces: Spaces which are not accessible after completion of construction.
- B. Cutting: Removal of material by cutting, sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation.
- C. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.
- D. Debris: Rubbish, waste materials, litter, volatile wastes, and similar materials, with the exception of surplus materials which are to become the property of the owner.
- E. Fire Barriers: Any wall, floor, ceiling, or roof which is indicated as having a fire resistance rating.
- F. Operational Elements: Equipment, moving parts, electrical conductors, sound and vibration control materials, waterproofing, vapor retarders, piping, ducts, tanks, and other similar materials and components which convey or retard the passage of liquids, gases, heat, light, persons, animals, or insects or which perform a similar function; not including structural elements.
- G. Patching: Restoration to completed condition by patching, repairing, refinishing, finishing, filling, closing up, and similar operations.
- H. Safety-Related Elements: Materials and assemblies whose principal function is the promotion of the safety of the building and its occupants, including fire and smoke barriers, fireproofing, emergency egress doors and windows, guardrails, equipment guards, and other similar construction.
- I. Smoke Barriers: Any wall, floor, ceiling, or roof which is indicated as being designed to prevent passage of smoke and gases; may be indicated as "smoke barrier," "smoke partitions," "smoke wall," or similar designation.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- J. Spaces Not Normally Occupied: Accessible spaces such as roofs, accessible plenums and shafts, accessible spaces above ceilings, trenches, equipment vaults, manholes, accessible attics, and similar spaces, but not including the interior of duct or concealed spaces.

1.3 SUBMITTALS

- A. Proposals for Cutting and Patching: Submit request sufficiently in advance of the time the work is to be performed to obtain approval; include:
1. Description of the nature of the work and how it is to be performed, including reasons why cutting cannot be avoided.
  2. Description of results expected, including impact on safety and on structural, operational, and visual qualities.
  3. Products to be used.
  4. If utilities are affected, describe the changes required and be specific as to how long service will be cut off.
  5. If cutting of structural work results in the need for additional reinforcement, provide details and engineering calculations to show how that reinforcement satisfies the original structural requirements.
- B. Startup Reports:
1. Submit within 5 days after startup of item covered by report.
  2. Include a statement that the item has been installed properly and is functioning correctly.
  3. Include the following information:
    - a. Item started up.
    - b. Date of startup operation.
    - c. Entity performing startup.
    - d. Applicable specification section.
    - e. Results of startup.
    - f. Signature of person performing startup.
- C. Demonstration Reports:
1. Submit within 7 days after each demonstration period.
  2. Include the following information:
    - a. Description of equipment or system demonstrated, cross-referenced to the contract documents.
    - b. Date of demonstration.
    - c. Name and title of person performing demonstration.
    - d. Name, title, and signature of person observing demonstration.

1.4 QUALITY ASSURANCE

- A. Cleaning: Perform cleaning in accordance with the recommendations of the manufacturer or fabricator of the product or system. Use only cleaning materials and tools which are specifically recommended, which are not hazardous to health or property, and which will not damage finishes.

PROJECT CONDITIONS

- 1.5 A. The existing facility will be occupied during the period in which the work will be conducted; avoid interference with use of those areas and interruption of access to them.
1. Do not obstruct required exit ways unless alternative exit ways satisfactory to the authorities having jurisdiction are available.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- B. Take precautions to prevent fires and to facilitate fire-fighting operations.
  - 1. Keep flammable materials in non-combustible containers; store away from potential fire sources; remove flammable waste regularly.
  - 2. Keep temporary and permanent fire fighting facilities readily accessible; keep fire fighting routes open.
  - 3. Do not allow smoking in areas where highly combustible or explosive materials are present.
  - 4. Carefully supervise the operation of potential fire sources, including heating units.
  - 5. Conduct welding operations in manner to prevent fire; comply with local regulations.
  
- C. Take precautions to prevent accidents due to physical hazards:
  - 1. Provide barricades, warning lights, or signs as required to inform personnel and the public of the hazard being protected against.
  - 2. Safety barricades: Comply with regulations.
  - 3. Provide temporary walkways where walking surfaces are hazardous.
  - 4. Notify the owner before beginning work that involves hazardous operations, including use of explosives and the like.
  
- D. Take care to prevent pollution of air, water, and soil.
  - 1. Comply with environmental protection regulations.
  
- E. Do not use tools or equipment which produce harmful levels of noise.
  - 1. Minimize the use of noise-making tools and equipment during hours that adjacent buildings are occupied.
  
- F. Keep the site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.
  
- G. Provide temporary means of draining roofs where required.
  
- H. Conduct construction operations so that no part of the work and no part of the existing construction is subjected to damaging operations or influences which are in excess of those to be expected during normal occupancy conditions.
  
- I. Conduct construction operations so that waste of power, water, and fuel is avoided.
  
- J. Provide temporary supports as required to prevent movement and structural failure.
  
- K. Install products only during environmental conditions which will ensure the best possible results.

1.5 SEQUENCING AND SCHEDULING

- A. Install products only at the time and in the sequence which will ensure the best possible results.
  
- B. Coordinate required administrative activities with related construction activities.

PART 2 - PRODUCTS

2.1 MATERIALS

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- A. Patching Materials: Identical to the materials of the work to be cut, unless indicated as specific materials specified in other sections.
  - 1. For exposed materials for closing up openings, use materials identical to those of the adjacent construction; concealed materials are not required to be identical.
  - 2. If identical materials are not available or cannot be used, use materials that provide best visual match; obtain approval of the Construction Manager.
  - 3. Use materials that perform equally as well as, or better than, the material cut.
  - 4. If necessary, determine composition of existing materials to be patched by testing.

PART 3 - EXECUTION

3.1 GENERAL EXAMINATION REQUIREMENTS

- A. Prior to performing work, examine the applicable substrates and the conditions under which the work is to be performed.
- B. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding.
  - 1. If the conditions to be corrected involve the work of another prime contract, notify the Construction Manager promptly.
- C. Conditions which could have been discovered by examination will not be allowed as cause for claims for extra work.
- D. Notify the Construction Manager promptly of any modifications required due to existing conditions or previous work.
- E. Before starting work which might affect existing construction, verify the existence and location of such construction.
  - 1. In particular, verify the following:
    - a. Underground utilities.
    - b. Other underground construction.
    - c. Location and invert elevation of points of connection to piped utilities.
- F. Verify that utility requirements of operating equipment are compatible with building utilities.
- G. Verify space requirements of items which are shown diagrammatically on the drawings.

3.2 GENERAL PREPARATION REQUIREMENTS

- A. Take field measurements as required to fit the work properly.
- B. Recheck measurements prior to installing each product.

3.3 GENERAL INSTALLATION PROCEDURES

- A. Accurately locate the work and components of the work; make vertical work plumb; make horizontal work level.
- B. See sections describing specific parts of the work for additional requirements.
- C. Where space is limited, install components to maximize space available for maintenance and to maximize ease of removal for replacement.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- D. In finished areas, conceal pipes, ducts, and wiring within the construction, unless otherwise indicated.
- E. In ceiling areas without a finished suspended ceiling, maintain minimum headroom clearance of 8 feet.
- F. Coordinate exact locations of fixtures and outlets with finish elements.
- G. Install work in such manner and sequence as to preclude, if possible, or at least to minimize, cutting and patching.
- H. Existing Construction:
  - 1. Perform work in existing construction in same manner as for new construction unless otherwise specified.
  - 2. Where a new surface exposed to view is an extension of any existing surface, align both surfaces without a change of plane and make a neat transition between finishes.
    - a. If a change of plane is necessary due to the configuration of the existing surface, terminate the existing surface and its finish along a straight line at a natural line of division.
  - 3. Where portions of existing work are removed, patch remaining work with neat transitions between remaining surfaces without evidence of cutting.
    - a. Where neat transitions between remaining surfaces are not possible due to configuration of existing surfaces, obtain instructions from the Design/Builder.
  - 4. Where existing construction is removed, remove existing utility services located within or upon the existing construction.
    - a. Cap cut ends of abandoned piping, conduit, and duct in such a manner that they are concealed in finish work.

3.4 CLEANING AND PROTECTION

- A. Remove debris from concealed spaces prior to enclosing the space.
- B. Keep the site and the work free of waste materials and debris.
  - 1. Remove waste from site periodically.
  - 2. When temperature exceeds or is expected to exceed 80 degrees F, remove waste at frequency necessary to prevent development of health hazards and nuisance odors.
  - 3. Keep hazardous and unsanitary materials in containers separate from other waste.
- C. Clean areas in which work is to be done to level of cleanliness necessary for proper execution of that work.
  - 1. Where dust would impair execution of work, broom- and vacuum-clean the entire interior area and keep clean.
- D. Keep installed work clean, and clean again when soiled by other operations.
  - 1. Provide periodic cleaning as required to prevent damage due to soiling.
  - 2. Remove liquid spills promptly.
- E. Protect installed work from soiling and damage.
  - 1. Provide protective coverings as required.
  - 2. Provide protective coverings for work which may be damaged by subsequent operations.
  - 3. Where heavy abuse is expected, use minimum of plywood for protection.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

4. Maintain protective coverings until substantial completion.

3.5 CUTTING AND PATCHING PROCEDURES

- A. Use specified cutting and patching procedures when cutting or patching is required for any of the following activities:
  - 1. Fitting the parts of the work together.
  - 2. Modifying existing construction.
  - 3. Repairing existing work to remain.
  - 4. Installing ill-timed work.
  - 5. Removing and replacing defective and nonconforming work.
  - 6. Removing samples of work for testing.
  - 7. Making openings in elements of work for penetrations, such as for piping, conduit, duct, and the like.
  - 8. Uncovering work for observation.
  - 9. Repairing damage.
  
- B. Each prime contractor shall be responsible for cutting, fitting, or patching required to complete his work or to make its parts fit together properly.
  - 1. When it is necessary to cut the work of another prime contractor, obtain the written consent of such contractor prior to proceeding.
  - 2. Do not unreasonably withhold the contractor's consent to cutting the contractor's work.
  
- C. Perform cutting and patching at earliest time feasible, unless otherwise indicated or directed by the Construction Manager.
  
- D. Use procedures specified in applicable product sections as well as those specified in this section:
  - 1. Use procedures recommended by original installer, when such information is available.
  - 2. Where required, obtain approval of procedures by the Construction Manager.
  - 3. Cut using methods that are least likely to damage adjacent work and work to remain and which will provide proper surfaces for patching.
  - 4. Make cuts neatly with minimum disturbance of adjacent work.
    - a. Use appropriate tools intended for sawing or grinding and not for chopping or hammering.
    - b. Do not use pneumatic tools without prior approval.
  - 5. Where installation of similar new work is included, perform patching in manner specified for installation of new work.
  - 6. Where new work is inserted into or through the work that is cut, fit the patched work tightly to the new work.
  - 7. Patch with seams which are durable and as invisible as possible.
  - 8. Repair substrate prior to patching finish.
  
- E. Employ skilled workers to perform cutting and patching work.
  - 1. Use the original installer of the work to perform cutting and patching of the following:
    - a. Any products so indicated in the applicable product section.
  
- F. Work Exposed to View: Do not cut or patch in a manner that would result in a lessening of the building's aesthetic value, as determined by the Construction Manager.
  - 1. Generally, cut from exposed side into concealed spaces to avoid unnecessary

01700 - 6

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- damage to finish.
2. Do not cut and patch in a manner that would result in substantial visual evidence of cut and patch work.
  3. Restore exposed patched finishes in a manner which eliminates evidence of patching and refinishing.
    - a. For continuous surfaces, extend refinish to nearest intersection, with a neat transition to adjacent surfaces.
    - b. For assemblies: Refinish entire unit.
    - c. Painted piping, conduit, and duct: Clean and repaint.
  4. Remove and replace work which is patched in a visually unacceptable manner.
- G. Structural Elements: Maintain structural capacity; do not increase deflection under design load; provide reinforcing where required.
1. See structural sections for additional requirements.
  2. Before cutting any structural member, obtain the Design/Builder's approval of the proposed method.
- H. Existing Construction:
1. Patch existing work to match adjacent existing work to remain.
  2. Where specified procedures for similar new work are applicable, use those procedures for cutting and patching existing construction.
  3. Take precautions to avoid damage to unanticipated utilities and structural elements. If such elements are encountered, report nature and extent to the Construction Manager and request instructions as to how to proceed.
  4. Do not cut existing mechanical and electrical services which are to remain in use until provisions have been made to relocate or reconnect them within 4 hours.
  5. Make neat transitions between existing and new surface finishes.
- I. Concealed Work: Uncover the concealed work, cut and patch, and patch the covering work.
- J. Concrete and Masonry: Use saws or drills which produce a neat cut; remove in small sections.
- K. Insulation: Replace insulation whenever it is cut in order to modify the element it is insulating.
- L. Slabs on Grade: Use methods that will not crack or disturb adjacent slabs or partitions.
- M. Operational Elements: Maintain capacity to perform in the manner intended, including energy performance; do not cut or patch in any manner that would increase maintenance requirement, decrease life expectancy, or decrease safety.
1. Before cutting the following, obtain the Construction Manager's approval of proposed method:
    - a. Any product for which approval is required in the applicable product section.
    - b. Roofing.
    - c. Piping, wiring, conduit and duct.
- N. Safety-Related Elements: Do not cut or patch in a manner that would result in decreased safety.
1. Before cutting the following, obtain the Construction Manager's approval of the proposed method:
    - a. Any product for which approval is required in the applicable product section.



DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

b. Fire/smoke barriers.

- O. Fire/Smoke Barriers: Do not cut more than absolutely necessary.
  - 1. Cut penetration holes to sizes required for penetration seal assemblies required.
  - 2. Patch all oversize holes and cuts made in error.
  - 3. Perform patching in a manner which complies in all respects with the original construction; if not possible, report nature of difficulty to the Construction Manager and request instructions.
- P. Protect that part of the project which is exposed during cutting and patching operations from adverse weather.
- Q. Cover openings made whenever they are not in use.

3.6 INSTALLATION OF COMPONENTS

- A. Install all products in accordance with manufacturer's instructions and recommendations, whether conveyed in writing or not.
- B. Mounting Heights: Where mounting heights are not indicated, install components at mounting normally encountered for similar components.
  - 1. Obtain the Construction Manager's instructions for uncertain mounting heights.
- C. Separate incompatible materials with suitable materials or spacing.
  - 1. Prevent cathodic corrosion.
- D. Provide all anchors and fasteners required and use methods necessary to securely fasten work.
  - 1. Allow for thermal expansion and contraction, and for building movement.
- E. Joints in Exposed Work:
  - 1. Make joints of uniform widths.
  - 2. Where joint locations are not indicated, arrange joints for the best visual effect.
    - a. When in doubt, obtain the Construction Manager's instructions.
- F. After installation, adjust operating components to proper operation.

3.7 FACILITY STARTUP

- A. Put each item of equipment and each system into full, satisfactory operation.
- B. Prior to Startup:
  - 1. Verify that equipment and systems are complete, correctly connected to utilities, and tested.
    - a. Comply with requirements of manufacturer.
  - 2. Inspect and test as required to ensure that work is installed as specified and to determine suitability for energizing.
  - 3. Provide power and fuel for startup and testing.
  - 4. Change over from temporary to permanent utility sources.
  - 5. Re-adjust and lubricate operating components as required to ensure smooth and unhindered operation.
    - a. Check drive rotations, belt tension, control sequences, and other features which might cause damage if not properly adjusted.

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

6. When required by manufacturer, have manufacturer's representative prepare for startup or supervise such preparation.
- C. Notify the Construction Manager at least 5 days. prior to startup of each item and system.
- D. Execute startup under supervision of responsible personnel in accordance with the manufacturer's instructions.
  1. When required by manufacturer, have manufacturer's representative perform startup.
  2. Submit a written report of startup operation.
- E. After startup, adjust equipment and systems as required for proper operation.
  1. Where specified, perform tests or inspections to determine status of operation.
- F. Demonstrate the operation and maintenance of equipment and systems to personnel designated by the owner, prior to substantial completion.
  1. Have final operating and maintenance data available during demonstration.
- G. For equipment and systems which have different operation at different seasons, demonstrate operation during subsequent seasons until fully demonstrated.

3.8 FINAL CLEANING

- A. Each prime contractor shall perform final cleaning of his own work.
- B. Remove materials and equipment which are not part of the work and all debris from the site prior to substantial completion.
  1. Remove all surplus materials which are to remain property of the contractor; obtain the owner's instructions as to disposition of surplus material remaining on site and deliver, store, or dispose of as directed.
  2. Remove protective coverings.
  3. Remove temporary facilities.
- C. Dispose of debris in a lawful manner.
  1. Do not burn or bury debris on the site.
  2. Do not dispose of volatile wastes in storm or sanitary drains.
- D. Perform final cleaning prior to requesting inspection for substantial completion.
  1. Use only professional cleaners.
  2. Clean to the level of cleanliness that would be expected by a commercial building owner from a janitorial service.
- E. Clean entire project site and grounds.
  1. Clean up landscaped areas.
  2. Broom clean paved areas.
  3. Rake smooth all exposed earth surfaces.
  4. Remove snow and ice from building and site accesses.
- F. In spaces to be occupied, remove dirt, stains, and other foreign substances from all accessible surfaces and remove nonpermanent labels.
- G. Remove debris from roofs, gutters, downspouts, and roof drains.

01700 - 9

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01700 - CONSTRUCTION PROCEDURES

- H. In spaces not normally occupied, remove debris and surface dust and wipe equipment clean, removing excess lubrication, paint, and other foreign substances.
- I. Remove paint and other coatings from permanent labels and from mechanical and electrical equipment nameplates.
- J. Leave the project clean and ready for occupancy.

3.10 PROJECT COMPLETION PROCEDURES

- A. Complete the work, prior to substantial completion, as required to obtain consent to occupancy from the governing authorities.
- B. Arrange for final inspections by governing authorities to be accomplished prior to substantial completion.
- C. If temporary locking systems differ from permanent locking systems, change over to permanent systems prior to substantial completion.

**END OF SECTION 01700**

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01800 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Project record documents consisting of:
    - a. Record drawings.
    - b. Record project manual (specifications).
    - c. Record submittals:
      - 1. Shop drawings.
      - (ii) Product data.
- B. Related Sections:
  - 1. Operation and maintenance data: Elsewhere in Division 1.
  - 2. Warranties: Elsewhere in Division 1.

1.2 SUBMITTALS

- A. Project Record Documents: Submit prior to substantial completion.
  - 1. Record drawings: Submit in form of reverse sepia reproduces.
    - a. Submit original marked-up print set.
    - b. Submit 3 additional opaque print copy sets.
    - c. Sets shall include all drawings, whether changed or not.
  - 2. Other record documents: Submit 3 originals or good quality photocopies.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MAINTENANCE OF PROJECT RECORD DOCUMENTS

- A. Do not use record documents of any type for construction purposes.
- B. Maintain record documents in a secure location at the site while providing for access by the contractor and the Construction Manager during normal working hours; store in a fire-resistive room or container outside of normal working hours.
- C. Record information as soon as possible after it is obtained.
- D. Assign a person or persons responsible for maintaining record documents.
- E. Record the following types of information on all applicable record documents:
  - 1. Dimensional changes.
  - 2. New and revised details.
  - 3. Depths of foundations.
  - 4. Locations and depths of underground utilities.
  - 5. Actual routings of piping and conduits.
  - 6. Revisions to electrical circuits.
  - 7. Locations of utilities concealed in construction.
  - 8. Particulars on concealed products which will not be easy to identify later.

01800- 1

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01800 - PROJECT RECORD DOCUMENTS

9. Changes made by modifications to the contract; note identification numbers if applicable.
10. New information which may be useful to the owner, but which was not shown in either the contract documents or submittals.

3.2 RECORD DRAWINGS

- A. Each contractor shall maintain a complete set of opaque prints of the contract drawings, marked to show changes which occur due to his work.
- B. Where the actual work differs from that shown on the drawings, mark this set to show the actual work.
  1. Mark location of concealed items before they are covered by other work.
  2. Mark either record contract drawings or shop drawings, whichever are best suited to show the change.
  3. Where changes are marked on record shop drawings, mark cross-reference on the applicable contract drawing.
- C. When the contractor is required by a provision of a modification to prepare a new drawing, rather than to revise existing drawings, obtain instructions from the Construction Manager as to the drawing scale and information required.
- D. Keep drawings in labeled, bound sets.
  1. Mark with red pencil.
  2. Mark work of separate contracts with different colors of pencils.
  3. Incorporate new drawings into existing sets, as they are issued.
- E. Review completed record set with the Construction Manager.
- F. Upon authorization by the Construction Manager, each prime contractor shall prepare a full set of transparencies of contract drawings marked with all changes shown on his set of record prints.
- G. The Construction Manager will furnish transparencies of original contract drawings at the cost of \$20.00 (twenty dollars) per sheet.

3.3 RECORD PROJECT MANUAL

- A. Maintain a complete copy of the project manual, marked to show changes.
- B. Where the actual work differs from that shown in the project manual, mark the record copy to show the actual work.
  1. Include a copy of each addendum and modification to the contract.

3.4 RECORD SUBMITTALS

- A. Maintain a complete set of all submittals made during construction, marked to show changes.
- B. Each contractor shall maintain a complete set of all submittals made during construction, marked to show changes which occur due to his work.

01800- 2

DIVISION 1 - GENERAL REQUIREMENTS  
SECTION 01800 - PROJECT RECORD DOCUMENTS

1. Maintain submittals in cardboard file boxes, labeled to show contents.
  2. Sort submittals by applicable specification section and file in order of submittal identification number.
- C. Record Shop Drawings: Record the types of information specified for all record documents.
1. Mark changes on record shop drawings only when contract drawing would not be capable of showing the change clearly or completely.
  2. Mark changes in manner specified for record drawings.
- D. Record Product Data Submittals: Record the types of information specified for all record documents.
1. In addition, record the following types of information:
    - a. Changes in the products as delivered to the site.
    - b. Changes in manufacturer's instructions or recommendations for installation.
- E. Record Coordination Drawings: Record the types of information required for all record documents.
1. Mark up in the manner specified for record drawings.

3.5 TRANSMITTAL TO OWNER

- A. Collect, organize, label, and package ready for reference.
1. Provide cardboard file boxes for submittals.
  2. Provide cardboard drawing tubes with end caps for transparencies.
  3. Bind print sets with durable paper covers.
  4. Label each document (and each sheet of drawings) with "PROJECT RECORD DOCUMENTS - This document has been prepared using information furnished by \_\_\_\_\_" [insert the contractor's name], and the date of preparation.
- B. Submit to the Construction Manager.

**END OF SECTION 01800**

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 administrative and procedural requirements for the following:
  - 1. Recycling nonhazardous demolition and construction waste.
  - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
  - 1. Division 01 Section "Sustainable Design Requirements" for additional LEED requirements.
  - 2. Division 01 Section "Multiple Contract Summary" for coordination of responsibilities for waste management.
  - 3. Division 02 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
  - 4. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.
  - 5. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1.4 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report from responsible waste hauler or use **Form A7 for construction waste**. Include the following information, **Use FORM A8**:
  - 1. Material category.
  - 2. Generation point of waste.
  - 3. Total quantity of waste in tons.
  - 4. Quantity of waste salvaged, both estimated and actual in tons.
  - 5. Quantity of waste recycled, both estimated and actual in tons.
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
  - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- C. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements, that employs a LEED-Accredited Professional, certified by the USGBC, as waste management coordinator.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
  - 1. Review and discuss waste management plan including responsibilities of waste management coordinator.
  - 2. Review requirements for documenting quantities of each type of waste and its disposition.



3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. [**Use Form A1 for construction waste.**] Include estimated quantities and assumptions for estimates. Use **Form 2 for Tracking Demo Waste.**
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. [**Use Form A3 for construction waste.**] Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures. **Use FORM A4 for tracking demolition waste.**
  1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
  1. Total quantity of waste.
  2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
  3. Total cost of disposal (with no waste management).
  4. Savings in hauling and tipping fees that are avoided.
  5. Handling and transportation costs. Include cost of collection containers for each type of waste.
  6. Net additional cost or net savings from waste management plan.
- E. Forms: Prepare waste management plan on Forms A1, A3, A5 and A7 included at end of Part 3.

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Architect. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  - 1. Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - 1. Distribute waste management plan to everyone concerned within three days of submittal return and prior to construction.
  - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  - 2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
    - a. Inspect containers and bins for contamination and remove contaminated materials if found.
  2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  4. Store components off the ground and protect from the weather.
  5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.3 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

3.4 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of 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 waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

3.5 ATTACHMENTS

A. Form A1:

CONSTRUCTION WASTE IDENTIFICATION							
MATERIAL CATEGORY	GENERATION POINT	EST. QUANTITY OF MATERIALS RECEIVED* (A)	EST. WASTE - % (B)	TOTAL EST. QUANTITY OF WASTE* (C = A x B)	EST. VOLUME CY (CM)	EST. WEIGHT TONS (TONNES)	REMARKS AND ASSUMPTIONS
Packaging: Cardboard							
Packaging: Boxes							
Packaging: Plastic Sheet or Film							
Packaging: Polystyrene							
Packaging: Pallets or Skids							
Packaging: Crates							
Packaging: Paint Cans							
Packaging: Plastic Pallets							
Site-Clearing Waste							
Masonry or CMU							
Lumber: Cut-Offs							
Lumber: Warped Pieces							
Plywood or OSB (scraps)							
Wood Forms							
Wood Waste Chutes							
Wood Trim (cut-offs)							
Metals							
Insulation							
Roofing							
Joint Sealant Tubes							
Gypsum Board (scraps)							
Carpet and Pad (scraps)							
Piping							
Electrical Conduit							
Other:							

\* Insert units of measure.

B. Form A3:

CONSTRUCTION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS (TONNES)	DISPOSAL METHOD AND QUANTITY			HANDLING AND TRANSPORTION PROCEDURES
			EST. AMOUNT SALVAGED TONS (TONNES)	EST. AMOUNT RECYCLED TONS (TONNES)	EST. AMOUNT DISPOSED TO LANDFILL TONS (TONNES)	
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pallets						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						
Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

C. Form A5:

COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN								
MATERIALS	TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)	EST. COST OF DISPOSAL (B)	TOTAL EST. COST OF DISPOSAL (C = A x B)	REVENUE FROM SALVAGED MATERIALS (D)	REVENUE FROM RECYCLED MATERIALS (E)	LANDFILL TIPPING FEES AVOIDED (F)	HANDLING AND TRANSPORTATION COSTS AVOIDED (G)	NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pallet								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

D. Form A7:

CONSTRUCTION WASTE REDUCTION PROGRESS REPORT								
MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (TONNES) (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C)	TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100)
			ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (B)	ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (C)		
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pallet								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

END OF SECTION 017419

## SECTION 262200 – LOW-VOLTAGE TRANSFORMERS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Transformers for Non-Linear Loads.

#### 1.3 RELATED SECTIONS

- A. Section 16050 - Basic Electrical Materials and Methods.
- B. Section 16130 - Raceway and Boxes.

#### 1.4 REFERENCES

- A. NEMA ST 20 - Dry-Type Transformers for General Applications.
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment (International Electrical Testing Association).
- C. NFPA 70 - National Electrical Code.

#### 1.5 SUBMITTALS FOR REVIEW

- A. Product Data: Provide outline and support point dimensions of enclosures and accessories, unit weight, voltage, kVA, and impedance ratings and characteristics, tap configurations, insulation system type, and rated temperature rise.

#### 1.6 SUBMITTALS FOR CLOSEOUT

- A. Record actual locations of transformers in project record documents.

#### 1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Material and Equipment: Transport, handle, store, and protect products.
- B. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to transformer internal components, enclosure, and finish.

## PART 2 – PRODUCTS

### 2.1 ISOLATION TRANSFORMERS (FOR NON-LINEAR LOADS)

- A. Manufacturers:
  - 1. Cutler-Hammer.
  - 2. Square D.
  - 3. Siemens
- B. Description: UL K-4 rated, NEMA ST 20, factory-assembled, air cooled dry type transformers, ratings as indicated on drawings, designed to supply non-linear loads.
- C. Primary Voltage: 480 volts, 3 phase.
- D. Secondary Voltage: 208Y/120 volts, 3 phase.
- E. Core Flux Density: Below saturation at 10 percent primary overvoltage.
- F. Insulation system and average winding temperature rise for rated kVA as follows:
  - 1. 16-500 kVA: Class 220 with 80 degrees C rise.
- G. Case temperature: Transformer shall be capable of carrying a continuous 30% overload without exceeding 150 degree C. rise
- H. Winding Taps:
  - 1. Transformers Less than 15 kVA: Two 5 percent below rated voltage, full capacity taps on primary winding.
  - 2. Transformers 15 kVA and Larger: NEMA ST 20.
- I. Sound Levels: NEMA ST 20. Maximum sound levels are as follows:
  - 1. 1-3 kVA: 45 dB.
  - 2. 35-150 kVA: 50 dB.
- J. Basic Impulse Level: 10 kV.

- K. Ground core and coil assembly to enclosure by means of a visible flexible copper grounding strap.
- L. Mounting:
  - 1. 1-15 kVA: Suitable for wall mounting.
  - 2. 16-45 kVA: Suitable for wall, floor, or trapeze mounting.
  - 3. Larger than 45 kVA: Suitable for floor or trapeze mounting.
- M. Coil Conductors: Continuous copper windings with terminations brazed or welded.
- N. Electrostatic Shield: Copper, between primary and secondary windings.
- O. Enclosure: NEMA ST 20, Type 1. Provide lifting eyes or brackets.
- P. Isolate core and coil from enclosure using vibration-absorbing mounts.
- Q. Nameplate: Include transformer connection data and overload capacity based on rated allowable temperature rise.

### PART 3 – EXECUTION

#### 3.1 INSTALLATION

- A. Set transformer plumb and level.
- B. Use flexible conduit, under the provisions of Section 16111, 2 feet minimum length, for connections to transformer case. Make conduit connections to side panel of enclosure.
- C. Mount wall-mounted transformers using integral flanges or accessory brackets furnished by the manufacturer.
- D. Mount floor-mounted transformers on vibration isolating pads suitable for isolating the transformer noise from the building structure.
- E. Mount trapeze-mounted transformers as indicated.
- F. Provide grounding and bonding in accordance with Section 16170.

#### 3.2 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ATS, Section 7.2.



3.3 ADJUSTING

- A. Measure primary and secondary voltages and make appropriate tap adjustments.

END OF SECTION 262200

## GENERAL SECTION 262413 – SWITCHBOARDS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Switchboards.
- B. Switchboard Accessories.

#### 1.3 RELATED SECTIONS

- A. Section 260500 - Common Work Results for Electrical
- B. Section 261000 - Electrical Utility Services.
- C. Section 262813 - Fuses.

#### 1.4 REFERENCES

- A. NEMA AB 1 - Molded Case Circuit Breakers.
- B. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
- C. NEMA PB 2 - Dead Front Distribution Switchboards.
- D. NEMA PB 2.1 - Instructions for Safe Handling, Installation, Operation and Maintenance of Deadfront Switchboards Rated 600 Volts or Less.
- E. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment (International Electrical Testing Association).
- F. NFPA 70 - National Electrical Code.

#### 1.5 SUBMITTALS FOR REVIEW

- A. Section 013300 - Submittals: Procedures for submittals.

- B. Product Data: Provide electrical characteristics including voltage, frame size and trip ratings, fault current withstand ratings, and time-current curves of all equipment and components.
- C. Shop Drawings: Indicate front and side views of enclosures with overall dimensions shown; conduit entrance locations and requirements; nameplate legends; size and number of bus bars per phase, neutral, ground; and switchboard instrument details.

#### 1.6 SUBMITTALS FOR CLOSEOUT

- A. Section 017700 - Closeout Procedures: Submittals for project closeout.
- B. Record actual locations of switchboard in project record documents.
- C. Maintenance Data: Include spare parts listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

#### 1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years experience.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Material and Equipment: Transport, handle, store, and protect products.
- B. Deliver individually wrapped for protection and mounted on shipping skids.
- C. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- D. Handle in accordance with NEMA PB 2.1 and manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to switchboard internal components, enclosure, and finish.

#### 1.9 FIELD MEASUREMENTS

- A. Verify that field measurements are as required to suit installation.

#### 1.10 MAINTENANCE MATERIALS

- A. Section 017700 - Closeout Procedures

- B. Furnish two of each key.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Cutler-Hammer.
- B. Siemens.
- C. Square D Company.

### 2.2 SWITCHBOARD

- A. Description: NEMA PB 2 switchboard with electrical ratings and configurations as indicated and specified.
- B. Ratings: Furnish voltage, configuration, main bus, and integrated equipment rating as indicated on the drawings.
- C. Main Section Devices: Individually mounted and compartmented.
- D. Distribution Section Devices: Individually mounted and compartmented.
- E. Bus Material: Copper, standard size.
- F. Bus Connections: Bolted, accessible from front for maintenance.
- G. Fully insulate load side bus bars.
- H. Ground Bus: Extend length of switchboard.
- I. Isolated Ground Bus
- J. Fusible Switch Assemblies: NEMA KS 1, load interrupter enclosed knife switch with externally operable handle. Provide interlock to prevent opening front cover with switch in ON position. Handle lockable in OFF position.
  - 1. Fuse clips: Designed to accommodate Class R fuses, type as specified.
- K. Fusible Switch Assemblies, 800 Amperes and Larger: Bolted pressure contact switches.
  - 1. Fuse clips: Designed to accommodate Class L fuses.
- L. Line and Load Terminations: Accessible from the front of the switchboard, suitable for the conductor materials and sizes indicated.

- M. Metering Transformer Compartment: For Utility Company's use; compartment size, bus spacing and drilling, door, and locking and sealing requirements in accordance with Utility Company's requirements.
- N. Pull Section: Size as shown on drawings or as required to facilitate installation.
- O. Future Provisions: Fully equip spaces for future devices with bussing and bus connections, suitably insulated and braced for short circuit currents. Provide continuous current rating as indicated.
- P. Enclosure: Type 1 - General Purpose.
  - 1. Align sections at front and rear.
  - 2. Switchboard Height: 90 inches, excluding floor sills, lifting members.
  - 3. Finish: Manufacturer's standard light gray enamel over external surfaces. Coat internal surfaces with minimum one coat corrosion-resisting paint, or plate with cadmium or zinc.

### PART 3 – EXECUTION

#### 3.1 PREPARATION

- A. Provide concrete housekeeping pad.

#### 3.2 INSTALLATION

- A. Install switchboard in locations shown on Drawings, according to NEMA PB 2.1.
- B. Tighten accessible bus connections and mechanical fasteners after placing switchboard.
- C. Install fuses in each switch.

#### 3.3 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ATS, Section 7.1.

#### 3.4 ADJUSTING

- A. Section 017700 - Closeout Procedures: Adjusting installed work.
- B. Adjust all operating mechanisms for free mechanical movement.
- C. Tighten bolted bus connections in accordance with manufacturer's instructions.

3.5 CLEANING

- A. Section 017700 - Closeout Procedures: Cleaning installed work.
- B. Touch up scratched or marred surfaces to match original finish.

END OF SECTION 262413

## SECTION 262416 - PANELBOARDS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Distribution Panelboards.
- B. Branch Circuit Panelboards.

#### 1.3 RELATED SECTIONS

- A. Section 260500 - Common Work Results for Electrical

#### 1.4 REFERENCES

- A. NECA Standard of Installation (published by the National Electrical Contractors Association).
- B. NEMA AB1 - Molded Case Circuit Breakers.
- C. NEMA ICS 2 - Industrial Control Devices, Controllers and Assemblies.
- D. NEMA KS1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
- E. NEMA PB 1 - Panelboards.
- F. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
- G. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment (published by the International Electrical Testing Association).
- H. NFPA 70 - National Electrical Code.

#### 1.5 SUBMITTALS FOR REVIEW

- A. Section 013300 - Submittals: Procedures for submittals.

- B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker arrangement and sizes.

#### 1.6 SUBMITTALS FOR CLOSEOUT

- A. Record actual locations of panelboards and record actual circuiting arrangements in project record documents.
- B. Maintenance Data: Include spare parts listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

#### 1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

#### 1.8 MAINTENANCE MATERIALS

- A. Section 017700 - Closeout Procedures.
- B. Furnish two of each panelboard key.

### PART 2 - PRODUCTS

#### 2.1 DISTRIBUTION PANELBOARDS

- A. Material and Equipment: Product Options and Substitutions.
- B. Manufacturers:
  - 1. Cutler-Hammer.
  - 2. GE.
  - 3. Square D Company.
- C. Description: NEMA PB 1, circuit breaker type, as indicated.
- D. Panelboard Bus: Copper ratings as indicated. Provide copper equipment ground bus in each panelboard.
- E. Minimum integrated short circuit rating: 10,000 amperes rms symmetrical for 240 volt panelboards, 14,000 amperes rms symmetrical for 480 volt panelboards.
- F. Molded Case Circuit Breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as Type HACR for air conditioning equipment branch circuits.



- G. Molded Case Circuit Breakers with Current Limiters: NEMA AB 1, circuit breakers with replaceable current limiting elements, in addition to integral thermal and instantaneous magnetic trip in each pole.
- H. Current Limiting Molded Case Circuit Breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole, coordinated with automatically resetting current limiting elements in each pole. Interrupting rating 100,000 symmetrical amperes, let-through current and energy level less than permitted for same size Class RK-5 fuse.
- I. Circuit Breaker Accessories: Trip units and auxiliary switches as indicated.
- J. Enclosure: NEMA PB 1, Type 1.
- K. Cabinet Front: Surface type, fastened with concealed trim clamps or screws metal directory frame, finished in manufacturer's standard gray enamel.
- L. Nameplate: Provide identification nameplates indicating panelboard designation. At distribution devices indicate the designation of the equipment followed by the area served.

## 2.2 BRANCH CIRCUIT PANELBOARDS

- A. Material and Equipment: Product Options.
- B. Manufacturers:
  - 1. Square D Company.
  - 2. Cutler-Hammer.
  - 3. Siemens.
- C. Description: NEMA PB1, circuit breaker type, lighting and appliance branch circuit panelboard.
- D. Panelboard Bus: Copper, ratings as indicated. Provide copper equipment ground and neutral in each panelboard. Provide double sized neutral bus where indicated.
- E. Minimum Integrated Short Circuit Rating: 10,000 amperes rms symmetrical for 240 volt panelboards, and 14,000 amperes rms symmetrical for 480 volt panelboards unless otherwise indicated larger on the drawings.
- F. Molded Case Circuit Breakers: NEMA AB 1, bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles, listed as Type SWD for lighting circuits, Type HACR for air conditioning equipment circuits, Class A ground fault interrupter circuit breakers where scheduled. Do not use tandem circuit breakers.
- G. Current Limiting Molded Case Circuit Breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole, coordinated with automatically resetting current limiting elements in each pole. Interrupting rating 100,000 symmetrical amperes, let-through current and energy level less than permitted for same size Class RK-5 fuse.

- H. Enclosure: NEMA PB 1, Type 1.
- I. Cabinet Box: 6 inches deep, 20 inches wide panelboards.
- J. Cabinet Front: Flush cabinet front with concealed trim clamps, concealed hinge, metal directory frame, and flush lock all keyed alike. Finish in manufacturer's standard gray enamel.
- K. Nameplate: Provide identification nameplate indicating panelboard designation.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install panelboards in accordance with NEMA PB 1.1 and the NECA "Standard of Installation."
- B. Install panelboards plumb. Install recessed panelboards flush with wall finishes.
- C. Height: 6 feet to top of panelboard; install panelboards taller than 6 feet with bottom no more than 4 inches above floor.
- D. Provide filler plates for unused spaces in panelboards.
- E. Provide typed circuit directory for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads.
- F. Provide engraved plastic nameplates.
- G. Provide spare conduits out of each recessed panelboard to an accessible location above ceiling or below floor. Minimum spare conduits: 5 empty 1 inch. Identify each as SPARE.
- H. Ground and bond panelboard enclosure according to Section 260526.

#### 3.2 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ATS, Section 7.4 for switches, Section 7.5 for circuit breakers.

#### 3.3 ADJUSTING

- A. Section 017700 - Closeout Procedures - Testing, Adjusting, and Balancing: Adjusting installed work.

- B. Measure steady state load currents at each panelboard feeder; rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

END OF SECTION 262416

## SECTION 264313 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Surge Protective Devices.

#### 1.3 RELATED SECTIONS

- A. Section 16426 - Distribution Switchboards.
- B. Section 16470 - Panelboards.

#### 1.4 DESCRIPTION

- A. This section describes the materials and installation requirements for surge protective devices (SPD) for the protection of all AC electrical circuits from the effects of lightning induced currents, substation switching transients and internally generated transients resulting from inductive and/or capacitive load switching.
- B. The unit shall be designed for parallel connection to the facility's wiring system. The suppression filter system shall be designed and manufactured by a qualified manufacturer of suppression filter system equipment. The qualified manufacturer shall have been engaged in the commercial design and manufacture of such products for a minimum of twenty five (25) years.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Drawings: Shop drawings shall be provided by the manufacturer which show unit dimensions, weights, component and connection locations, mounting provisions, connection details, and wiring diagrams.
- C. UL 1449 Ratings: Documentation of specified system's UL 1449 listing and voltage protection ratings shall be included as required product data submittal information.
- D. Test Results: IEEE C62.41-1991 Category C3 let through voltage test results.

## 1.6 QUALITY ASSURANCE

- A. Systems shall be designed, manufactured, tested and installed in accordance with the following standards:
  - 1. Underwriters Laboratories (UL 1449 - 3rd Edition)
  - 2. ANSI/IEEE C62.1 and C62.11
  - 3. Canadian Standards (CUL)
  - 4. Institute of Electrical and Electronic Engineers (C62.41 and C62.45)
  - 5. Military Standards (MIL-STD 220A)
  - 6. National Electrical Code (Article 280)
  - 7. National Fire Protection Association (NFPA-78)
  - 8. Federal Information Processing Standards Publication (FIPS PUB 94)
  - 9. National Electrical Manufacturers Association (NEMA LS1-1992 Guidelines)
  - 10. National Fire Protection Association (NFPA 70 [NEC], 75, and 78)
  - 11. Underwriters Laboratories (UL 1449 - 3rd Edition and 1283)
  
- B. Electrical Component Standard: Components and installation shall comply with CODE.
  
- C. The system shall be UL 1449 - 3rd Edition listed system under the UL 1449 for Surge Protective Devices. Systems not UL 1449 listed are not acceptable.
  
- D. UL 3<sup>rd</sup> Edition Voltage Protection Rating (VPR) shall test using the combination wave generator at a setting of 6kV, 3kA. SPD shall pass UL 1449 3rd edition Nominal Discharge Current Rating (In) at 10kA or 20kA.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
  - 1. MCG Surge Protection, c/o Carzoli Engineering Sales (815-338-5828).
  - 2. Current Technology, Inc. c/o Protech, Inc. (847-741-5100).
  - 3. LEA International, Inc. c/o Kramer Datapower, Inc. (847-255-3140).
  
- B. All surge protection systems in the service entrance switchboard, motor control center, branch panel, and panelboard extensions shall be supplied by the same manufacturer.

### 2.2 SERVICE ENTRANCE SWITCHBOARD SUPPRESSION FILTER

- A. Suppression Filter System is based on multi-stage parallel protector utilizing high performance arrays of metal oxide varistors (MOV) rated for (as indicated on drawings) nominal voltage. The equipment surge current capacity, in amps, for each mode of protection shall be no less than as follows:
  - L-N - 100,000 amps    L-G - 100,000 amps
  - N-G - 100,000 amps    L-L - 100,000
  - Per Phase - 200,000

- B. Each system shall be tested, per NEMA LS1-1992 guidelines, for Repetitive Surge Current Capacity a minimum of 5,000 times in every mode Category C3 bi-wave at one minute intervals without degradation of more than 10% of specified clamp voltages.
- C. Service entrance switchboard shall be equipped with onboard visual and audible diagnostic monitoring. Indicator lights shall provide full time visual diagnostic monitoring of the operational status of each phase as well as each surge current diversion module. Audible diagnostic monitoring shall be by way of audible alarm. This alarm shall activate upon a module failure. An alarm on/off switch and Surge counter shall be provided. The SPD diagnostic monitoring devices shall be mounted on the front of the SPD enclosure. The diagnostic monitoring circuits shall continually monitor the operational status of the surge current modules while on line.
- D. Systems shall have a warranty for a period of ten (10) years, incorporating unlimited replacements of suppressor during the warranty period.

### 2.3 BRANCH PANELBOARD SUPPRESSION FILTER

- A. Suppression Filter System is based on multi-stage parallel protector utilizing high performance arrays of metal oxide varistors (MOV) rated for 120/208 VAC, 3 phase, 4 wire, plus ground. The equipment surge current capacity, in amps, for each mode of protection shall be no less than as follows:

L-N - 50,000 amps	L-G - 50,000 amps
N-G - 50,000 amps	L-L - 50,000 amps
Per Phase - 100,000	
- B. Each system shall be tested, per NEMA LS1-1992 guidelines, for Repetitive Surge Current Capacity a minimum of 1,000 times in every mode Category C3 bi-wave at one minute intervals without degradation of more than 10% of specified clamp voltages.
- C. Branch Panelboard Systems shall be equipped with onboard visual and audible diagnostic monitoring. Indicator lights shall provide full time visual diagnostic monitoring of the operational status of each phase. Audible diagnostic monitoring shall be by way of audible alarm. This alarm shall activate upon a module failure. An alarm on/off switch shall be provided.
- D. SPD will have a warranty for a period of ten (10) years, incorporating unlimited replacements of suppressor during the warranty period.

### 2.4 TESTING

- A. Upon completion of installation, contractor shall verify installation meets the manufacturer's requirements.

### PART 3 - EXECUTION

#### 3.1 SERVICE ENTRANCE SWITCHBOARD SPD INSTALLATION

- A. The SPD shall be installed on the load side of the switchboard at the utility service entrance to the facility, according to manufacturer's recommendations.
- B. The SPD's ground shall be bonded to the service entrance ground.
- C. The specified system shall be installed as close to the source as possible and no further than five (5) feet in total wire lead length (s) distance from the power conductor(s) it is protecting and shall avoid any unnecessary bends. Terminals shall be provided for all necessary power and ground connections.
- D. Where the SPD is located without a primary safety switch, the specified systems shall be provided with an internally safety interlocked disconnect system providing no interruption to the protected load for testing and maintenance. System shall not require removal and replacement for warranty or other repairs. All internal component replacements shall be capable of being completed by a licensed electrician.
- E. Other materials and equipment shall comply with applicable Sections of this Division.

#### 3.2 BRANCH PANELBOARD INSTALLATION

- A. Install panelboards according to manufacturer's recommendations. Locate the cabinet so that it is readily accessible and not exposed to physical damage.
- B. The specified system shall be installed as close to the source as possible and no further than one foot and a half (1.5') in total wire lead length (s) distance from the power conductor(s) it is protecting and shall avoid any unnecessary bends.
- C. Mounting of Cabinet: The cabinet should be reliably secured to the mounting surface. Do not depend on wooden plugs driven into holes in masonry, concrete, plaster or similar materials. (See Section 110-13 of the National Electrical Code.)
- D. Flush Mounting in Wall: In walls of concrete, tile, or other noncombustible material, install the cabinet so that its front edge will not set back more than 1/4 inch from the finished surface. In walls of wood or other combustible material, cabinets should be flush with or project beyond the finished surface. (See Section 373-3 of the National Electrical Code.)
- E. Grounding of Panelboard Cabinets: Ground the cabinet or box as specified in Article 250 of the National Electrical Code. When the cabinet or box contains service equipment, it will be necessary to bond the box to the grounded (neutral) supply conductor.

3.3 WARRANTY

- A. Manufacturer shall provide a product warranty for a period of not less than specified above and shall start from date of installation. Warranty shall cover unlimited replacement of system protection modules during the warranty period.

END OF SECTION 264313



## SECTION 260500 – COMMON WORK RESULTS FOR ELECTRICAL

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Grounding electrodes and conductors.
- B. Equipment grounding conductors.
- C. Bonding methods and materials.
- D. Conduit and equipment supports.
- E. Anchors and fasteners.
- F. Nameplates and labels.
- G. Wire markers.
- H. Raceway markers.
- I. Underground warning tape.
- J. Sealing and fireproofing of sleeves and openings between conduits, wireways and troughs.

#### 1.3 REFERENCES

- A. NECA (National Electrical Contractors Association) - Standard of Installation.
- B. NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

#### 1.4 SYSTEM DESCRIPTION

- A. Grounding systems use the following elements as grounding electrodes:
  - 1. Metal underground water pipe.
  - 2. Metal building frame.
  - 3. Concrete-encased electrode.

4. Ground ring.
5. Metal underground gas piping system.
6. Rod electrode.

- B. Anchor and fasten electrical products to building elements and finishes as follows:
1. Concrete Structural Elements: Provide precast inserts, expansion anchors, powder actuated anchors and preset inserts.
  2. Steel Structural Elements: Provide beam clamps, spring steel clips, steel ramset fasteners, and welded fasteners.
  3. Concrete Surfaces: Provide self-drilling anchors and expansion anchors.
  4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Provide toggle bolts and hollow wall fasteners.
  5. Solid Masonry Walls: Provide expansion anchors and preset inserts.
  6. Sheet Metal: Provide sheet metal screws.
  7. Wood Elements: Provide wood screws.
- C. Identify electrical components as follows:
1. Nameplate for each electrical distribution and control equipment enclosure.
  2. Wire marker for each conductor at panelboard gutters, pull boxes, outlet and junction boxes and each load connection.
  3. Underground warning tape along length of each underground raceway or cable.

#### 1.5 DESIGN REQUIREMENTS

- A. Select materials, sizes, and types of anchors, fasteners, and supports to carry loads of equipment and raceway, including weight of wire and cable in raceway.

#### 1.6 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 5 ohms or less.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Section 017700 - Execution Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of components and grounding electrodes
- C. Test Reports: Indicate overall resistance to ground and resistance of each electrode.

#### 1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

## 1.9 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

## PART 2 – PRODUCTS

### 2.1 ROD ELECTRODES

- A. Material: Copper-clad steel.
- B. Diameter: 3/4 inch or larger.
- C. Length: 8'-0" or longer.

### 2.2 MECHANICAL CONNECTORS

- A. Description: Bronze connectors, suitable for grounding and bonding applications, in configurations required for particular installation.

### 2.3 EXOTHERMIC CONNECTIONS

- A. Manufacturers:
  - 1. Erico, Inc.
  - 2. Harger Lightning Protection.
  - 3. Thomas & Betts Corp.
- B. Product Description: Exothermic materials, accessories, and tools for preparing and making permanent field connections between grounding system components.

### 2.4 WIRE

- A. Material: Stranded copper.
- B. Foundation Electrodes: 4 AWG. or larger.
- C. Grounding Electrode Conductor.

### 2.5 ANCHORS AND FASTENERS

- A. Anchors and Fasteners: Compatible with application.
- B. Materials and Finishes: Corrosion resistant.

## 2.6 FORMED STEEL CHANNEL

- A. Manufacturers:
  - 1. Unistrut.
  - 2. Bee Line.
  - 3. Super Strut.
- B. Description: Galvanized steel.

## 2.7 SPRING STEEL CLIPS

- A. Manufacturers:
  - 1. B-Line Systems.
  - 2. Erico, Inc.
  - 3. Thomas & Betts Corp.

## 2.8 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- B. Letter Size:
  - 1. 1/4" letters for identifying individual equipment and loads.
- C. Labels: Embossed adhesive tape, with 3/16 inch white letters on black background.

## 2.9 WIRE MARKERS

- A. Description: Cloth tape, split sleeve, or tubing type wire markers.
- B. Legend:
  - 1. Power and Lighting Circuits: Branch circuit or feeder number as indicated on Drawings.
  - 2. Control Circuits: Control wire number as indicated on shop drawings, schematic and interconnection diagrams.

## 2.10 UNDERGROUND WARNING TAPE

- A. Description: 4 inch wide plastic tape, colored red or yellow with suitable warning legend describing buried electrical lines.

## 2.11 SEALING AND FIREPROOFING

- A. Fire and Smoke Rated Surfaces:
  - 1. Manufacturers:
    - a. 3M CP 25N/S or CP25S/L caulk.
    - b. 3M FS 195 wrap or strip with restricting collar

- c. 3M CS 195 composite sheet.
  - d. Pipe Shield, Inc. series F fire barrier kits.
  - e. Proset Systems fire rated floor and wall penetrations.
  - f. Insta-Foam Products Insta-Fire Seal Firestop Foam.
  - g. Dow Corning Fire Stop System.
  - h. Substitutions: Refer to Section 01700 - Material and Equipment.
- B. General:
- 1. Furnish UL listed products or products tested by independent testing laboratory.
  - 2. Select products with rating not less than rating of wall or floor being penetrated.
- C. Non-Rated Surfaces:
- 1. Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling plates for covering openings in occupied areas where conduit is exposed.
  - 2. For exterior wall openings below grade, furnish modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill annular space between conduit and cored opening or water-stop type wall sleeve.
  - 3. For interior wall or floor openings, furnish one of the following to effect seal:
    - a. Tremco Dymonic.
    - b. Sika Corp. Sikaflex Ia.
    - c. Sonneborn Sonolastic NPI.
    - d. Mameco Vilken 116 urethane caulk.
    - e. Substitutions: Refer to Section 01700 - Material and Equipment.

### PART 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Section 013100 - Project Management and Coordination Request for Information: Coordination and project conditions.
- B. Verify final backfill and compaction has been completed before driving rod electrodes.
- C. Verify abandoned wiring and equipment serve only abandoned facilities.

#### 3.2 INSTALLATION

- A. Grounding and Bonding Installation:
  - 1. Install rod electrodes at required locations. Install additional rod electrodes to achieve specified resistance to ground.
  - 2. Install bonding meeting Regulatory Requirements.
  - 3. Provide service grounding electrode from service to street side service entrance location of main water pipe. Provide jumper around water meter.
  - 4. Provide grounding electrode connection to the metal frame of the building,

- where effectively grounded.
5. Provide and electrode encased by at least 2 inches of concrete, located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth, consisting of at least 20 feet of one or more bare or zinc galvanized or other electrically conductive coated steel reinforcing bars or rods of not less than copper conductor not smaller than No. 2.
  6. Provide a ground ring encircling the building or structure, in direct contact with the earth at a depth below earth surface not less than 2 1/2 feet, consisting of at least 20 feet of bare copper conductor not smaller than No. 2.
  7. Bond together metal siding not attached to grounded structure; bond to ground.
  8. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
  9. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
  10. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
  11. Do not use spring steel clips and clamps.
  12. Obtain permission from Architect/Engineer before using powder-actuated anchors.
  13. Obtain permission from Architect/Engineer before drilling or cutting structural members.
- B. Supports:
1. Fabricate supports from structural steel or formed steel members. Rigidly weld members or install hexagon head bolts to present neat appearance with adequate strength and rigidity. Install spring lock washers under nuts.
  2. Install surface mounted cabinets and panelboards with minimum of four anchors.
  3. In wet and damp locations install steel channel supports to stand cabinets and panelboards 1 inch off wall.
  4. Install sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.
- C. Identification Components:
1. Degrease and clean surfaces to receive nameplates and labels.
  2. Install nameplate and label parallel to equipment lines.
  3. Secure nameplate to equipment front using screws, rivets, or adhesive.
  4. Secure nameplate to inside surface of door on recessed panelboard in finished locations.
  5. Identify underground conduits using one underground warning tape for each trench at 9 inches below finished grade.
- D. Box Painting: Identify fire alarm system junction, pull and backboxes with paint, red in color.

### 3.3 SEALING AND FIREPROOFING

- A. Fire Rated Surface:
1. Seal opening at floor, wall, partition, ceiling, and roof as follows:

- a. Install 12 gage steel sleeve through opening and extending beyond minimum of 1 inch on each side of building element.
  - b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
  - c. Pack void with backing material.
  - d. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated.
2. Where conduit or other type of electrical raceway, bus or enclosure penetrates fire rated surface, install firestopping product in accordance with manufacturer's published instructions.

B. Non-Rated Surfaces:

1. Seal opening through non-fire rated wall, floor, ceiling, and roof opening as follows:
  - a. Install 12 gage steel sleeve through opening and extending beyond minimum of 1 inch on each side of building element.
  - b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
  - c. Install type of firestopping material recommended by manufacturer.
2. Install escutcheons floor plates or ceiling plates where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.
3. Exterior wall openings below grade: Assemble rubber links of mechanical seal to size of conduit and tighten in place, in accordance with manufacturer's instructions.
4. Interior partitions: Seal pipe penetrations at computer rooms, telecommunication rooms and data rooms. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.

### 3.4 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements: Testing and inspection services 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Grounding and Bonding: Perform inspections and tests listed in NETA ATS, Section 7.13.

### 3.5 ARC FLASH REPORT

- A. Provide arc flash study and arc flash warning labels on all of the equipment listed below. This report shall be provided with the project close-out documentation in a binder. The data will consist of an analysis of the new addition's electrical distribution system using Electrical Engineering software SKM. Each buildings data set will consist of a single line diagram and tabulated output data as generated by SKM, indicating the calculated hazard level at each Switchboard, Distribution Panel, and

Branch Panel Board.

- B. Provide the following information with the arc flash report:
1. Single line diagram. The diagram must indicate all equipment ratings, including:
    - a. Switchboards, Distribution Boards, Panelboards, Disconnect Switches
      1. Manufacture and model number
      2. Voltage
      3. Bus rating
      4. Fault current rating
      5. Circuit breaker model numbers
      6. Fuse Sizes
    - b. Feeders
      1. Size (AWG)
      2. Type (THHN, THWN, etc.)
      3. Raceway Size and Type
    - c. Generators
      1. Manufacture and model number
      2. Voltage
      3. Size (KW)
    - d. Motors Over 1 hp
      1. Size (HP)
      2. Voltage
      3. Nema Code
      4. Starting method and model number (Across the Line, Soft Start Wye-Delta, VFD)
    - e. Transformers
      1. KVA
      2. Primary/Secondary Voltage
      3. Insulation Class
      4. Nameplate Impedence
      5. Type (Dry, Encapsulated, Oil immersed)\
    - f. Maximum available fault current from the Utility Company at each service entrance.
  2. Floor Plans
    - a. Location of all devices corresponding to the single line diagram.
    - b. Approximate routing of feeders.

END OF SECTION 260500





## SECTION 260519 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Building Wire and Cable.
- B. Wiring Connectors and Connections.

#### 1.3 RELATED SECTIONS

- A. Section 260500 - Common Work Results for Electrical

#### 1.4 REFERENCES

- A. NECA Standard of Installation (National Electrical Contractors Association).
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- C. NFPA 70 - National Electrical Code.

#### 1.5 SUBMITTALS AT PROJECT CLOSEOUT

- A. Project Record Documents: Record actual locations of components and circuits.

#### 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum ten years experience.

#### 1.7 PROJECT CONDITIONS

- A. Verify that field measurements are as indicated.
- B. Conductor sizes are based on copper.

- C. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 ft of length shown.

## 1.8 COORDINATION

- A. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.

## PART 2 – PRODUCTS

### 2.1 BUILDING WIRE

- A. Manufacturers:
  - 1. Anaconda.
  - 2. General Cable.
  - 3. Southwire.
- B. Description: Single conductor insulated wire.
- C. Conductor: Copper.
- D. Insulation Voltage Rating: 600 volts.
- E. Insulation: NFPA 70, Type THHN/THWN or XHHW for feeders and branch circuits.

### 2.2 WIRING CONNECTORS

- A. Provide connectors specifically designed for the conductor sizes utilized.
- B. When splicing or connecting dissimilar metal conductors (copper to aluminum) use only UL approved materials and methods.
- C. All terminals and splicing shall be in accordance with NEC Section 110-14.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that interior of building has been protected from weather.
- C. Verify that mechanical work likely to damage wire and cable has been completed.

- D. Verify that raceway installation is complete and supported.
- 3.2 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.3 INSTALLATION

- A. Route wire and cable as required to meet Project Conditions.
- B. Install cable in accordance with the NECA "Standard of Installation."
- C. Use solid conductor for feeders and branch circuits 10 AWG and smaller.
- D. Use stranded conductors for control circuits.
- E. Use conductor not smaller than 12 AWG for power and lighting circuits.
- F. Use conductor not smaller than 18 AWG for control circuits.
- G. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
- H. Pull all conductors into raceway at same time.
- I. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- J. Protect exposed cable from damage.
- K. Support cables above accessible ceiling, using bridal rings. Do not rest cable on ceiling panels.
- L. Use suitable cable fittings and connectors.
- M. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- N. Clean conductor surfaces before installing lugs and connectors.
- O. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
- P. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- Q. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG.
- R. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.

- S. Identify and color code wire and cable under provisions of Section 262416. Identify each conductor with its circuit number or other designation indicated.

3.4 FIELD QUALITY CONTROL

- A. Inspect and test prior to starting system.

END OF SECTION 260519

## SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Grounding electrodes and conductors.
- B. Equipment grounding conductors.
- C. Bonding.

#### 1.3 REFERENCES

- A. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- B. NFPA 70 - National Electrical Code.

#### 1.4 GROUNDING SYSTEM DESCRIPTION

- A. Provide a new grounding electrode system at new and existing service locations. Grounding system shall include a driven ground rod and connection to the metallic water service. Refer to plan drawings.

#### 1.5 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 25 ohms or less.

### PART 2 - PRODUCTS

#### 2.1 MECHANICAL CONNECTORS

- A. Material: Bronze.

#### 2.2 EXOTHERMIC CONNECTIONS

- A. Manufacturers:

1. Cadweld.
2. Thermoweld.
3. Substitutions: Refer to Section 016600.

## 2.2 WIRE

- A. Material: Stranded copper.
- B. Grounding Electrode Conductor: Size to meet NFPA 70 requirements unless indicated larger.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that existing grounding system is effectively grounded.

### 3.2 INSTALLATION

- A. Provide bonding to meet Regulatory Requirements.
- B. Provide service grounding electrode from service(s) to service entrance location of main water pipe. Provide jumper around water meter.
- C. Provide insulated grounding conductor for circuits supplying receptacles for use with personal computers.
- D. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.

### 3.3 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.

END OF SECTION 260526

## SECTION 260533 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Conduit and Tubing.
- B. Surface Raceways.
- C. Wireways.
- D. Outlet Boxes.
- E. Pull and Junction Boxes.

#### 1.3 RELATED SECTIONS

- A. Floor boxes-Specified on drawings.

#### 1.4 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- C. ANSI C80.5 - Rigid Aluminum Conduit.
- D. NECA (National Electrical Contractor=s Association) - "Standard of Installation"
- E. NEMA FB 1 (National Electrical Manufacturers Association) - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- F. NEMA OS 1 (National Electrical Manufacturers Association) - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
- G. NEMA OS 2 (National Electrical Manufacturers Association) - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
- H. NEMA RN 1 (National Electrical Manufacturers Association) - Polyvinyl Chloride (PVC)



- I. Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit. NEMA TC 2 (National Electrical Manufacturers Association) - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
- J. NEMA TC 3 (National Electrical Manufacturers Association) - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
- K. NEMA 250 (National Electrical Manufacturers Association) - Enclosures for Electrical Equipment (1000 Volts Maximum).

#### 1.5 SYSTEM DESCRIPTION

- A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
- B. Underground Outside Foundation Wall: Provide rigid steel conduit, intermediate metal conduit, plastic coated conduit, or where approved by all bodies having jurisdiction, provide thickwall nonmetallic conduit. Provide cast metal boxes or nonmetallic handhole.
- C. In or Under Slab on Grade: Provide rigid steel conduit, intermediate metal conduit, plastic coated conduit or where approved by all bodies having jurisdiction; provide thinwall nonmetallic conduit with steel elbows. Provide cast boxes.
- D. Outdoor Locations, Above Grade: Provide rigid steel and aluminum conduit. Provide cast metal or nonmetallic outlet, pull, and junction boxes.
- E. In Slab Above Grade: Provide rigid steel conduit or intermediate metal conduit or where approved by all bodies having jurisdiction; provide thickwall nonmetallic conduit with steel elbows. Provide cast or sheet metal boxes.
- F. Wet and Damp Locations: Provide rigid steel and aluminum conduit. Provide cast metal, junction, and pull boxes. Provide flush mounting outlet box in finished areas.
- G. Concealed Dry Locations: Provide rigid steel and aluminum conduit, intermediate metal conduit or electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pullboxes.
- H. Exposed Dry Locations: Provide rigid steel and aluminum conduit or intermediate metal conduit where subject to damage, otherwise provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pullboxes.

#### 1.6 DESIGN REQUIREMENTS

- A. Minimum raceway size for concealed or exposed locations within building: 3/4 inch.

1/2 inch conduit will be acceptable for end of the line (no more than one circuit).  
Branch conduits to receptacles or lighting fixtures.

- B. Minimum raceway size in or below slab on grade: 1 inch.

#### 1.7 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit for surface raceway system.
- C. Manufacturer's Installation Instructions: Submit application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

#### 1.8 CLOSEOUT SUBMITTALS

- A. Section 017300 - Execution Requirements: Closeout procedures.
- B. Project Record Documents:
  - 1. Record actual routing of conduits larger than 2 inch trade size.
  - 2. Record actual locations and mounting heights of outlet, pull, and junction boxes.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Product storage and handling requirements.
- B. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- C. Protect PVC conduit from sunlight.

#### 1.10 COORDINATION

- A. Section 013100 - Project Management and Coordination Request for Information: Coordination and project conditions.
- B. Coordinate installation of outlet boxes for equipment connected under Section 260522.
- C. Coordinate mounting heights, orientation and locations of outlets mounted above counters, benches, and backsplashes.

### PART 2 – PRODUCTS

## 2.1 METAL CONDUIT

- A. Manufacturers:
  - 1. Allied Tube and Conduit Corp.
  - 2. Triangle Wire and Cable Inc.
  - 3. Wheatland Tube Company.
  - 4. Substitutions: Section 01600 - Product Requirements.
- B. Rigid Steel Conduit: ANSI C80.1.
- C. Rigid Aluminum Conduit: ANSI C80.5.
- D. Intermediate Metal Conduit (IMC): Rigid steel.
- E. Fittings and Conduit Bodies: NEMA FB 1; material to match conduit.

## 2.2 FLEXIBLE METAL CONDUIT

- A. Manufacturers:
  - 1. Alflex.
  - 2. Anamet Electrical.
  - 3. Electri-Flex Co.
  - 4. Substitutions: Section 016000 - Product Requirements.
- B. Product Description: Interlocked steel aluminum construction.
- C. Fittings: NEMA FB 1.

## 2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Manufacturers:
  - 1. Alflex.
  - 2. Anamet Electrical.
  - 3. Electri-Flex Co.
  - 4. Substitutions: Section 016000 - Product Requirements.
- B. Product Description: Interlocked steel or aluminum construction with PVC jacket.
- C. Fittings: NEMA FB 1.

## 2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
  - 1. Allied Tube and Conduit Corp.
  - 2. Triangle Wire and Cable Inc.
  - 3. Wheatland Tube Company.
  - 4. Substitutions: Section 01300 - Product Requirements.

- B. Product Description: ANSI C80.3; galvanized tubing.
- C. Fittings and Conduit Bodies: NEMA FB 1; steel or malleable iron, compression type.

## 2.5 NONMETALLIC CONDUIT

- A. Manufacturers:
  - 1. Cantex, Inc.
  - 2. Carlon Electrical Products.
  - 3. PW Pipe.
  - 4. Substitutions: Section 016000 - Product Requirements.
- B. Product Description: NEMA TC 2; Schedule 40 or outdoors provide Schedule 80 PVC.
- C. Fittings and Conduit Bodies: NEMA TC 3.

## 2.6 SURFACE MULTI CHANNEL METALLIC RACEWAYS

- A. Manufacturers:
  - 1. Wiremold 4000 Series.
  - 2. Substitutions: Under provisions of the General Requirements of this specification.
- B. Description: Two-piece multichannel steel raceway system with two compartments.
- C. Size: 4 3/4" high x 1 3/4" deep by length as required.
- D. Finish: Ivory scuff coat finish.
- E. Device Brackets and Faceplates: Furnish high impact plastic mounting bracket and trim.
- F. Fittings: Furnish with manufacturer's standard accessories.

## 2.7 SURFACE METALLIC RACEWAYS

- A. Manufacturers:
  - 1. Wiremold, V700 Series.
  - 2. Substitutions: Under provisions of the General Requirements of this specification.
- B. Description: One piece surface steel raceway.
- C. Size: 3/4" high x 2 1/32" deep by length as required.
- D. Finish: Ivory scuff coat finish.
- E. Fittings, Device Brackets and Faceplates: Furnish with manufacturer's standard

accessories.

## 2.8 WIREWAY

- A. Manufacturers:
  - 1. Circle AW.
  - 2. Hoffman.
  - 3. Square D Company.
  - 4. Substitutions: Industry Standard Equivalent.
- B. Product Description: General purpose Oiltight and dusttight Raintight type wireway.
- C. Knockouts: Manufacturer's standard None Bottom only.
- D. Size: 4 x 4 inch unless indicated larger on drawings. Provide length as required.
- E. Cover: Hinged Screw cover with full gasketing.
- F. Finish: Rust inhibiting primer coating with gray enamel finish.

## 2.9 OUTLET BOXES

- A. Manufacturers:
  - 1. Appleton Electric.
  - 2. OZ Gedney.
  - 3. Raco.
  - 4. Red Dot.
  - 5. Thomas & Betts.
  - 6. Substitutions: Industry Standard Equivalent.
- B. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
  - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 3/4 inch male fixture studs where required.
  - 2. Concrete Ceiling Boxes: Concrete type.
- C. Cast Boxes: NEMA FB 1, Type FD, aluminum cast fer alloy. Furnish gasketed cover by box manufacturer. Furnish threaded hubs.
- D. Wall Plates for Finished Areas: As specified in Section 260520.
- E. Wall Plates for Unfinished Areas: Furnish gasketed cover.

## 2.10 PULL AND JUNCTION BOXES

- A. Manufacturers:
  - 1. Appleton Electric.
  - 2. Hoffman.
  - 3. OZ Gedney.

4. Raco.
  5. Thomas & Betts.
  6. Substitutions: Industry Standard Equivalent.
- B. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- C. Hinged Enclosures:
- D. Surface Mounted Cast Metal Box: NEMA 250, Type 4 4X 6; flat-flanged, surface mounted junction box:
1. Material: Galvanized cast iron Cast aluminum.
  2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.
- E. In-Ground Cast Metal Box: NEMA 250, Type 6, outside inside flanged, recessed cover box for flush mounting:
1. Material: Galvanized cast iron Cast aluminum.
  2. Cover: Smooth Nonskid cover with neoprene gasket and stainless steel cover screws.
  3. Cover Legend: "ELECTRIC".
- F. Fiberglass Concrete composite Handholes: Die-molded, glass-fiber concrete composite hand holes:
1. Cable Entrance: Pre-cut 6 inch x 6 inch cable entrance at center bottom of each side.
  2. Cover: Glass-fiber concrete composite, weatherproof cover with nonskid finish.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Section 013100 Project Management and Coordination Request for Information: Coordination and project conditions.
- B. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

### 3.2 INSTALLATION

- A. Install raceway and boxes in accordance with NECA "Standard of Installation."
- B. Ground and bond raceway and boxes in accordance with Section 260500.
- C. Fasten raceway and box supports to structure and finishes in accordance with Section 260500.
- D. Identify raceway and boxes in accordance with Section 260500.

- E. Arrange raceway and boxes to maintain headroom and present neat appearance.

### 3.3 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.
- B. Arrange raceway supports to prevent misalignment during wiring installation.
- C. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- D. Group related raceway; support using conduit rack. Construct rack using steel channel specified in Section 260500; provide space on each for 25 percent additional raceways.
- E. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports.
- F. Do not attach raceway to ceiling support wires or other piping systems.
- G. Construct wireway supports from steel channel specified in Section 260500.
- H. Route exposed raceway parallel and perpendicular to walls.
- I. Route raceway installed above accessible ceilings parallel and perpendicular to walls.
- J. Route conduit in and under slab from point-to-point.
- K. Maintain clearance between raceway and piping for maintenance purposes.
- L. Maintain 12 inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.
- M. Cut conduit square using saw or pipecutter; de-burr cut ends.
- N. Bring conduit to shoulder of fittings; fasten securely.
- O. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for minimum 20 minutes.
- P. Install conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- Q. Install no more than equivalent of three 90 degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install hydraulic one-shot bender to fabricate factory elbows for bends in metal conduit larger than 2 inch size.

- R. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.
- S. Install fittings to accommodate expansion and deflection where raceway crosses seismic, control and expansion joints.
- T. Install suitable pull string or cord in each empty raceway except sleeves and nipples.
- U. Install suitable caps to protect installed conduit against entrance of dirt and moisture.
- V. Surface Raceway: Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings.
- W. Close ends and unused openings in wireway.

### 3.4 INSTALLATION - BOXES

- A. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings specified in section for outlet device.
- B. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.
- C. Orient boxes to accommodate wiring devices oriented as specified in Section 260520.
- D. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- E. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- F. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- G. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.
- H. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- I. Install stamped steel bridges to fasten flush mounting outlet box between studs.
- J. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- K. Install adjustable steel channel fasteners for hung ceiling outlet box.
- L. Do not fasten boxes to ceiling support wires or other piping systems.
- M. Support boxes independently of conduit.



- N. Install gang box where more than one device is mounted together. Do not use sectional box.
- O. Install gang box with plaster ring for single device outlets.

### 3.5 INTERFACE WITH OTHER PRODUCTS

- A. Install conduit to preserve fire resistance rating of partitions and other elements, using approved materials and methods.
- B. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation.
- C. Locate outlet boxes to allow luminaires positioned as indicated on Drawings reflected ceiling plan.
- D. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

### 3.6 ADJUSTING

- A. Section 017300 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust flush-mounting outlets to make front flush with finished wall material.
- C. Install knockout closures in unused openings in boxes.

### 3.7 CLEANING

- A. Section 017300 - Execution Requirements: Final cleaning.
- B. Clean interior of boxes to remove dust, debris, and other material.
- C. Clean exposed surfaces and restore finish.

END OF SECTION 260533

## SECTION 260553 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Nameplates and labels.
- B. Wire and cable markers.
- C. Receptacles and Light Switches.

#### 1.3 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

### PART 2 – PRODUCTS

#### 2.1 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- B. Locations:
  - 1. Each electrical distribution and control equipment enclosure.
  - 2. Communication cabinets.
- C. Letter Size: Use 1/4 inch letters for identifying equipment and describing area served.

#### 2.2 WIRE MARKERS

- A. Description: Tape, split sleeve, or tubing type wire markers.
- B. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.
- C. Legend:
  - 1. Power and Lighting Circuits: Branch circuit or feeder number indicated on

drawings.  
2.3 CONDUIT MARKERS

- A. Description: Color code all wire and cable as scheduled.
- B. Location: Color coding shall be continuous in the wire insulation or jacket. Where colors cannot be provided, apply color coding tape of the color designated in sufficient quantity for permanency at all exposed terminals, loops and splices.
- C. Wire Color Coding Schedule:
  - 1. 120/208V., 3 phase, 4 wire system:
    - A Phase - Black
    - B Phase - Red
    - C Phase - Blue
    - Neutral - White
    - Ground - Bare or Green
  - 2. 277/480V., 3 phase, 4 wire system:
    - A Phase - Brown
    - B Phase - Orange
    - C Phase - Yellow
    - Neutral - Gray
    - Ground - Bare or Green with Yellow Stripe

2.4 BOX MARKERS

- A. Description: All junction boxes and device boxes serving fire alarm system devices and wiring shall be "red" in color.

2.5 Receptacles and Switches

- A. Description: Provide a clear label with black lettering on each receptacle coverplate and switch cover plate depicting the panel and breaker serving that device.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.2 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws, rivets, or adhesive.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished

locations.

- D. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches below finished grade.
- E. Provide typed panelboard directories inside all panelboards indicating description of load served.

END OF SECTION 260553

## SECTION 261000 – ELECTRIC UTILITY SERVICES

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Arrangement with Utility Company for Permanent Electric Service.
- B. Service Provisions.
- C. Utility Metering Equipment.

#### 1.3 SYSTEM DESCRIPTION

- A. Utility Company: Local Municipal Utilities
- B. System Characteristics: Refer to drawings for system voltage.
- C. Service Entrance: Underground, unless indicated otherwise on drawings.

#### 1.4 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Submittal procedures.
- B. Submit Utility-Company-prepared drawings.

#### 1.5 QUALITY ASSURANCE

- A. Perform work in accordance with Utility Company written requirements.
- B. Maintain one copy of each document on site.

#### 1.6 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on Utility Company drawings.

#### 1.7 COORDINATION

- A. Coordinate with utility company, relocation of overhead or underground lines interfering with construction. Where power lines are to be relocated, bill utility costs, directly to Owner.
- B. Contact utility company regarding charges related to service installation.
- C. Utility charges for service installation will be paid by Owner and are not part of this contract.
- D. Coordinate all conduit work required to be performed under this contract to accommodate utility company lines.

## PART 2 – PRODUCTS

### 2.1 UTILITY METERS

- A. Furnished by Utility Company.

### 2.2 METERING TRANSFORMER CABINET

- A. Manufacturers: Acceptable to utility company.
- B. Size: To match meter assembly.
- C. Include provisions for padlocking and sealing.

### 2.3 TRANSFORMER PAD

- A. Product Description: Cast-in-place concrete or precast concrete transformer pad sized as indicated on Utility Company drawings.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

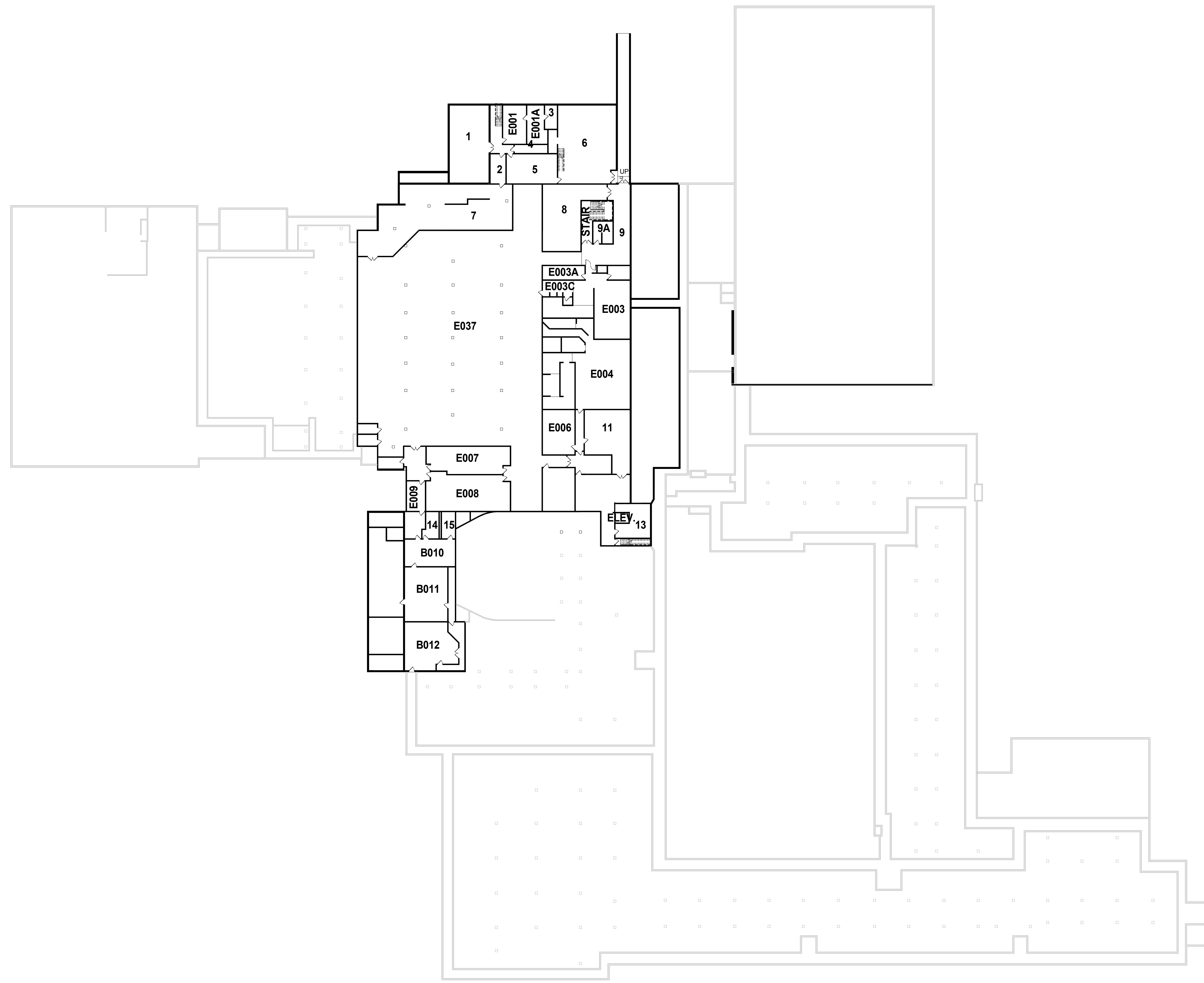
- A. Section 013100 Project Management and Coordination Request for Information: Coordination and project conditions.
- B. Verify service equipment is ready to be connected and energized.

### 3.2 INSTALLATION

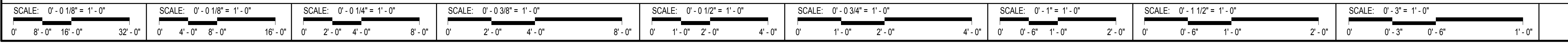
- A. Install service entrance conduits to building service entrance equipment. Provide all service entrance areas conduit sleeves below parking, driveways, raceways, playgrounds, etc. as required to facilitate the installation of utility cabling. Utility Company will connect service lateral conductors to service entrance conductors.
- B. Install cast-in-place concrete pad for Utility Company transformer, in accordance with Section 033000.
- C. Remove existing abandoned pad and related ground grid, conduit and conductor.

END OF SECTION 261000

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**1** DGS BASEMENT FLOOR PLAN  
**G1.0** SCALE: 1" = 30'-0"  
 NORTH



Wight & Company  
 wightco.com  
 2500 North Frontage Road  
 Darien, IL 60561  
 P 630.969.7000  
 F 630.969.7979

REV	DESCRIPTION	DATE
	ISSUED FOR BID	01/04/17

**Downers Grove South**

1436 Norfolk Street, Downers Grove,  
 IL 60516

**BASEMENT FLOOR  
REFERENCE PLAN**

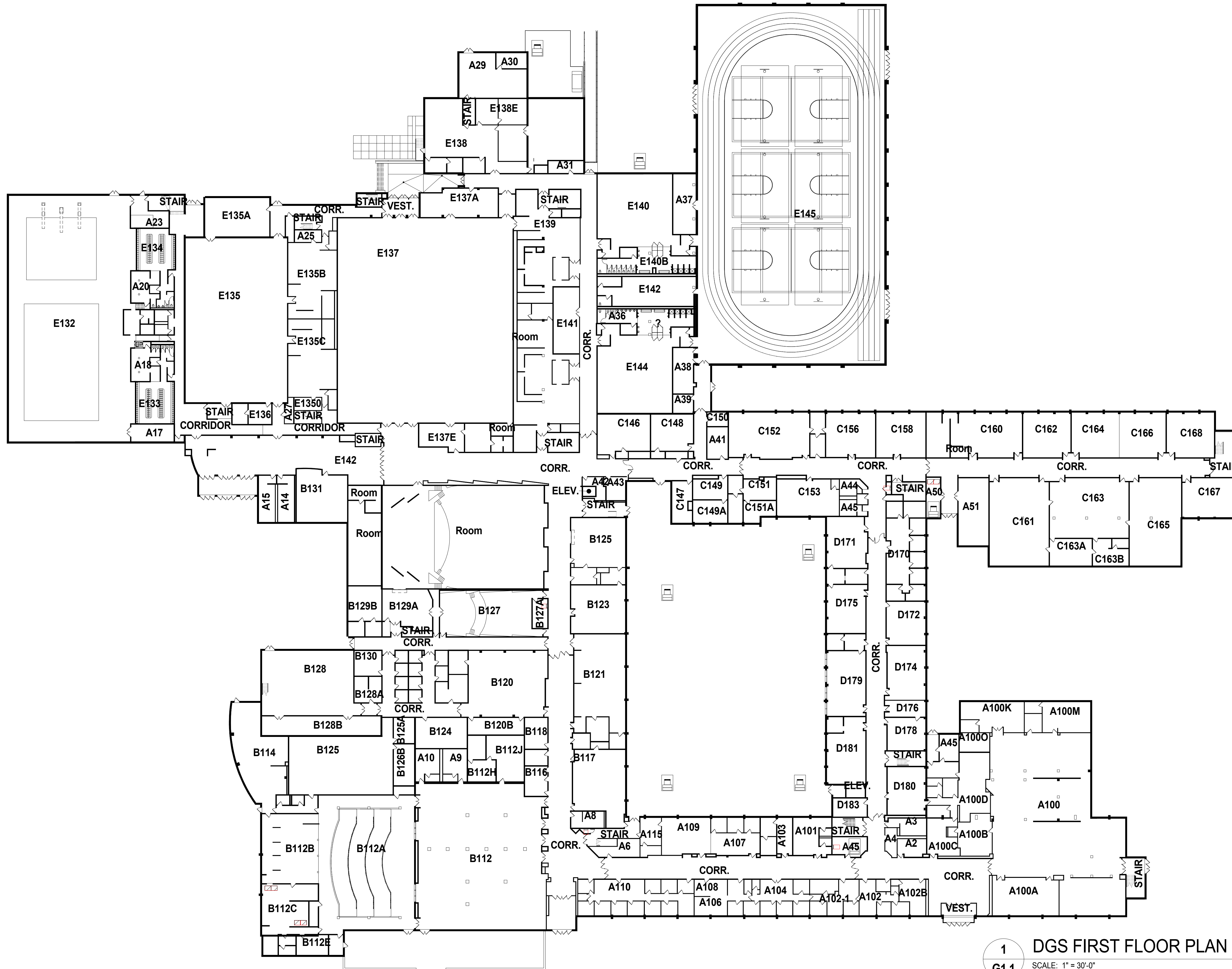
Project Number:  
 02-5274-30  
 Drawn By:  
 AMF  
 Sheet:

**G1.0**





Wight & Company  
 wightco.com  
 2500 North Frontage Road  
 Darien, IL 60561  
 P 630.969.7000  
 F 630.969.7979



REV	DESCRIPTION	DATE
ISSUED FOR BID		01/04/17

### Downers Grove South

1436 Norfolk Street, Downers Grove, IL 60516

### FIRST FLOOR REFERENCE PLAN

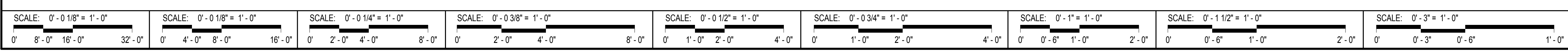
Project Number:  
02-5274-30  
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AMF  
 Sheet:

**1** DGS FIRST FLOOR PLAN  
 SCALE: 1" = 30'-0"



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### ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER CIRCULATING PUMP	HTG	HEIGHT HEATING	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	SWBD	SWITCHBOARD
A	AMPERE	DEPT	DEPARTMENT	HTR	HEATER	NFDS	NON-FUSED SAFETY DISCONNECT SWITCH	TEL	TELEPHONE
AC	ABOVE COUNTER OR AIR CONDITIONER	DIA	DIAMETER	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	NIC	NOT IN CONTRACT	TEL/ATA	TELEPHONE/DATA
ACLG	ABOVE CEILING	DISC	DISCONNECT	HWP	HYDRONIC WATER PUMP	NL	NIGHT LIGHT	TERM	TERMINAL
ADO	AUTOMATIC DOOR OPENER	DN	DOWN	IC	INTERRUPTING CAPACITY	N.O.	NORMALLY OPEN	TL	TWIST LOCK
AF	AMP FRAME	DR	DAMPER	IG	ISOLATED GROUND	N.F.	NORMAL POWER FACTOR	TR	TAMPER RESISTANT
AFD	ABOVE FINISHED FLOOR	DS	SAFETY DISCONNECT SWITCH	IMC	INTERMEDIATE METAL CONDUIT	NHS	NOT TO SCALE	T-STAT	THERMOSTAT
AFS	ABOVE FINISHED GRADE	DT	DOUBLE THROW INTERRUPTER	INCAND	INCANDESCENT	OH	OVERHEAD	TTC	TELEPHONE TERMINAL
AFI	ARC FAULT CIRCUIT INTERRUPTER	DWG	DRAWING	IR	INFRARED	OL	OVERLOADS	TV	TELEVISION
AHU	AIR HANDLING UNIT	EC	ELECTRICAL CONTRACTOR	IW	INTERLOCK WITH	PA	PUBLIC ADDRESS	TVTC	TELEVISION TERMINAL CABINET
AL	ALUMINUM	ELEC	ELECTRIC ELECTRICAL	J-BOX	JUNCTION BOX	PB	PULL BOX OR PUSHBUTTON	UC	TYPICAL
ALT	ALTERNATE	ELEV	ELEVATOR	PE	PNEUMATIC ELECTRIC	PE	PEDESTAL	UE	UNDERGROUND ELECTRICAL
AMP	AMPERE	EM	EMERGENCY	PF	POWER FACTOR	PH	PHASE	UH	UNIT HEATER
AMPL	AMPLIFIER	EMS	ENERGY MANAGEMENT SYSTEM	PV	POST INDICATING VALVE	PNL	PANEL	UL	UNDERGROUND TELEPHONE
ANNUN	ANNUNCIATOR	EMT	ELECTRICAL METALLIC TUBING	KV	KILOVOLT	PP	POWER POLE	UT	UTILITY
APPROX	APPROXIMATELY	EP	ELECTRIC PNEUMATIC	KVA	KILOVOLT-AMPERE	PR	PAIR	UV	UNIT VENTILATOR OR ULTRAVIOLET
AQ-STAT	AQJSTAT	EQU	EQUIPMENT	KVAR	KILOVOLT-AMPERE REACTIVE	PRV	POWER ROOF VENTILATOR	V	VOLT
ARCH	ARCHITECT, ARCHITECTURAL	EW	ELECTRIC WATER COOLER	KW	KILOWATT	PT	POTENTIAL TRANSFORMER	VA	VOLT-AMPERES
AS	AMP SWITCH	EX	EXISTING	KWH	KILOWATT HOUR	PVC	POLYVINYL CHLORIDE (CONDUIT)	VDT	VIDEO DISPLAY TERMINAL
ATS	AMT TRIP	EXP	EXPLOSION PROOF	LOC	LOCATE OR LOCATION	PWR	POWER	VERT	VERTICAL
ATS	AUTOMATIC TRANSFER SWITCH	FA	FIRE ALARM	LT	LIGHT	Q	QUANTITY	VFD	VARIABLE FREQUENCY DRIVE
AUTO	AUTOMATIC	FACP	FIRE ALARM BOOSTER POWER SUPPLY PANEL	LTG	LIGHTING	RCPT	RECEPTACLE	W	WATT
AUX	AUXILIARY	FCU	FIRE ALARM CONTROL PANEL	LV	LOW VOLTAGE	REQD	REQUIRED	WG	WIRE GUARD
AV	AUDIO VISUAL	FIXT	FIXTURE	MAX	MAXIMUM	RM	ROOM	WH	WATER HEATER
AWG	AMERICAN WIRE GAUGE	FLR	FLOOR	MAGS	MAGNETIC STARTER	RSC	RIGID STEEL CONDUIT	W/O	WITHOUT
		FUR	FLOOR FINISH	MIC	MICROPHONE	RTU	ROOF TOP UNIT	WP	WEATHERPROOF
BATT	BATTERY	FLUR	FLOURESCENT	MC	MECHANICAL CONTRACTOR	SC	SURFACE CONDUIT	XFR	TRANSFER
BD	BOARD	FUSE	FUSE	MCB	MAIN CIRCUIT BREAKER	SEC	SECONDARY		
BLDG	BUILDING	FUSDS	FUSED SAFETY DISCONNECT SWITCH	MCC	MAIN DISTRIBUTION CENTER	SHT	SHEET		
BMS	BUILDING MANAGEMENT SYSTEM	GA	GAUGE	MDC	MAIN DISTRIBUTION PANEL	SIM	SIMILAR		
		GAL	GALVANIZED	MFR	MANUFACTURER	SIN	SOLID NEUTRAL		
C	CONDUIT	GALV	GALVANIZED	MFS	MAIN FUSED DISCONNECT SWITCH	SPK	SPEAKER		
CAB	CABINET	GEN	GENERATOR	MH	MANHOLE	SR	SURFACE RACEWAY	△	ANGLE
CAT	CATALOG	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MIN	MINIMUM	SS	STAINLESS STEEL	△	AT
CATV	CABLE TELEVISION	GFP	GROUND FAULT PROTECTOR	MISC	MISCELLANEOUS	SSW	SELECTOR SWITCH	△	DELTA
CB	CIRCUIT BREAKER	GND	GROUND	MISC	MISCELLANEOUS	STA	STATION	△	FEET
CB	CIRCUIT BREAKER	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MISC	MISCELLANEOUS	STD	STANDARD	#	NUMBER
CCTV	CLOSED CIRCUIT TELEVISION	GYP BD	GYPSPUM BOARD	MT	MOUNT	STJ	STOP/START JUNCTION BOX	Ø	PHASE
CKT	CIRCUIT	HOA	HANDS-OFF-AUTOMATIC SWITCH	MT.C	EMERGENCY CONDUIT	STJ	STOP/START JUNCTION BOX	Ø	PHASE
CLG	CEILING	HORIZ	HORIZONTAL	MTR	MOTOR, MOTORIZED	SURF	SURFACE MOUNTED	P	CENTER LINE
COMB	COMBINATION	HP	HORSEPOWER			SW	SWITCH	C	PLATE
CMPR	COMPRESSOR	HPF	HIGH POWER FACTOR						
CONN	CONNECTION								
CONST	CONSTRUCTION								
CONT	CONTINUATION OR CONTINUOUS								
CONTR	CONTRACTOR								
CONV	CONVECTOR								
CP	CIRCULATING PUMP								
CRT	CATHODE-RAY TUBE								
CT	CURRENT TRANSFORMER								
CTR	CENTER								
CU	COPPER								

### ELECTRICAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2008 NEC, 2009 IECC AND ALL LOCAL CODES.
- PROVIDE ALL PERMITS AND INSPECTION FEES.
- ALL MATERIAL AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE BY THE ENGINEER.
- THIS CONTRACTOR SHALL PROVIDE ALL HIS OWN RIGGING, SCAFFOLDING, RUBBISH REMOVAL, AND LEAVE SPACE BROOM CLEAN.
- MINIMUM SIZE CONDUIT SHALL BE 3/4" E.M.T.
- MINIMUM SIZE WIRE SHALL BE #12 THHN, WITH #14 USED FOR CONTROL WIRING.
- WIRE #14 THROUGH #10 SHALL BE COPPER THHN, #8 THROUGH 500 MCM SHALL BE STRANDED COPPER THHN, ALUMINUM WIRE NOT ACCEPTABLE. ALL WIRE SHALL BE COLOR CODED.
- THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY CUTTING AND PATCHING INCLUDING SLEEVES AND INSERTS.
- ALL NEW CIRCUIT BREAKERS SHALL BE "QOB" BOLT-ON BREAKERS (10,000 A.I.C.), OR EQUAL BY G.E. OR ITE. (PROVIDE NEW CIRCUIT BREAKERS COMPATIBLE WITH NEW PANELBOARD), PROVIDE TYPEWRITTEN DIRECTORIES IN ALL PANELS.
- BEFORE SUBMITTING HIS BID, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO ASCERTAIN ALL WORK INVOLVED IN THE PROJECT.
- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS ON THE PROJECT.
- THIS CONTRACTOR SHALL MAKE NECESSARY MODIFICATIONS AND ADJUSTMENTS TO ALL ELECTRICAL ITEMS AND EQUIPMENT AS MAY BE REQUIRED BY THIS WORK.
- EQUIPMENT GROUNDING SHALL BE USED TO CONNECT THE GROUNDING TERMINAL OF RECEPTACLES TO THE GROUNDED METALLIC BOX.

### BIDDING NOTE

SEE DRAWING ME1.0 FOR GENERAL NOTES, HVAC/PLUMBING/ELECTRICAL COORDINATION SCHEDULE, AND ADDITIONAL DETAILS APPLICABLE TO THIS TRADE'S WORK.

THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL RACEWAYS, POWER, BACKBOXES AND STUB-UPS PER T / TE AND K SERIES DRAWINGS.

### ROOM NUMBER AND EQUIPMENT/DEVICE TAGGING NOTE

ALL ROOM NUMBERS AS SHOWN ON CONSTRUCTION DRAWINGS ARE SUBJECT TO REVISION DURING CONSTRUCTION. FINAL ROOM NUMBERS WILL BE PROVIDED PRIOR TO SUBSTANTIAL COMPLETION. ALL PROJECT RECORD DOCUMENTS SHALL UTILIZE FINAL ROOM NUMBERS AND ALL EQUIPMENT/DEVICE TAGGING, REQUIRED TO BE ASSOCIATED WITH ROOM NUMBERS, SHALL REFERENCE FINAL ROOM NUMBERS. THIS SHALL INCLUDE VAV BOXES, FAN POWERED BOXES, BAS SYSTEM, ELECTRICAL PANELS, PANEL SCHEDULES, FIRE ALARM SYSTEM, AND ANY OTHER EQUIPMENT/DEVICES AS REQUIRED BY OWNER.

### MOUNTING HEIGHT NOTE

REFER TO ARCHITECTURAL FLOOR PLANS FOR ADDITIONAL INFORMATION REGARDING MOUNTING HEIGHTS AND LOCATIONS OF ELECTRICAL DEVICES BEFORE ROUGH-IN. ALL HEIGHT INFORMATION GIVEN IN ELECTRICAL DRAWINGS ARE CENTER OF THE DEVICE, UNLESS NOTED OTHERWISE.

### GENERAL NOTES:

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF CONDUITS, RACEWAYS, ETC., AS SHOWN ON DRAWINGS, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING, NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS, OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING, WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, CONDUIT, RACEWAYS, EQUIPMENT, FRAMES, BOXES, SLEEVES, AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO ROUGH-IN. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO ROUGH-IN. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- CONTRACTOR SHALL PROVIDE SLEEVES IN BEAMS, FLOORS, COLUMNS, AND WALLS AS SHOWN ON THE DRAWINGS AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED WHEN INSTALLING THEIR WORK. ALL BEAMS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS, AND LOCATIONS AND SIZES SHALL BE CHECKED AND APPROVED BY ARCHITECT BEFORE CONTRACTOR CUTS AND STRUCTURAL BUILDING MEMBER.
- THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS DIRECTED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF NEW BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION, OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE, AND SHALL MATCH THE ADJACENT CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK, OR REMOVAL OF EXISTING WORK, SHALL BE REPAIRED, REPLACED, AND PAID FOR BY THE INSTALLING CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT.
- CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR CONDUIT, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCBs, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6X6 PLANKS AND/OR WOOD PALLET. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL CONDUIT WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- THE DRAWINGS, SCHEDULES, AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT FROM A SPECIFIED ACCEPTABLE MANUFACTURER, BUT NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH THE SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE OF THE EQUIPMENT. WHEN EQUIPMENT SUBMITTED FOR REVIEW DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT, OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.
- CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEET THE CAPACITY AND DUTY SPECIFIED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND THEIR ASSOCIATED FEES.
- CONTRACTOR SHALL PROVIDE WARRANTY FOR ALL MATERIAL AND GUARANTEE ALL WORKMANSHIP PROVIDED BY HIM FOR 1 (ONE) YEAR FOR SUBSTANTIAL COMPLETION OF WORK INVOLVED.

### ELECTRICAL SYMBOL LIST (ALL LOW VOLTAGE CONDUIT STUBS SHALL HAVE SCREWED/THREADED BUSHING.)

	PREWIRED ADMINISTRATIVE TELEPHONE JACK WALL MOUNTED +16" "W" DENOTES WALL MOUNTED AT +48" A.F.F. SINGLE VOICE JACK. PROVIDE JUNCTION BOX AND BLANK FACEPLATE AND CONDUIT STUB. PROVIDE THREADED/SCREWED INSULATED BUSHING.		LOCAL PA CALL SWITCH; PROVIDE JUNCTION BOX AND BLANK FACEPLATE AND CONDUIT STUB. PROVIDE THREADED/SCREWED INSULATED BUSHING.
	POWER OUTLET, CEILING MOUNTED		20A, 2P, 3 WIRE, GROUNDING TYPE, DUPLEX RECEPTACLE NEMA 5-20R INSTALLED 18" A.F.F. UNLESS NOTED OTHERWISE, WHITE IN COLOR. BLACK IN SCIENCE ROOM ON BACK SPLASH.
	GFI - GROUND FAULT INTERRUPTER RECEPTACLE		USB - RECEPTACLE WITH INTEGRATED USB PORTS
	WP - WEATHER PROOF		XX" - ABOVE FINISH FLOOR HEIGHT
	QUAD RECEPTACLE NEMA 5-20R INSTALLED 18" A.F.F. UNLESS NOTED OTHERWISE, WHITE IN COLOR. BLACK IN SCIENCE ROOM ON BACK SPLASH.		GFI - GROUND FAULT INTERRUPTER RECEPTACLE
	USB - RECEPTACLE WITH INTEGRATED USB PORTS		WP - WEATHER PROOF
	XX" - ABOVE FINISH FLOOR HEIGHT		SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED IN THE PLAN AND/OR PER EQUIPMENT SPECIFICATION
	FLUSH FLOOR MOUNTED DEVICE, FLOOR BOX, WIREMOLD RFB4. VERIFY COLOR WITH ARCHITECT. SEE TECHNOLOGY DRAWINGS FOR MORE INFO AND SCOPE OF WORK		CORD REEL AS MANUFACTURED BY HUBBELL-WIRING DEVICE #HBLCA123TT OR APPROVED EQUAL. SEE ARCHITECTURAL FOR MOUNTING DETAIL
	NON-FUSED SAFETY DISCONNECT SWITCH, AMPERE RATING AND NUMBER OF POLES AS NOTED		FUSED DISCONNECT SWITCH, AMPERE RATING AND NUMBER OF POLES AS NOTED
	AUTOMATIC TRANSFER SWITCH		VARIABLE FREQUENCY DRIVE
	CEILING JUNCTION BOX "CLNG"		WALL MOUNTED JUNCTION BOX
	JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT. "CLNG" REPRESENT CEILING MOUNT		MOTOR CONNECTION, HORSEPOWER, VOLTAGE AND PHASE AS NOTED
	HAND DRYER - FURNISHED BY OTHERS, INSTALLED BY THIS CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.		KNOX BOX - RECESSED WHERE NOTED
	FIRE ALARM SYSTEM PULL STATION INSTALLED +48" A.F.F.		FIRE ALARM SYSTEM VISUAL SIGNAL INSTALLED +80" A.F.F.
	FIRE ALARM SYSTEM AUDIO/VISUAL HORN INSTALLED +80" A.F.F.		FIRE ALARM SYSTEM AUDIO/VISUAL HORN CEILING MOUNTED
	FIRE ALARM SYSTEM BELL/VISUAL EXTERIOR MOUNTED +80" A.F.F.		FIRE ALARM SYSTEM CEILING SMOKE DETECTOR
	FIRE ALARM SYSTEM CEILING HEAT DETECTOR		FIRE ALARM SYSTEM CEILING FIX TEMP HEAT DETECTOR, 212F
	DUCT SMOKE DETECTOR REMOTE INDICATING LIGHT WITH KEY OPERATED TEST SWITCH		FIRE ALARM SYSTEM DUCT MOUNTED SMOKE DETECTOR
	WATER FLOW SWITCH		TAMPER SWITCH
	VALVE SUPERVISORY SWITCH		FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL		ALARM BELL, "TA" DENOTES TORNADO ALARM, "FA" FIRE ALARM BELL
	HIGH INTENSITY SECURITY STROBE LIGHT, SEE SPECIFICATION FOR SCOPE OF WORK		

SCALE: 1/16" = 1'-0"

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

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

SCALE: 3/8" = 1'-0"

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

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

SCALE: 1" = 1'-0"

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

SCALE: 3" = 1'-0"

SCALE: 6" = 1'-0"

SCALE: 12" = 1'-0"

SCALE: 30" = 1'-0"



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REV	DESCRIPTION	DATE
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## DOWNERS GROVE SOUTH HIGH SCHOOL ELECTRICAL INFRASTRUCTURE

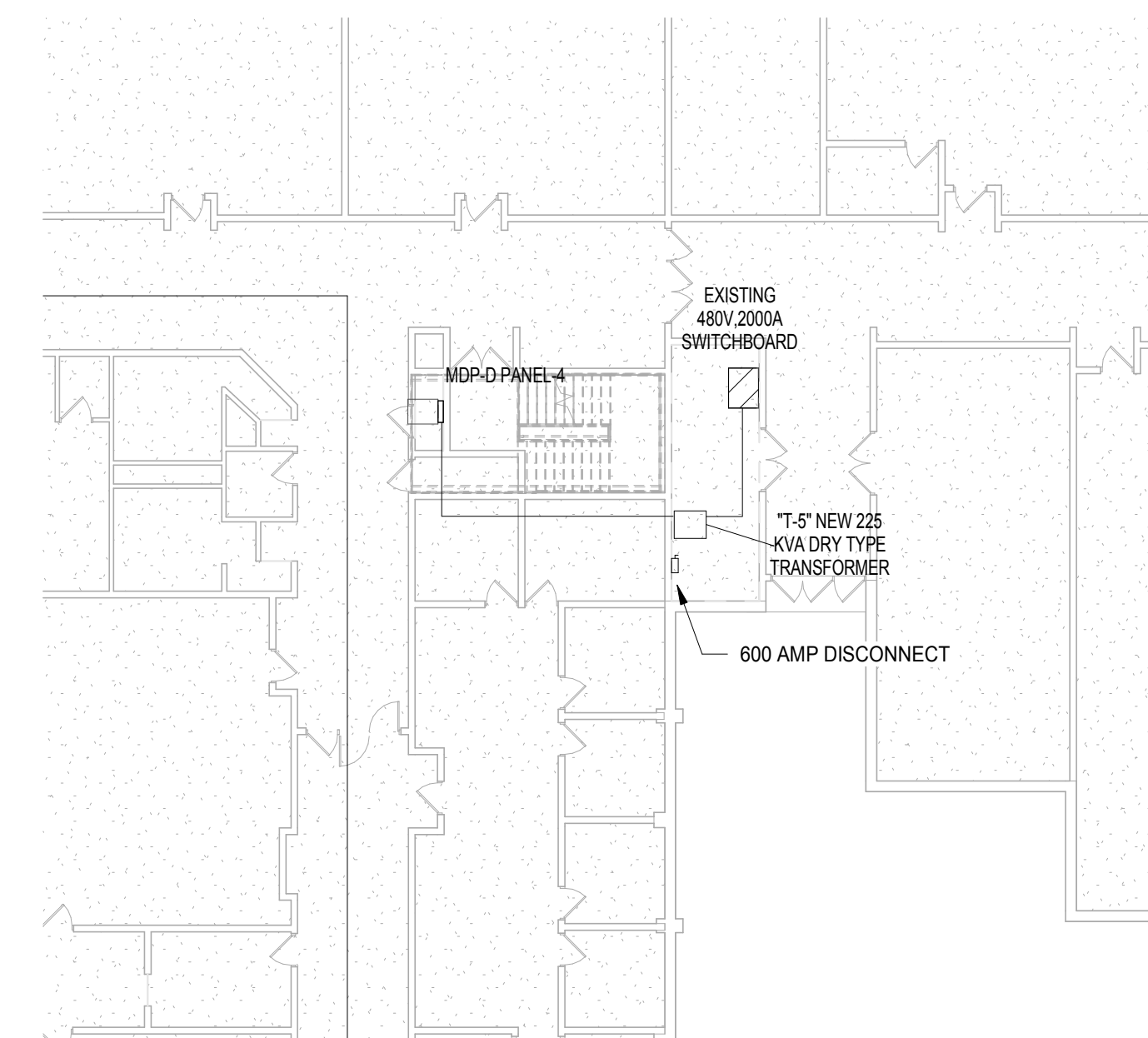
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### NOTES AND SYMBOLS

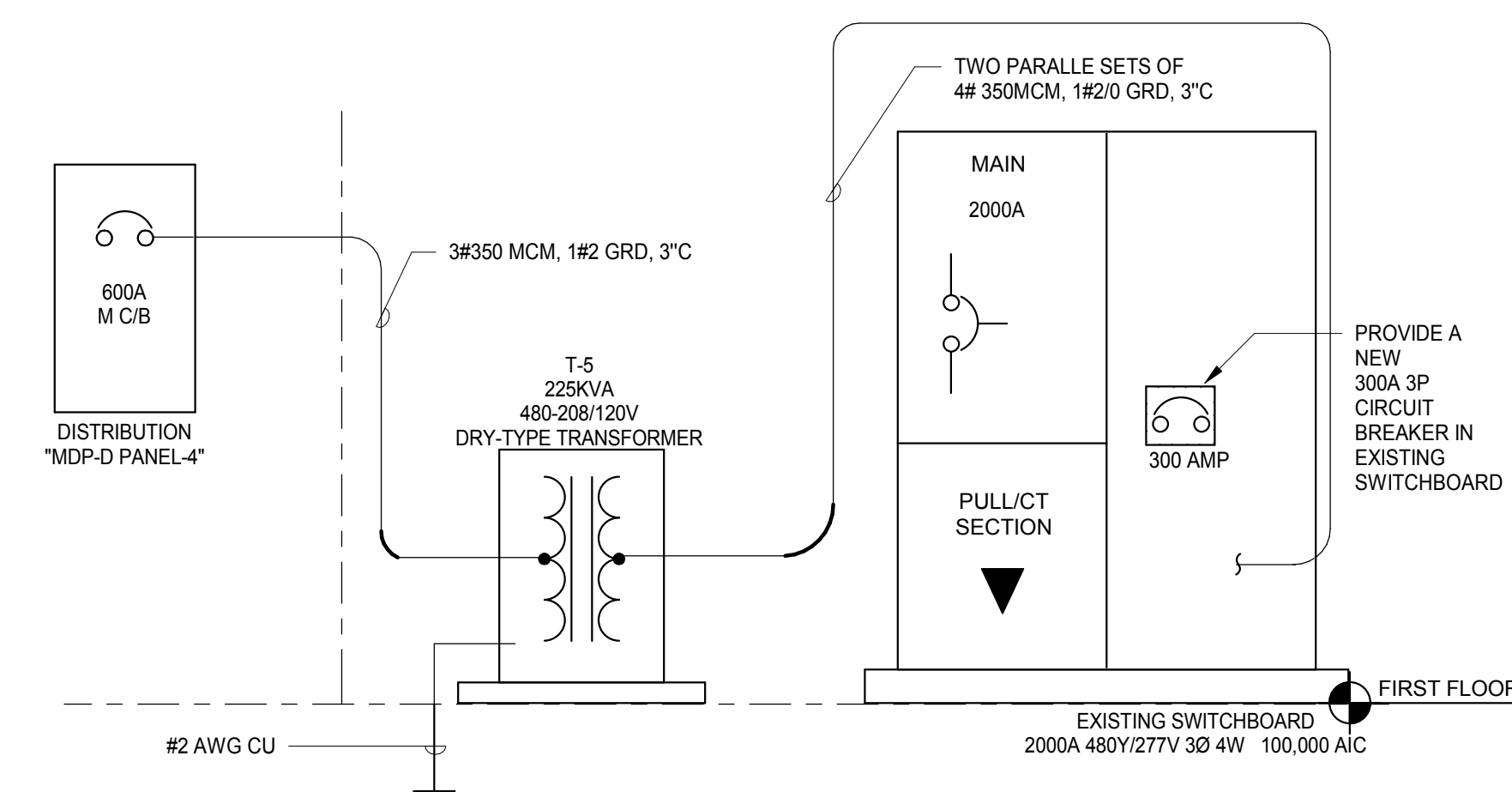
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Sheet:

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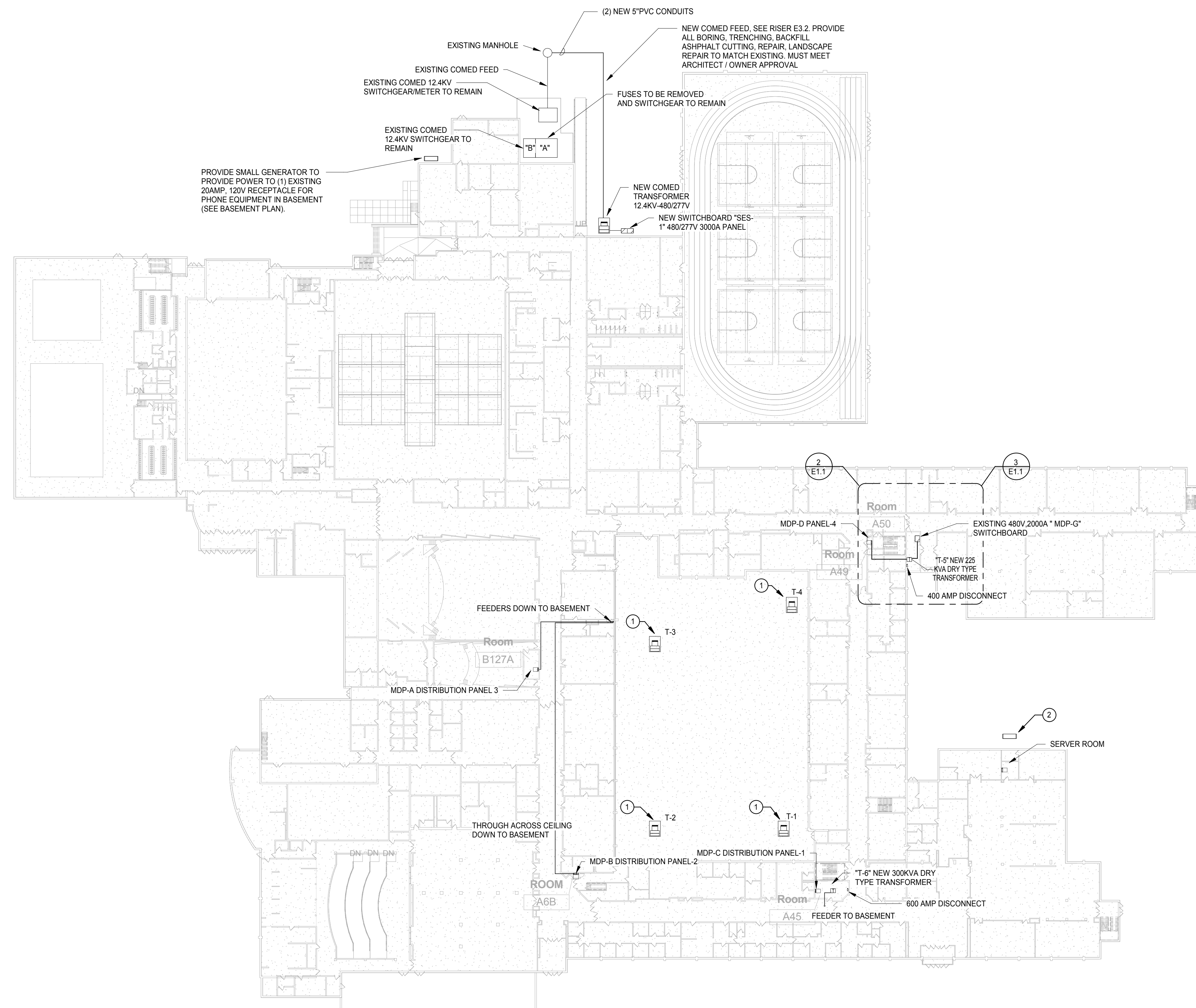




**3 ROOM A-13 ELECTRICAL PLAN**  
SCALE: 1/16" = 1'-0"



**2 ROOM A-13 RISER DIAGRAM**  
N.T.S.



**1 FIRST FLOOR ELECTRICAL PLAN**  
SCALE: 1" = 40'-0"

- KEY NOTES**
- EXISTING TRANSFORMER TO BE REMOVED BY COMED. THIS CONTRACTOR SHALL REMOVE ALL CABLES, CONDUIT, PADS, ETC. PROVIDE LANDSCAPE REPAIR PATCHING TO MATCH EXISTING
  - PROVIDE A TEMPORARY ROLL UP GENERATOR, 25KW 208/120V TO POWER THE SERVER ROOM PANEL DURING 5 DAY SCHEDULED OUTAGE. PROVIDE 120V FANS TO PROVIDE VENTILATION TO THE SERVER ROOM SPRING THIS OUTAGE. SERVER ROOM DOOR SHALL REMAIN OPEN DURING THIS OUTAGE. CORRELATE WITH OWNERS REP.

100% CONSTRUCTION DOCUMENT	12/23/16
REV DESCRIPTION	DATE
ISSUED FOR BID	01/04/17

**DOWNERS GROVE SOUTH HIGH SCHOOL ELECTRICAL INFRASTRUCTURE**

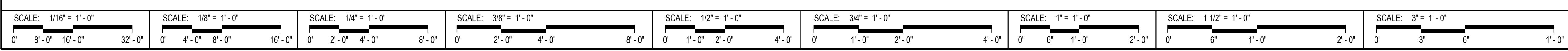
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**FIRST FLOOR ELECTRICAL PLAN**

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S.JADHAV  
Sheet:

**E1.1**

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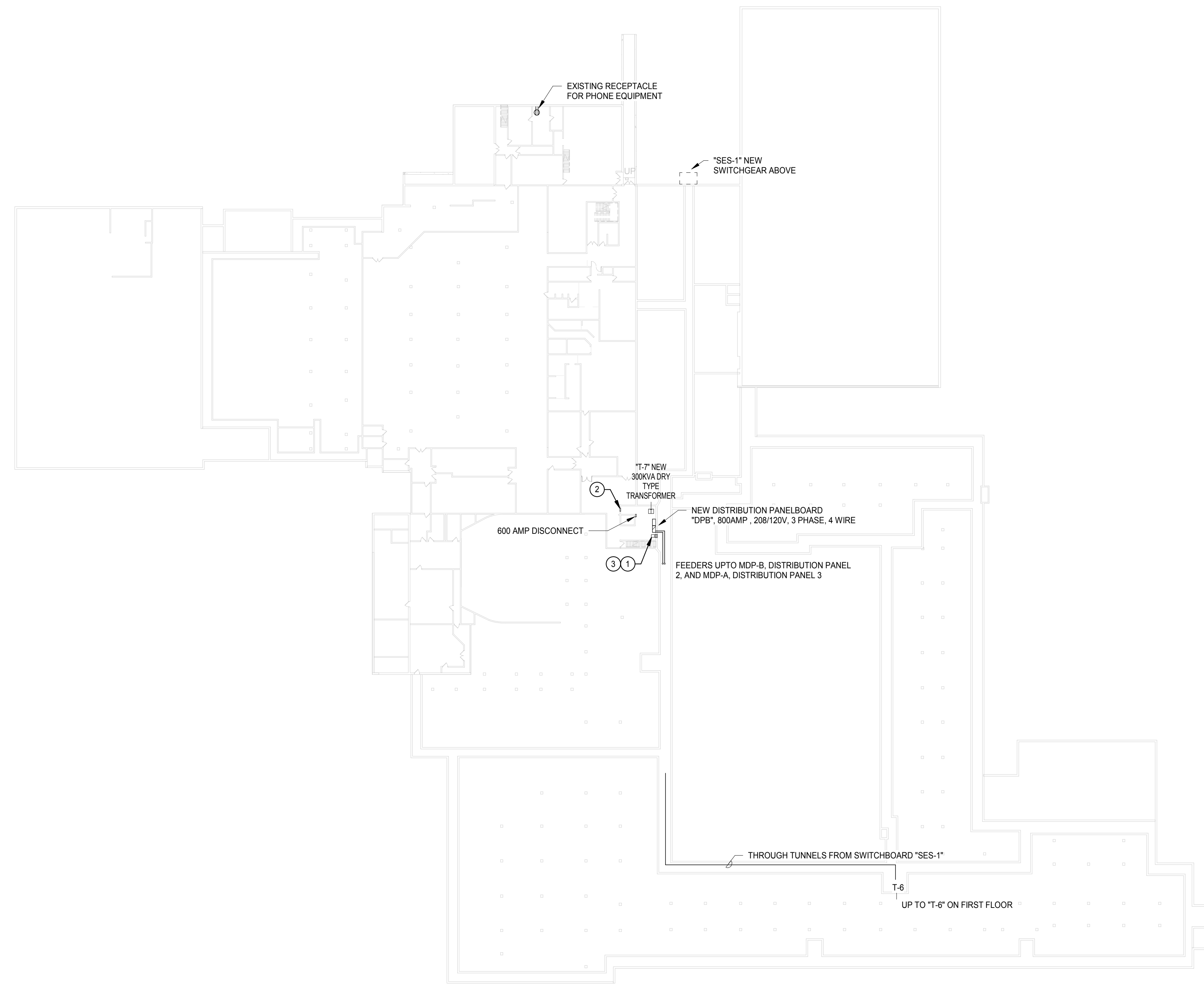




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**MECHANICAL KEY NOTES:**

1. PROVIDE NEW EXHAUST FAN AT APPROXIMATE LOCATION SHOWN PER SCHEDULE ON SHEET E4.1. COORDINATE EXACT LOCATION IN FIELD. PROVIDE 2'-0"X2'-0" RUSKIN STATIONARY LOUVER MODEL ELF6360DMP WITH BRID SCREEN. PROVIDE WALL OPENING FOR LOUVER. PROVIDE NEW DUCTWORK BETWEEN LOUVER & EXHAUST FAN. PATCH WALL TO MATCH EXISTING FINISH.
2. PROVIDE NEW 2'-0"X2'-0" WALL OPENING WITH TITUS TRANSFER GRILLES MODEL 3502FL ON BOTH SIDES OF WALL. COORDINATE WITH OTHER TRADES. PATCH WALL TO MATCH EXISTING FINISH.
3. SEQUENCE OF OPERATIONS FOR EXHAUST FAN:  
 A. ON WHEN SPACE TEMPERATURE > 95 F  
 B. OFF WHEN SPACE TEMPERATURE < 95 F
4. POWER THE EXHAUST FAN EF-1, 120V SINGLE PHASE, FROM THE NEAREST PANEL.



**1**  
**E1.2** POWER FLOOR PLAN - BASEMENT  
 SCALE: 1" = 40'-0"

REV	DESCRIPTION	DATE
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**DOWNERS GROVE SOUTH HIGH SHCOOL ELECTRICAL INFRASTRUCTURE**

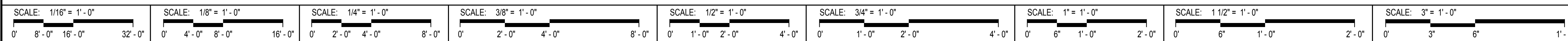
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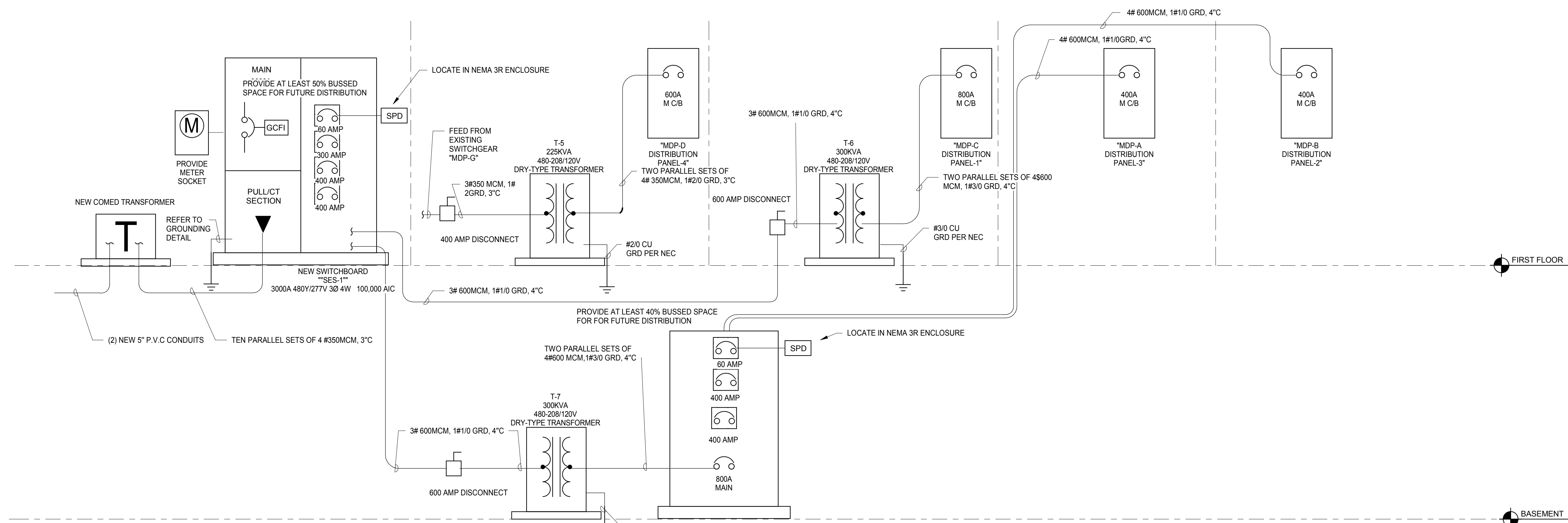
**POWER FLOOR PLAN BASEMENT**

Project Number:  
 02-5274-30  
 Drawn By:  
 S.JADHAV  
 Sheet:

**E1.2**

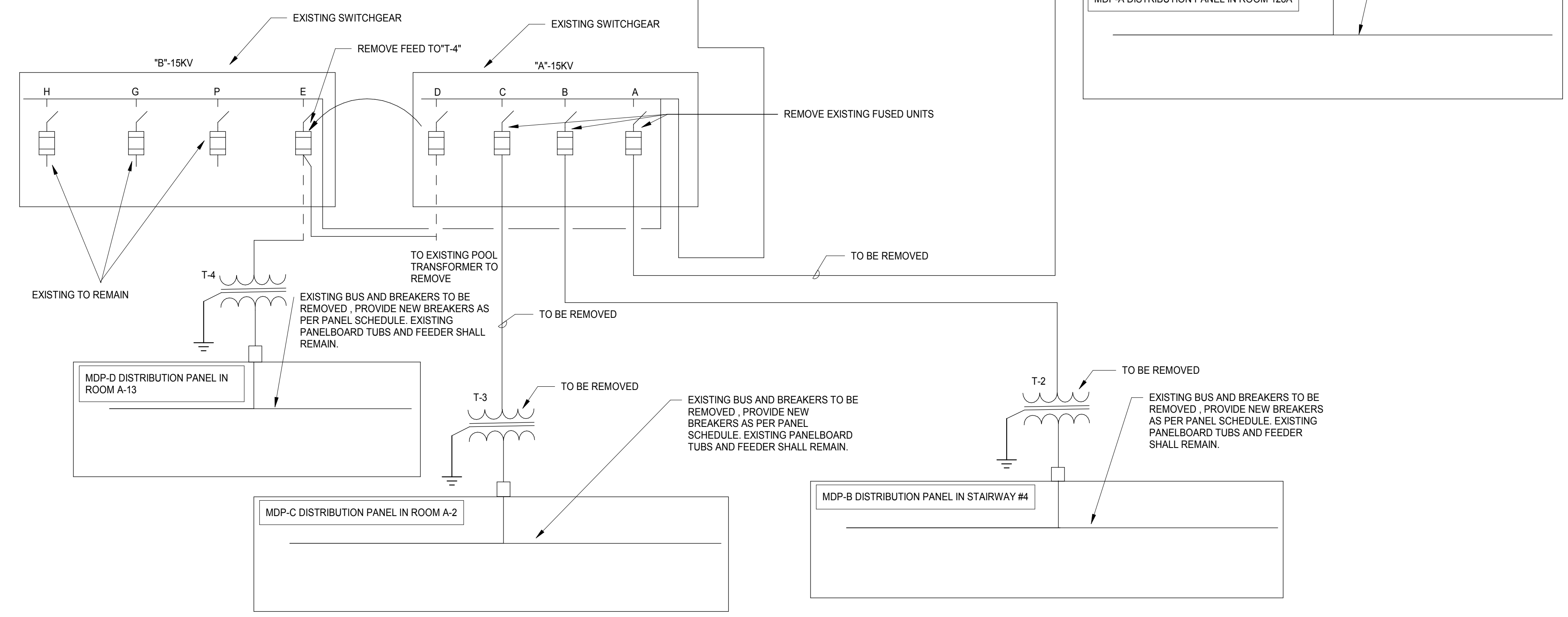
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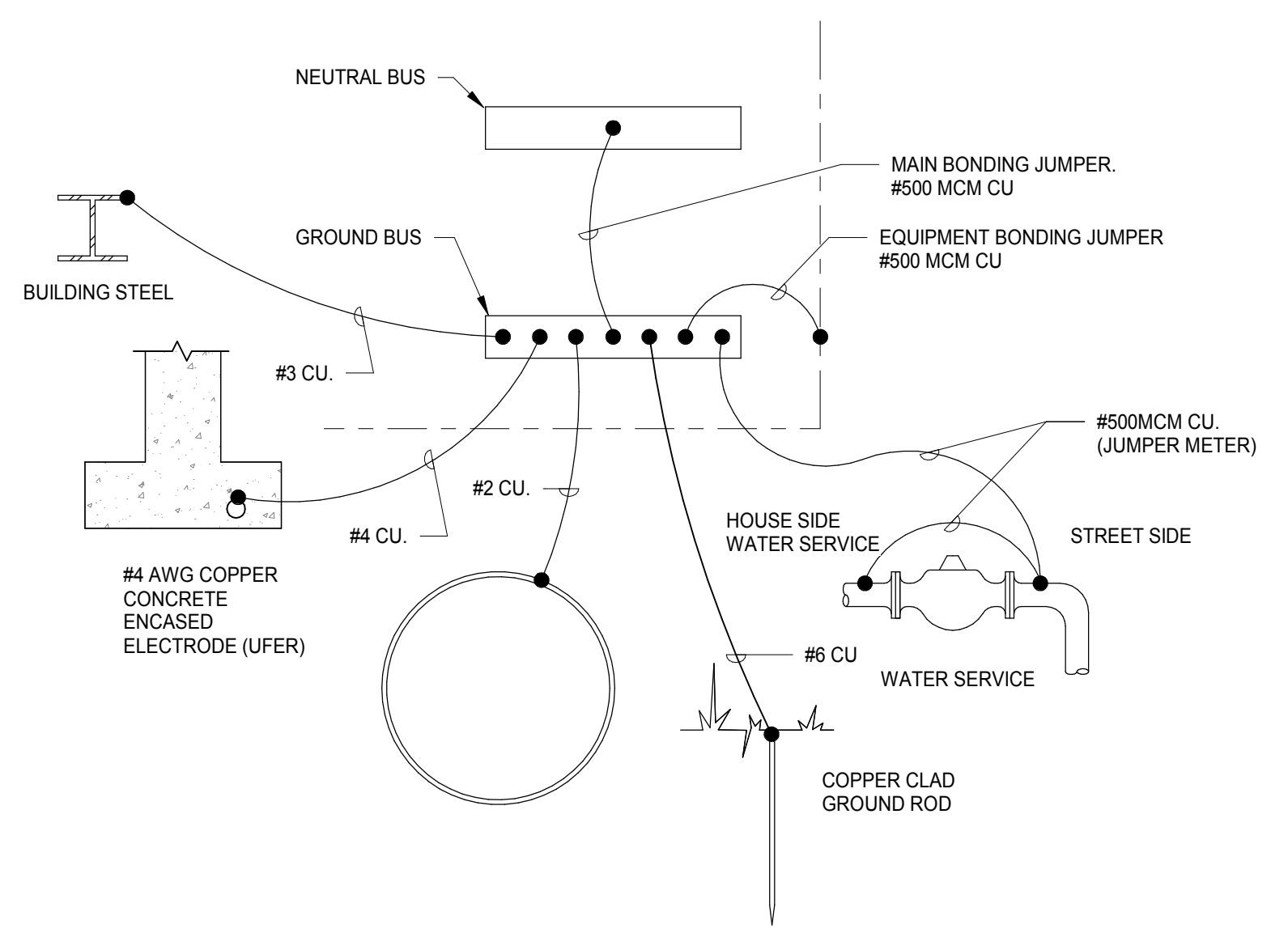


**1** NEW ELECTRICAL RISER DIAGRAM  
E3.1 N.T.S.

NOTES:  
MOVE EXISTING 15KV FEED FOR "POOL" TRANSFORMER FROM SWITCHGEAR "A" TO "B". NO FEEDS SHALL BE LEFT IN GEAR "A". IT SHALL BE LEFT IN PLACE TO FEED GEAR "B"



**3** EXISTING/DEMO ELECTRICAL RISER DIAGRAM  
E3.1 N.T.S.



**2** GROUNDING DETAIL  
E3.1 N.T.S.

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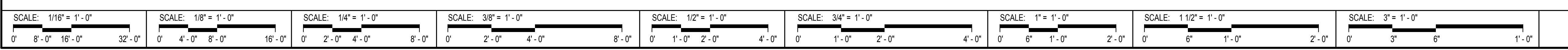
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**RISER DIAGRAMS**

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S.JADHAV  
Sheet:

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2500 North Frontage Road  
Darien, IL 60561  
P 630.969.7000  
F 630.969.7979

NOTES:  
1. CONNECT EXISTING FEEDERS TO NEW BREAKERS AS REQUIRED.  
SPICE CABLES IF REQUIRED TO EXTEND WIRING TO NEW BREAKERS FOR ALL THE PANEL BOARDS.

PANELBOARD: MDP-B PANEL-2												
LOCATION: ROOM A6B			VOLTAGE: 120/208 Wye V. 3 ø 4 W.									
MOUNTING: SURFACE Type 1			A.I.C. RATING: 22000									
MAIN DEVICE: 400 A MCB			SPECIAL:									
BUS AMPS: 400 AMPS												
LOAD DESCRIPTION	BKR	P	CKT	PHASE A KVA	PHASE B KVA	PHASE C KVA	CKT	P	BKR	LOAD DESCRIPTION		
TRANSFER SWITCH NORMAL FEED	30 A	3	1	0.0	0.0		2		30 A	TRANSFER SWITCH		
			3			4		EMERGENCY FEED IN PD #2				
			5			6						
LIGHTING PANEL LP#2B	100 A	3	7	0.0	0.0		8		90 A	KILN 90 AMP		
			9			10						
			11			12						
Spare	20 A	3	13	0.0	0.0		14		30 A	Spare		
			15			16						
			17			18						
POWER PANEL PP-2-3B	175 A	3	19	0.0	0.0		20		20 A	Spare		
			21			22						
			23			24						
POWER PANEL PP-2-1C	400 A	3	25	0.0			26		200 A	LIGHTING PANEL LP-2-1A, LP-2-2A, LP-2-3A		
			27			28						
			29			30						
Spare	400 A	3	31	0.0			32					
			33			34						
			35			36						
			37			38						
			39			40						
			41			42						
<b>TOTAL LOAD:</b>				0 KVA	0 KVA	0 KVA						
<b>TOTAL AMPS:</b>				0 A	0 A	0 A						
LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS								
				CONNECTED LOAD: 0 VA								
				ESTIMATED DEMAND: 0 VA								
				CONNECTED CURRENT: 0 A								
				EST. DEMAND CURRENT: 0 A								
NOTES:												

PANELBOARD: MDP-C DISTRIBUTION PANEL-1												
LOCATION: Room A45			VOLTAGE: 120/208 Wye V. 3 ø 4 W.									
MOUNTING: SURFACE Type 1			A.I.C. RATING: 22000									
MAIN DEVICE: 800 A MCB			SPECIAL:									
BUS AMPS: 800 AMPS												
LOAD DESCRIPTION	BKR	P	CKT	PHASE A KVA	PHASE B KVA	PHASE C KVA	CKT	P	BKR	LOAD DESCRIPTION		
DUMB WAITER	15 A	3	1	0.0	0.0		2		20 A	EXHAUST FANS E-1, ER-2		
			3			4						
			5			6						
PUMP-P4	20 A	3	7	0.0	0.0		8		20 A	EXHAUST FANS E-2,E-3		
			9			10						
			11			12						
EXHAUST FAN ER-1, SUPPLY FAN S-1	20 A	3	13	0.0	0.0		14		20 A	EXHAUST FAN E-4		
			15			16						
			17			18						
EMERGENCY FEED TO TRANSFER SWITCH #2	40 A	3	19	0.0	0.0		20		30 A	SUPPLY FANS S-2		
			21			22						
			23			24						
EMERGENCY PANEL #1	200 A	3	25	0.0	0.0		26		50 A	Spare		
			27			28						
			29			30						
Spare	200 A	3	31	0.0	0.0		32		30 A	RANGE IN 109A		
			33			34						
			35			36						
Spare	20 A	3	37	0.0	0.0		38		150 A	ELEVATOR MAIN DISCONNECT 150 AMP.		
			39			40						
			41			42						
ROOM 163	100 A	3	43	0.0	0.0		44		40 A	CONFERENCE AIR CONDITION		
			45			46						
			47			48						
LIGHTING PANELS- LP-1-1A,LP-1-2A,LP-1-3A,LP-1-1C	400 A	3	49	0.0	0.0		50		400 A	LP-1-1B,LP-1-2B,LP-1-3B		
			51			52						
			53			54						
<b>TOTAL LOAD:</b>				0 KVA	0 KVA	0 KVA						
<b>TOTAL AMPS:</b>				0 A	0 A	0 A						
LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS								
				CONNECTED LOAD: 0 VA								
				ESTIMATED DEMAND: 0 VA								
				CONNECTED CURRENT: 0 A								
				EST. DEMAND CURRENT: 0 A								
NOTES:												

PANELBOARD: MDP-A PANEL 3												
LOCATION: Room B127A			VOLTAGE: 208Y/120 V. 3 ø 4 W.									
MOUNTING: Type 1			A.I.C. RATING: 22000									
MAIN DEVICE: 400 A MCB			SPECIAL:									
BUS AMPS: 800 AMPS												
LOAD DESCRIPTION	BKR	P	CKT	PHASE A KVA	PHASE B KVA	PHASE C KVA	CKT	P	BKR	LOAD DESCRIPTION		
Spare	30 A	3	1	0.0	0.0		2		50 A	Spare		
			3			4						
			5			6						
Spare	50 A	3	7	0.0	0.0		8		70 A	CONTROL LIGHTING SWITCHBOARD		
			9			10						
			11			12						
LIGHTING PANEL LP-3-1C	100 A	3	13	0.0	0.0		14		50 A	PANEL "B" THEATRE LIGHT BOOTH		
			15			16						
			17			18						
Spare	20 A	3	19	0.0	0.0		20		20 A	Spare		
			21			22						
			23			24						
POWER PANEL PP-3-1D	150 A	3	25	0.0	0.0		26		175 A	POWER PANEL PP-3-1B		
			27			28						
			29			30						
POWER PANEL PP-3-1C	200 A	3	31	0.0	0.0		32		200 A	PANEL K (KILN ROOM)		
			33			34						
			35			36						
LIGHTING PANELS LP-3-1A, LP-3-2A, LP-3-3A	300 A	3	37	0.0	0.0		38		100 A	POWER PANEL IN MAIN AUDITORIUM CONTROL		
			39			40						
			41			42						
<b>TOTAL LOAD:</b>				0 KVA	0 KVA	0 KVA						
<b>TOTAL AMPS:</b>				0 A	0 A	0 A						
LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS								
				CONNECTED LOAD: 0 VA								
				ESTIMATED DEMAND: 0 VA								
				CONNECTED CURRENT: 0 A								
				EST. DEMAND CURRENT: 0 A								
NOTES:												

PANELBOARD: MDP-D PANEL-4												
LOCATION: Room A49			VOLTAGE: 120/208 Wye V. 3 ø 4 W.									
MOUNTING: Type 1			A.I.C. RATING: 22000									
MAIN DEVICE: 600 A MCB			SPECIAL:									
BUS AMPS: 800 AMPS												
LOAD DESCRIPTION	BKR	P	CKT	PHASE A KVA	PHASE B KVA	PHASE C KVA	CKT	P	BKR	LOAD DESCRIPTION		
TRANSFER SWITCH	50 A	3	1	0.0	0.0		2		100 A	161 AIR CONDITIONING PANEL		
			3			4						
			5			6						
POWER PANEL IN C-15	200 A	3	7	0.0	0.0		8		20 A	Spare		
			9			10						
			11			12						
Spare	20 A	3	13	0.0	0.0		14		20 A	Spare		
			15			16						
			17			18						
A. RISER EAST- WEST WING 1st FLOOR	250 A	3	19	0.0	0.0		20		250 A	C. RISER NORTH-SOUTH WING -3rd FLOOR		
			21			22						
			23			24						
B. RISER CENTER-2ND FLOOR	250 A	3	25	0.0	0.0		26		20 A	Spare		
			27			28						
			29			30						
			31			32						
			33			34						
			35			36						
			37			38						
			39			40						
			41			42						
<b>TOTAL LOAD:</b>				0 KVA	0 KVA	0 KVA						
<b>TOTAL AMPS:</b>				0 A	0 A	0 A						
LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS								
				CONNECTED LOAD: 0 VA								
				ESTIMATED DEMAND: 0 VA								
				CONNECTED CURRENT: 0 A								
				EST. DEMAND CURRENT: 0 A								
NOTES:												

EXHAUST FAN SCHEDULE															
EQUIPMENT TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL	TYPE	DRIVE	CFM	SP (IN.)	FAN RPM	BHP	MOTOR			NOTES	
											HP	RPM	PHASE	VOLT	
EF-1	BASEMENT	TRANSFORMER	GREENHECK	SQ-120-VG	CENTRI. IN-LINE	DIRECT	1,450	0.3	1,636	0.4	1/2	1,725	1	120	ALL
NOTES: 1. PROVIDE GRAVITY BACK DRAFT DAMPER 2. PROVIDE INLET GUARD 3. PROVIDE CEILING HUNG KIT 4. DISCONNECT SWITCH. 5. PROVIDE VARI GREEN MOTOR WITH 0-10 VDC INPUT SIGNAL 6. PROVIDE CONTROL TRANSFORMER, MOUNTED & WIRED 7. PROVIDE UL LISTED POWER VENTILATOR 8. SWITCH, NEMA-1, TOGGLE 9. PROVIDE MOTOR COVER 10. PROVIDE THERMOSTAT FOR FAN CONTROL															

100% CONSTRUCTION DOCUMENT 12/23/16  
REV DESCRIPTION DATE  
ISSUED FOR BID 01/04/17

## DOWNERS GROVE SOUTH HIGH SHCOOL ELECTRICAL INFRASTRUCTURE

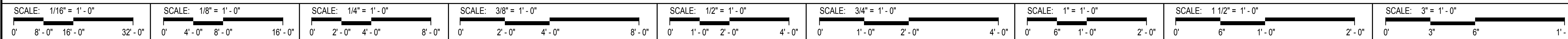
1436 Norfolk St.  
Downers Grove, IL

### PANEL SCHEDULES

Project Number:  
02-5274-30  
Drawn By:  
S.JADHAV  
Sheet:

# E4.1

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# Community High School District 99

## Downers Grove South

1436 Norfolk Street, Downers Grove, IL 60516

01/04/2017

### ISSUED FOR BID

#### PROJECT TEAM

##### CLIENT

DOWNERS GROVE COMMUNITY  
HIGH SCHOOL DISTRICT 99  
6301 SPRINGSIDE AVE.  
DOWNERS GROVE, IL 60516

CONTACT: JIM KOLODZIEJ

##### ARCHITECT:

WIGHT & COMPANY  
2500 NORTH FRONTAGE ROAD  
DARIEN IL. 60561  
PHONE: (630)969-7000  
FAX: (630)969-7979

CONTACT: AMY FULLER  
Design Firm Registration #184-000451

##### ELECTRICAL ENGINEER:

WIGHT & COMPANY  
2500 NORTH FRONTAGE ROAD  
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FAX: (630)969-7979  
CONTACT: ANTHONY SULLENTRUP

#### INDEX OF DRAWINGS

GENERAL	COVER SHEET, INDEX, TEAM, LOCATION MAP
G0.0	BASEMENT FLOOR REFERENCE PLAN
G1.0	FIRST FLOOR REFERENCE PLAN
G1.1	
ELECTRICAL	NOTES AND SYMBOLS
E0.1	
ELECTRICAL	FIRST FLOOR ELECTRICAL PLAN
E1.1	POWER FLOOR PLAN BASEMENT
E1.2	RISER DIAGRAMS
E3.1	PANEL SCHEDULES
E4.1	
Grand total:	8

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JULIE SUBURBS & DIGG CHICAGO

- YELLOW \_\_\_\_\_ GAS
- RED \_\_\_\_\_ ELECTRICAL
- ORANGE \_\_\_\_\_ PHONE / TV COMMUNICATION
- BLUE \_\_\_\_\_ WATER
- GREEN \_\_\_\_\_ SEWERS
- WHITE \_\_\_\_\_ SAFE TO DIG

#### STATEMENT OF COMPLIANCE

I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE ENVIRONMENTAL BARRIERS ACT (IL. REV. STAT. 1985, CH. 111 1/2, PARS. 3711 ET SEQ AS AMENDED) AND THE ILLINOIS ACCESSIBILITY CODE, 71 IL ADM. CODE 400.

SIGNED: \_\_\_\_\_  
ARCHITECT/ENGINEER

ILLINOIS REGISTRATION NO.: \_\_\_\_\_

DATE: \_\_\_\_\_

#### BUILDING CODE DATA

<b>1. APPLICABLE CODES</b>	2015 IBC BUILDING CODE
BUILDING CODE:	2015 IBC MECHANICAL CODE
MECHANICAL CODE:	2008 NATIONAL ELECTRICAL CODE
ELECTRICAL CODE:	2014 PLUMBING CODE
PLUMBING CODE:	2010 ADA STANDARDS FOR DESIGN
ACCESSIBILITY CODE:	2015 IBC ENERGY CODE
ENERGY CODE:	

#### 2. GENERAL BUILDING DESCRIPTION

GROSS BUILDING AREA, EXISTING:	N/A
GROSS BUILDING AREA, TOTAL (NEW & EXISTING):	N/A

#### 3. BUILDING OCCUPANCY TYPE SECTION 302

OCCUPANCY CLASSIFICATION:

#### 4. CONSTRUCTION TYPE SECTION 503, 602

CONSTRUCTION TYPE:	
FIRE RESISTANCE RATING REQUIREMENTS	TABLE 601
STRUCTURAL FRAME:	0 HR
BEARING WALLS (EXTERIOR) (ALSO SEE TABLE 602):	0 HR
BEARING WALLS	0 HR
NON-BEARING WALLS (EXTERIOR):	SEE TABLE 602
NON-BEARING WALLS (INTERIOR):	0 HR
FLOOR CONSTRUCTION:	0 HR
ROOF CONSTRUCTION:	0 HR
EXTERIOR WALL FIRE SEPARATION DISTANCE	TABLE 602
LESS THAN 5'	1 HR
LESS THAN OR EQUAL TO 5' TO LESS THAN 10'	1 HR
LESS THAN OR EQUAL TO 10' TO LESS THAN 30'	0 HR
GREATER THAN OR EQUAL TO 30'	0 HR

#### 5. ALLOWABLE HEIGHT AND AREA LIMITATIONS SECTION 503

BASE ALLOWABLE AREA:	N/A
BASE ALLOWABLE HEIGHT (FEET):	N/A
BASE ALLOWABLE HEIGHT (STORIES):	N/A

#### HEIGHT MODIFICATIONS SECTION 504

AUTOMATIC SPRINKLER SYSTEM INCREASE (FEET):	
AUTOMATIC SPRINKLER SYSTEM INCREASE (STORIES):	

#### AREA MODIFICATIONS SECTION 506

FRONTAGE INCREASE	
FORMULA: $If = 100 \times [F/P - 0.25] \times W/30$	
BUILDING PERIMETER (P):	
BUILDING FRONTAGE (F):	
FRONTAGE WIDTH (W):	
TOTAL FRONTAGE INCREASE (If):	

#### AUTOMATIC SPRINKLER SYSTEM INCREASE:

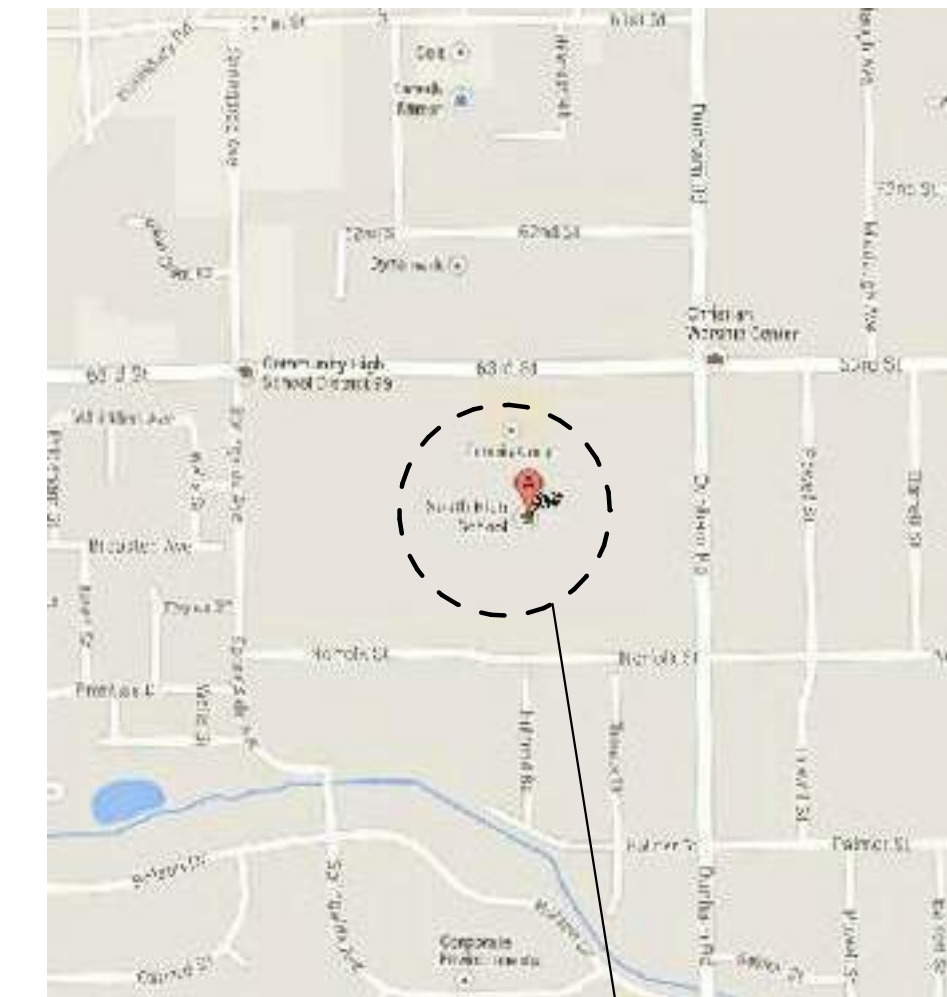
#### TOTAL ALLOWABLE BUILDING AREA

FORMULA: $Aa = At + [(At \times If)/100] + [(At \times Is)/100]$	
TOTAL ALLOWABLE AREA:	
TOTAL ACTUAL AREA:	

TOTAL ALLOWABLE HEIGHT:	
TOTAL ACTUAL HEIGHT:	

TOTAL ALLOWABLE STORIES:	
TOTAL ACTUAL STORIES:	

#### LOCATION MAP: DOWNERS GROVE SOUTH HIGH SCHOOL



South High School  
1436 Norfolk Street, Downers Grove, IL 60516



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Darien, IL 60561

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REV	DESCRIPTION	DATE
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#### Downers Grove South

1436 Norfolk Street, Downers Grove, IL 60516

#### COVER SHEET, INDEX, TEAM, LOCATION MAP

Project Number:  
02-5274-30

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Sheet:

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