



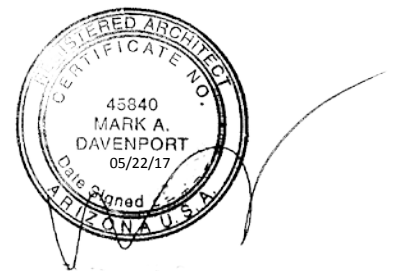
Technical Specification for:

DRAINAGE CORRECTIONS CHALLENGER MIDDLE SCHOOL

GLENDALE ELEMENTARY SCHOOL DISTRICT NO. 40

6905 WEST MARYLAND AVENUE
GLENDALE, AZ 85301

Project No.1535C



May 22, 2017

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PROJECT SPECIFICATIONS

Drainage Corrections

GLENDALE ELEMENTARY SCHOOL DISTRICT NO. 40

CHALLENGER MIDDLE SCHOOL

GLENDALE, MARICOPA COUNTY, AZ

(SPS+ Project No. 1535C)

Dated: MAY 23, 2017

DRAINAGE CORRECTIONS
Challenger Middle School
Glendale Elementary School District No. 40

(SPS+ ARCHITECTS PROJECT NO. 1535E)



Expires 03/31/2019

**SECTION 00 0101
PROJECT TITLE PAGE**

PROJECT MANUAL

FOR

1535C CHALLENGER DRAINAGE

OWNER'S PROJECT NUMBER: 1535C

GLENDALE ELEMENTARY SCHOOL DISTRICT NO. 40

CHALLENGER MIDDLE SCHOOL

6905 WEST MARYLAND AVENUE

GLENDALE, ARIZONA 85303

DATE: MAY 22, 2016

SPS+ ARCHITECTS LLP

END OF SECTION 00 0101

SECTION 00 0102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

- A. Project Name: 1535C Challenger Drainage, located at:
 - 1. Challenger Middle School
6905 West Maryland Avenue
Glendale, Arizona 85303
- B. Owner's Project Number: 1535C.
- C. The Owner, hereinafter referred to as Owner: Glendale Elementary School District No. 40
- D. Owner's Project Manager: Architect.
- E. Owner's Project Manager: SPS+ Architects.

1.02 PROJECT DESCRIPTION

- A. Summary Project Description: Challenge Drainage Corrections Project consists of grading and drainage corrections at Challenger Middle School in the areas that have experience prior flooding, per the civil drawings. A General Contractor will be required to coordinate entire scope..

1.03 PROCUREMENT TIMETABLE

- A. RFQ Documents Available: May 25, 2017.
- B. Pre-Proposal Site Tour: June 5, 2017 at 1:00 p.m. at Challenger Middle School site, meet in Administration Building.
- C. Bid Due Date: June 12, 2017, before as indicated in the solicitation for Bid.
- D. Bid Opening: Same day, following submittal date local time.
- E. Award at Special Meeting June 22, 2017
- F. Required Construction Start: Not later than July 14, 2017.
- G. Required Final Completion Date: Not later than August 5, 2017.
- H. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.04 PROCUREMENT DOCUMENTS

- A. Availability of Documents: Complete sets of procurement documents may be obtained:
 - 1. From Owner at the Project Manager's address listed above.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 00 0102

SECTION 00 0110
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 - 2.24 DIVISION 46 -- WATER AND WASTEWATER EQUIPMENT**
- END OF SECTION 00 0110**

SECTION 00 3100
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

- A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of the Contract Documents, as follows:
- B. Geotechnical Report: Entitled Speedie and Associates Report, Project number 161213SA, dated August 9, 2016.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 00 3100

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: 1535C Challenger Drainage
- B. Owner's Name: Glendale Elementary School District No. 40.
- C. Architect's Name: SPS+ Architects LLP.
- D. The Project consists of the construction of _____.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5000 - Contracting Forms and Supplements. All subcontractor fees including taxes must be included in the Contractors price.

1.03 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Arrange use of site and premises to allow:
 - 1. Work by Others.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Contractor must coordinate scope of work with the contractor that has been awarded Structural Repairs. Both have the same construction duration and are in adjacent areas.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.

END OF SECTION 01 1000

SECTION 01 2000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Procedures for preparation and submittal of application for final payment.

1.02 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to Architect/Engineer in accord with the schedule established by Uniform and Special Terms and Conditions of the Contract and Agreement between Owner and Contractor.
- B. Comply with payment provisions of A.R.S. Section 34-221. Payments shall also comply with the requirements of A.R.S. Titles 35 and 41.
- C. No projections in payments will be allowed.

1.03 RELATED REQUIREMENTS

- A. Agreement Between Owner and Contractor (lump sum)
- B. Uniform Terms and Conditions of the Contract issued from Glendale Elementary School District No. 40 - Payments (Paragraph 4, A).
- C. Section 01 30 00 - Submittals (schedule of values).
- D. Section 01 70 00 - Contract Closeout (record and as-built drawings).

1.04 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization.
- D. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- E. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.05 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Form to be used: AIA Document G702, Application and Certificate for Payment, and continuation sheets G703.
- C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- D. Forms filled out by hand will not be accepted.
- E. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed to Date of Application.

8. Percentage of Completion.
 9. Balance to Finish.
 10. Retainage.
- F. Execute certification by signature of authorized officer.
 - G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed .
 - H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
 - I. Submit six copies of each Application for Payment.
 - J. Include the following with the application:
 1. Transmittal letter as specified for Submittals in Section 01 3000.
 2. Partial release of liens from major Subcontractors and vendors.
 3. Conditional and Unconditional Release waivers.
 4. Project record documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.

1.06 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description. Contractor shall submit suitable information, with a cover letter identifying:
 1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific materials.
- B. Submit one (1) copy of data and cover letter for each copy of application.
- C. Contractor shall make available at the project site. Construction Record Documents for view by the Architect and Owner as a requisite for payment. Record drawings shall show all revisions, rerouting, etc., as indicated in Section 01 77 00, with the date of review indicated by the delta with a number inserted, and date.

1.07 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01 77 00 Contract Closeout.

1.08 APPLICATION FOR FINAL PAYMENT

- A. Submit rough draft of the Application for Payment to Architect/Engineer for an on-site review following end of draw period, then submit final copies at the times stipulated in the agreement. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- C. Application for Final Payment will not be considered until the following have been accomplished:
 1. All closeout procedures specified in Section 01 7000.

END OF SECTION 01 2000

SECTION 01 2080
CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 1.01 REQUIREMENTS INCLUDED

- A. Promptly implement change order procedures.
 - 1. Provide full written data required to evaluate changes. A Change Order Request Form will be provided to itemize all costs.
 - 2. Maintain detailed records of work done on a time-and-material/force account basis.
 - 3. Provide full documentation to Architect/Engineer on request.
 - 4. Designate in writing the member of Contractor's organization:
 - a. Authorized to accept changes in the Work.
 - b. Responsible for informing others in the Contractor's employ of the authorization of changes in the Work.
 - 5. Owner will designate in writing the person who is authorized to execute Change Orders.

1.02 1.02 RELATED REQUIREMENTS

- A. Agreement Between Owner and Contractor (Lump Sum)
- B. Uniform Terms and Conditions of the Contract issued from Glendale Elementary School District:
 - 1. Contract Changes (paragraph 5).
 - 2. Contract Claims (paragraph 10).
- C. Section 01 02 70 – Applications for Payment
- D. Section 01 30 00 – Submittals
- E. Section 01 70 00 – Project Closeout

1.03 1.03 DEFINITIONS

- A. Change Order: A written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:
 - 1. The change in work.
 - 2. The amount of the change, if any, in the Contract Sum.
 - 3. The extent of the adjustment, if any, in the Contract Time.
- B. Allowance Order: A written order to the Contractor, signed by Owner and Architect/ Engineer, which allows the expenditure of allowance as described, and authorizes Contractor to proceed with an expense which affects the construction effort.
- C. Architect's Supplemental Instructions, AIA Document G710 or Current edition: A written order, instructions, or interpretations, signed by Architect/Engineer making minor changes in the Work not involving a change in the Contract Sum or Contract Time.
- D. Change Order Request Form (COR): A written request for Contract changes involving time and money that may be accepted by Owner and incorporated into a Change Order.
- E. Construction Change Authorization: AIA Document G713 or Current edition: A written order to the Contractor, signed by Owner and Architect/Engineer, which amends the Contract Documents as described, and authorizes Contractor to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.

1.04 1.04 PRELIMINARY PROCEDURES

- A. Owner or Architect/Engineer may initiate changes by submitting a Proposal Request to Contractor. Request will include:
 - 1. Detailed description of the change, products and location of the change in the project.
 - 2. Supplementary or revised drawings and specifications.
 - 3. The projected time span for making the change, and a specific statement as to whether overtime work is, or is not, authorized.
 - 4. A specific period of time during which the requested price will be considered valid.

5. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress.
- B. Contractor may initiate changes by submitting a written notice to the Architect/Engineer, by use of the Change Order Request Form (COR), containing:
1. Description of the proposed changes.
 2. Statement of the reason for making the changes.
 3. Statement of the effect on the Contract Sum and the Contract Time, if any.
 4. Statement to the effect on the work on separate contractors.
 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.
- C. Contractor may request additional clarification or information by submitting to the Architect a Request for Information (RFI):
1. Description of item in question, complete with a record of all discussions to date and date of discovery.
 2. Proposed alternate solutions, including difference in operation or function with costs for approval by Architect and Owner.
 3. Statement of effect on work of separate contractors.

1.05 1.05 CONSTRUCTION CHANGE AUTHORIZATION

- A. In lieu of Proposal Request, Architect/Engineer may issue a construction change authorization for Contractor to proceed with a change for subsequent inclusion in a Change Order.
- B. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. Owner and Architect/Engineer will sign and date the Construction Change Authorization as authorization for the Contractor to proceed with the changes.
- D. Contractor will sign and date the Construction Change Authorization to indicate agreement with the terms therein.

1.06 1.06 ALLOWANCE ORDER

- A. Authorization will describe changes in the Work, both additions and deletions, with attachments to define details of the change, and will designate the method of determining any change in an allowance.
- B. Owner and Architect/Engineer will sign and date the Allowance Order as authorization for the Contractor to proceed with the changes.
- C. Contractor will sign and date the Allowance Order to indicate agreement with the terms therein.

1.07 1.07 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal with sufficient substantiating data to allow Architect/Engineer to evaluate the quotation.
- B. On request provide additional data to support time and cost computations:
1. Labor required.
 2. Equipment required.
 3. Products required:
 4. Recommended source of purchase and unit cost.
 5. Quantities required.
 6. Taxes, insurance and bonds.
 7. Credit for work deleted from Contract, similarly documented.
 8. Overhead and profit.
 9. Justification for any change in Contract Time.
- C. Support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information:
1. Name of the Owner's authorized agent who ordered the work, and the date of the order.
 2. Dates and times work was performed, and by whom.

3. Time record, summary of hours worked, and hourly rates paid.
4. Receipts and invoices for:
5. Equipment used, listing dates and times of use.
6. Products used, listing quantities.
7. Subcontracts.

1.08 PREPARATION OF CHANGE ORDERS

- A. Architect/Engineer will prepare each Change Order.
- B. Form: Change Order AIA Document G701.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.09 1.09 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Contents of Change Order will be based on, either:
 1. Architect/Engineer's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
 2. Contractor's Proposal for a change, as recommended by Architect/Engineer.
- B. Owner and Architect/Engineer will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- C. Contractor may sign and date the Change Order to indicate agreement with the terms therein.

1.10 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 1. Architect/Engineer's definition of the scope of the required changes.
 2. Contractor's Proposal for a change, as recommended by Architect/Engineer.
 3. Survey of completed work.
- B. The amounts of the unit prices to be:
 1. Those stated in the Agreement.
 2. Those mutually agreed upon between Owner and Contractor.
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the Work:
 1. Owner and Architect/Engineer will sign and date the Change Order as authorization for Contractor to proceed with the changes.
 2. Contractor may sign and date the Change Order to indicate agreement with the terms therein.
- D. When quantities of the items cannot be determined prior to start of Work:
 1. Architect/Engineer with Owner will issue a construction change authorization directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
 2. At completion of the change, Architect/Engineer will determine the cost of such work based on the unit prices and quantities used.
 3. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
 4. Architect/Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
 5. Owner and Contractor will sign and date the Change Order to indicate their agreement with the terms therein.

1.11 1.11 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/INSTRUCTION CHANGE AUTHORIZATION

- A. Architect/Engineer and Owner will issue a Construction Change Authorization directing Contractor to proceed with the changes.

- B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this section.
- C. Architect/Engineer will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- D. Architect/Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- E. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.

1.12 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
- B. Submit an updated Construction Schedule to reflect each change in Contract Time which must accompany each Pay Request.
 - 1. Revise subschedules to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

END OF SECTION 01 2080

SECTION 01 2413
VALUE ENGINEERING

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Administrative requirements for value engineering.

1.02 DEFINITIONS

- A. Value Engineering: 1) To effect economy in the cost of constructing a project, and; 2) Evaluating and bettering of materials and systems in terms of dollars and functional objectives.

1.03 ADMINISTRATIVE REQUIREMENTS FOR VALUE ENGINEERING OPTIONS

- A. Whenever a material or system is specified, the specified item shall be understood as establishing type, function, dimension, appearance, and quality desired. Other materials and systems will be accepted as value engineering options provided sufficient information is submitted to allow the Architect to determine that proposed value engineering option materials and systems will meet the functional objectives of the specified materials and systems.
- B. Requests for approval of value engineering options:
1. Contractor shall request approval of each value engineering option, in writing, to the Architect.
 2. The request shall specifically state what specified materials and systems are being substituted and shall state what materials and systems are being proposed as value engineering options.
 3. Architect will approve or reject value-engineering options in writing, and in such form as the Architect directs.
 4. Value engineering options will not be considered if they are indicated or implied on submittals (shop drawings, product data or samples).
 5. Value engineering options are encouraged and will be treated confidential as proprietary to the Contractor making the value engineering option.
- C. Contractor shall provide descriptive brochures, drawings, samples and other data as is necessary to allow comparison to the specified materials and systems. Value engineering information and data shall be well-marked and identified as to types and kind of the items being proposed for value engineering option. Reference to catalogs will not be acceptable unless catalog is included with proposal.
- D. In proposing a value engineering option, the Contractor makes the following representations:
1. Proposed value engineering option has been fully investigated and determined to will meet the functional objectives of the specified materials and systems.
 2. Maintenance service and source of replacement parts, as applicable, is available.
 3. Cost data included on the value engineering option is complete. Claims for additional costs related to accepted value engineering options which may subsequently become apparent are to be waived.
 4. Payment will be made for changes to building design, including A/E design, detailing, and construction costs incurred by the substitution, by Contractor.
 5. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.
- E. Value engineering options that are accepted and require revisions to the Contract Documents shall have the cost of the modifications to the Contract Documents deducted from the savings proposed by the Contractor for the value engineering option. The cost will be at the Architects' standard hourly rate and Architect will charge the Owner, and such costs will be deducted from monies still due the Contractor.

END OF SECTION 01 2413

SECTION 01 2613
REQUESTS FOR INTERPRETATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Administrative requirements for requests for information / interpretation.

1.02 DEFINITIONS

- A. Request For Information / Interpretation (RFI):
1. A document submitted by the Contractor requesting clarification of a portion of the Contract Documents, hereinafter referred to as RFI.
 2. A properly prepared request for information / interpretation shall include a detailed written statement that indicates the specific Drawings or Specification in need of clarification and the nature of the clarification requested.
 - a. Drawings shall be identified by drawing number and location on the drawing sheet.
 - b. Specifications shall be identified by Section number, page and paragraph.
 - c. Requests for Information: Request made by Contractor concerning items not indicated on drawings or contained in Project Manual that is required to properly perform the work.
 - d. Requests for Interpretation: Request made by Contractor in accordance with Owner's Representative's third party obligations to the contract for construction.
- B. Improper RFI's:
1. RFI's that are not properly prepared.
 2. Improper RFI's will be processed by the Architect at the Architect's standard hourly rate and Architect will charge the Owner, and such costs will be deducted from monies still due the Contractor. The Contractor will be notified by the Architect prior to the processing of improper RFI's.
- C. Frivolous RFI's:
1. RFI's that request information that is clearly shown on the Contract Documents.
 2. Frivolous RFI's may be returned unanswered or may be processed by the Architect at the Architect's standard hourly rate and Architect will charge the Owner, and such costs will be deducted from monies still due the Contractor. The Contractor will be notified by the Architect prior to the processing of frivolous RFI's.

1.03 CONTRACTOR'S REQUESTS FOR INFORMATION

- A. A.
1. RFI's shall be submitted on a form prepared by the Contractor acceptable to the Architect or Document 00 63 13 included in the Project Manual.
 - a. Forms shall be completely filled in, and if prepared by hand, shall be fully legible after photocopying or transmission by facsimile (fax).
 - b. RFI's shall be submitted in numerical order with no breaks in the consecutive numbering.
 - c. Each page of attachments to RFI's shall bear the RFI number and shall be consecutively numbered in chronological order.
 - d. RFI's may be submitted by E-Mail.
 - 1) Submittal by E-Mail is the preferred method of submittal.
 - 2) Address for E-Mail will be distributed by the Architect at the Pre-Construction Conference.
 - 3) An electronic version of Document 00 63 13 will be provided upon request.
- B. When the Contractor is unable to determine from the Contract Documents, the material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item.
1. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the

- meeting is not possible, either because of the urgency of the need, or the complexity of the item, Contractor shall prepare and submit an RFI to the Architect.
2. RFI requesting clarification of an item required of a document known to have been prepared by a consultant to the Architect may be sent directly to the consultant with a copy to the Architect, if this direct communication is approved by the Architect.
- C. Contractor shall endeavor to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy, in the opinion of the Architect, because of the number and frequency of RFI's submitted, the Architect may require the Contractor to abandon the process and submit future requests as either submittals, substitutions or requests for change.
 - D. RFI's shall be originated by the Contractor.
 1. RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Architect.
 2. RFI's from subcontractors or material suppliers sent directly to the Owner's Representative, Architect or the Architect's consultants shall not be accepted and will be returned unanswered.
 - E. Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. RFI's which request information available in the Contract Documents will be deemed either "improper" or "frivolous" as noted above.
 - F. In cases where RFI's are issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items, the Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will be returned unanswered with a requirement that the Contractor submit a complete request.
 - G. RFI's shall not be used for the following purposes:
 1. To request approval of submittals
 2. To request approval of substitutions,
 3. To request changes which are known to entail additional cost or credit. (A Change Order Request form shall be used.)
 4. To request different methods of performing work than those drawn and specified.
 - H. In the event the Contractor believes that a clarification by the Architect results in additional cost or time, Contractor shall not proceed with the work indicated by the RFI until a Change Order (or Construction Change Directive, if applicable to project) is prepared and approved. RFI's shall not automatically justify a cost increase in the work or a change in the project schedule.
 1. Answered RFI's shall not be construed as approval to perform extra work.
 2. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.
 - I. Contractor shall prepare and maintain a log of RFI'S, and at any time requested by the Architect, Contractor shall furnish copies of the log showing outstanding RFI'S. Contractor shall note unanswered RFI's in the log.
 - J. Contractor shall allow up to 5 working days review and response time for RFI'S, unless review is required of multiple consultants, then the review and response period shall be 7 working days.
 1. The Architect will endeavor to respond in a timely fashion to RFI's.
 2. RFI shall state requested date/time for response, however, this requested date/time for response is not a guarantee that the RFI will be answered by that date/time if that date/time is too expeditious

1.04 ARCHITECT'S RESPONSE TO RFI'S

- A. Architect will respond to RFI's on one of the following forms:
 1. Properly prepared RFI's:
 - a. Response directly upon Request for Information / Interpretation form.
 - b. Architect's Supplemental Instruction.
 - c. Request for Proposal.
 - d. Improper or Frivolous RFI's
 - 1) Notification of Processing Fee(s).

- 2) Unanswered RFI's will be returned with a stamp or notation: Not Reviewed..
 - e. Answers to properly prepared RFI's may or may not be made directly upon the RFI form as deemed appropriate by the Architect.
- B. Architect may opt to retain RFI's for discussion during regularly scheduled project meetings for inclusion of responses in meeting minutes in lieu of responding on a written form.

PART 2 PRODUCTS

2.01 NOT APPLICABLE.

PART 3 EXECUTION

3.01 NOT APPLICABLE.

END OF SECTION 01 2613

SECTION 01 2900
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Special Conditions of the Contract and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.03 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - 2. Submit draft of AIA Document G703 Continuation Sheets.
 - 3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Change Orders (numbers) that affect value.
 - d. Dollar value.
 - e. Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training.
 - 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 - 6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

7. Differentiate between items stored on-site and items stored off-site. If specified as stored off-site, include evidence of insurance and bonded warehousing and an address of location.
8. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
9. Retention: Ten (10) percent retention shall be required on all payments. Retention shall be released following completion of the work, submittals of all close-out materials, required owner training, and submittals of final releases and affidavits.
10. Allowances: Provide a separate line item in the Schedule of Values for each allowance item. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities. Submit for approval to use allowances through Change Order Request form.
11. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
12. Provide a separate line item in the Schedule of Values for "Mobilization" which is to include costs related to development of items required by section 01 00 50 "Administrative Provisions" and other major cost items that are not direct cost of actual work-in-place.
13. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers, less retainage.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits (if applicable).
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work (if applicable).
 11. Initial progress report.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work, less retainage.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final, liquidated damages settlement statement.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 2900

SECTION 01 3000
ADMINISTRATIVE PROVISIONS

PART 1 GENERAL

1.01 1.01 REGULATORY REQUIREMENTS

- A. Construction of this Project shall be in compliance to latest editions of codes listed and such
 - 1. codes or standards as indicated in the specifications or shown on the drawings.
 - a. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
 - b. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
 - c. 29 CFR 1910 - Occupational Safety and Health Standards; current edition; as a work place.
 - d. State of Arizona amendments to some or all of the following.
 - e. City of Glendale amendments to some or all of the following.
 - f. ICC A117.1 - Accessible and Usable Buildings and Facilities; International Code Council; 2009 (ANSI).
 - g. ICC (IFC) - ICC International Fire Code, 2012.
 - h. NFPA 1 - Fire Code; 2015.
 - i. NFPA 101 - Life Safety Code, 2015.
 - j. ICC (IBC) - ICC International Building Code, 2015.
 - k. NFPA 5000 - Building Construction and Safety Code, 2012.
 - l. ICC (IPC) - ICC International Plumbing Code, 2012.
 - m. ICC (IMC) - ICC International Mechanical Code, 2012.
 - n. ICC (IFGC) - ICC International Fuel Gas Code, 2012.
 - o. NFPA 70 - National Electrical Code; Most recent edition adopted by Authority Having Jurisdiction, including all applicable Amendments and Supplements.
 - p. ICC (IECC) - ICC International Energy Conservation Code, 2012.
 - q. Arizonans with Disabilities Act (ARS 41-1492.03) and the Act's implementing rules (28 CFR Part 35, and 28 CFR 36).

1.02 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the Bid date, except when a specific date is specified.
- C. Obtain copies of standards when required by Contract Documents. Maintain copy at job site during progress of the specific work.

1.03 CONSTRUCTION SAFETY PROGRAM AND REGULATIONS

- A. A. Safety inspections will be periodically conducted by Contractor. Violations held to be within guidelines of publications noted above will be properly cared for and corrected by Contractor.
- B. B. Owner and Architect shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, for the acts or omissions of Contractor, Subcontractors or any other person performing any of the Work, or for the failure of any of them to carry out the Work in accordance with the Contract Documents. Contractor shall legally defend and hold Owner and Architect harmless from penalty by any regulatory agency or Court of Law.

1.04 SUPERINTENDENT

- A. A. Contractor shall employ a competent Superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the work. The Superintendent shall be

satisfactory to Owner, and shall not be changed except with consent of Owner, unless Superintendent proves to be unsatisfactory to Contractor and ceases to be in his employ. Superintendent shall represent Contractor and all communications given to Superintendent shall be as binding as if given to Contractor. Important communications will be confirmed in writing. Other communications will be so confirmed on written request in each case.

- B. B. Superintendent, foremen and assistants shall be satisfactory to Owner and Architect.
- C. C. Superintendent shall remain on project throughout the full construction period and shall not be changed or removed unless he does not fulfill his responsibilities to the Contractor and cease to be in his employ.
- D. D. Owner and Architect shall have the right to reject a proposed Project Superintendent if they have had previous negative experience with that individual on previous work.
- E. E. Should a Superintendent prove to be unacceptable for any reason deemed by the Owner or the Architect, he shall be replaced with an acceptable Superintendent upon written notice to the Contractor within one (1) week from the date of notification.

1.05 PROJECT MEETINGS

- A. A. Architect shall schedule and administer Project meetings throughout progress of the Work; preconstruction meeting and progress meetings at intervals deemed necessary.
- B. B. Architect shall make physical arrangements for meetings, preside at meetings, record minutes and distribute copies within two (2) days to Contractor. Contractor shall distribute copies of minutes to participants and those affected by decisions made at the meetings, other than the Owner.

1.06 TEMPORARY FACILITIES

- A. A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations, on an as needed basis.
- B. 1. Store combustible materials apart from building.
- C. B. Provide superintendent with cellular telephone for use when onsite.

1.07 DELAYS AND EXTENSIONS OF TIME

- A. A. If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the District or Architect, or of an employee of either, or of a separate contractor employed by the District; or by changes ordered in the work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractors control; or by delay authorized by the District pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time that the Architect may determine.

1.08 WEATHER DELAYS

- A. The Contractor shall include as a part of the scheduling of the work of this project, weather related delay calendar days, for which additional monies or time extensions cannot be plead beyond the listed Substantial and Final Completion dates as follows: A total of five (5) days.

1.09 CONTRACTOR'S DUTY TO PERFORM DUE DILIGENCE REGARDING EMPLOYEE FITNESS

- A. A. The health, safety and welfare of the Glendale Elementary School District's students, staff and community is the District's most important concern. Any contractor responding to an IFB, RFQ or providing services to the District must be aware of the primacy of this concern and agree that this will be the contractor's primary concern in providing any such services. Because these services will be performed in an educational setting, there are certain minimal standards of behavior, conduct and limitations based on the past history that must be enforced. It shall be the responsibility of the contractor to insure that all workers, subcontractors and their workers, and materialmen and their workers, are reviewed to insure that all such workers are screened for a history of crimes of violence, crimes against children, sex related crimes and crimes related to drugs and alcohol. These types of individuals must not be permitted to come onto the District campus. Contractors shall be required under this procurement and contract to engage

in due diligence in reviewing the background of all such persons and employees to insure that such employees are not employed in this project nor that they come onto campus. Contractor agrees to indemnify the District for any damages of whatsoever nature, including but not limited to, attorney's fees and costs from contractor's failure to perform due diligence as noted above and/or allowing such employees to provide services to the District. Contractor shall further inform and train their staff and require subcontractors and materialmen to likewise inform and train their staff on proper conduct in an educational setting and insure that the rules for such conduct are enforced.

1.10 IMMIGRATION LAWS AND REGULATIONS

- A. A. The Contractor and its Subcontractors shall also maintain employment eligibility verification forms (I-9) as required by the U.S. Department of Labor's Immigration and Control Act, for all employees performing work under this contract. I-9 Forms are available for download at USCIS.GOV.
- B. B. Contractor also warrants and certifies by execution of this contract that Contractor and all Subcontractors have or shall, prior to construction, comply and maintain compliance with FINA and ARS § 41-4401 and 23-214 which require compliance with federal immigration laws by State employers, State contractors and State subcontractors in accordance with the E-Verify Employee Eligibility Verification program.

1.11 TERRORISM COUNTY DIVESTMENTS

- A. A. Per ARS § 35-391, the District is prohibited from purchasing from a company that is in violation of the Export Administration Act.

1.12 SCRUTINIZED BUSINESS OPERATIONS

- A. A. In accordance with ARS § 35-397 the Contractor by entering into a contract certifies that the Contractor does not have scrutinized business operations in Iran or Sudan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 3000

SECTION 01 3050

DESIGN PROCEDURES AND SUBSTANTIATION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for design of the facility, based on the design criteria specified.
- B. Substantiation requirements.

1.02 RELATED REQUIREMENTS

- A. Section 00 7100 - Contracting Definitions: Definitions of time periods and phase names.

1.03 DEFINITIONS

- A. Substantiation: All forms of evidence that are used to predict whether the design will comply with the requirements or to verify that the construction based on the design actually does comply. During Preliminary Design, Design Development, and Construction Documents, requirements to submit substantiation are primarily intended to forestall use of designs or constructions that will not comply. At any time before completion of construction, substantiation is presumed to be only a prediction and may subsequently be invalidated by actual results. The term substantiation is used to distinguish these forms of evidence from traditional submittals commonly required during the construction phase.
- B. Proven-In-Use: Proven to comply by having actually been built to the same or very similar design with the same materials as proposed and functioning as specified.
- C. Proven-by-Mock-Up: Compliance reasonably predictable by having been tested in full-scale mock-up using the same materials and design as proposed and functioning as specified. Testing need not have been accomplished specifically for this project; when published listings of independent agencies include details of testing and results, citation of test by listing number is sufficient (submittal of all test details is not required).

1.04 REFERENCE STANDARDS

- A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; 2014a.

1.05 SUBMITTALS

- A. Substantiation Submittal Procedures:
 - 1. Time Frames: As specified. If there is a conflict between the degree of detail or completion specified and the progress of the design or construction, obtain a clarification before submitting.
 - 2. Recipient: Owner's project manager, at _____.
 - 3. Number of Copies: 2 copies for Owner's use and records; Owner will return not more than one additional copy.
 - 4. For time periods that constitute Milestones, all substantiation submittals required during that period must be complete and accepted before the Milestone can be considered achieved.
 - 5. Resubmissions: Clearly identified as such, with all changes made since the original submittal clearly marked.

1.06 QUALITY ASSURANCE

- A. Qualifications of Testing/Inspection Agencies Performing Substantiation:
 - 1. Qualified and equipped to perform applicable tests/inspection.
 - 2. Regularly engaged in testing and inspection activities on a commercial basis.
 - 3. Authorized to operate in the State in which the project is located.
 - 4. Substantiation: Submittal of qualifications, based on ASTM E329.

PART 2 PRODUCTS

2.01 DESIGN-BUILDER FURNISHED PRODUCTS

- A. In addition to requirements specified in other sections, provide products and elements that comply with the following.
- B. Elements Made Up of More Than One Product:
 - 1. Where an element is specified by performance criteria, use construction either proven-in-use or proven-by-mock-up, unless otherwise indicated.
 - a. The Design-Builder may choose whether to use elements proven-in-use or proven-by-mock-up, unless either option is indicated as specifically required.
 - b. Where test methods accompany performance requirements, use those test methods to test the mock-up.
 - 2. Where a type of product is specified, without performance criteria specifically applicable to the element, use the type of product specified.
 - 3. Where more than one type of product is specified, without performance criteria specifically applicable to the element, use one of the types of products specified.
 - 4. Where a type of product is specified, with applicable performance criteria, use either the type of product specified or another type of product that meets the performance criteria as proven-in-use or proven-by-mock-up.
 - 5. Where more than one type of product is specified, with applicable performance criteria, use either one of the types of products specified or another type of product that meets the performance criteria as proven-in-use or proven-by-mock-up.
 - 6. Where neither types of products nor performance criteria are specified, use products that will perform well within the specified life span of the building.
- C. Products:
 - 1. Where a product is specified only by a manufacturer name and model number/brand name, use only that model/brand product.
 - 2. Where the properties of a product are specified by description and/or with performance criteria, use products that comply with the description and/or performance criteria.
 - 3. Where manufacturers are listed for a particular product, use a product made by one of those manufacturers that also complies with other requirements.
- D. Reference Standards: Where products or workmanship is specified by reference to a document not included in the Contract Documents, comply with the requirements of the document, except where more stringent requirements are specified.
 - 1. Date of Issue: As indicated in each instance except where a specific date is established by code.

PART 3 EXECUTION

3.01 DESIGN

- A. During Preliminary Design, the design criteria and the design itself must be refined, finalized, and documented.
- B. Owner will appoint representatives of the following departments to provide details of functional needs:
 - 1. User groups.
 - 2. Operations staff.
 - 3. Maintenance staff.
- C. Design Documentation: Record all design and performance criteria that will be of use during occupancy and operation of the project, including all items specified for maintenance manuals, below.
 - 1. Design Criteria Documentation Included in Construction Documents: Organized logically (from the point of view of operations staff) and placed in a prominent location in drawing sets.

2. If desired, documentation may consist of annotated modifications to and amplification of the Conceptual Documents, with changes that affect Contract Times or Contract Price documented as required for modifications.
3. If required, shop drawings may be used to accomplish design documentation.
4. Owner will maintain the project program document, modified to reflect changes made during refinement of the design.
5. Drawings: Prepared using AutoCAD R14, using Owner's specified drawing and layering conventions.
6. Shop Drawings: Prepared using same CAD software.
7. Mock-Ups: Where necessary to clarify design intent and obtain approvals, construct full-scale mock-ups.

3.02 PERFORMANCE OF SUBSTANTIATION

- A. In addition to the requirements stated in other sections, provide the following substantiation of compliance at each stage of the project:
 1. If a substantiation requirement is specified without an indication of when it is to be submitted, submit or execute it before the end of Construction Documents.
- B. Proven-In-Use: Where elements proven-in-use are used to comply with performance requirements:
 1. In the Proposal, identify which elements will be accomplished using proven-in-use elements.
 2. During Design Development, identify proven-in-use elements proposed for use, including building name, location, date of construction, owner contact, and description of design and materials in sufficient detail to enable reproduction in this project.
- C. Proven-By-Mock-Up: Where elements proven-by-mock-up are used to comply with performance requirements:
 1. In the Proposal, identify which elements will be accomplished using proven-by-mock-up elements.
 2. During Design Development, identify proven-by-mock-up elements proposed for use, with test report including date and location of test, name of testing agency, and description of test and mock-up.
 3. Mock-up testing need not have been performed specifically for this project, provided the mock-up is substantially similar in design and construction to the element proposed.
- D. Design Analyses (including Engineering Calculations):
 1. Where a design analysis or calculation is specified without identifying a particular method, perform analysis in accordance with accepted engineering or scientific principles to show compliance with specified requirements, and submit report that includes analysis methods used and the name and qualifications of the designer.
 2. Where engineering design is allowed to be completed after commencement of construction, substantiation may be in the form of shop drawings or other data.
 3. Submit design analyses at the end of Design Development unless otherwise indicated.
 4. Where design analysis is specified to be performed by licensed design professional, use a design professional licensed in the State in which the Project is located.
- E. Substantiation for Products:
 1. Where actual brand name products are not identified by either the Owner or the Design-Builder, identify the products to be used.
 2. In the Proposal:
 - a. Identify one or more product types for each system, assembly, or element.
 - b. For each product type, provide brief descriptive or performance specifications.
 - c. For major manufactured products that are commonly purchased by brand name, and any other products so indicated, identify at least one manufacturer that will be used.
 3. During Preliminary Design or Design Development:
 - a. Where more than one product type is identified for a particular system, assembly, or element, identify exactly which type will be used.

- b. For each product type, provide descriptive or performance specifications; early submittals may be brief specifications, but complete specifications are required prior to completion of construction documents.
 - c. For each product type, identify at least one manufacturer that will be used.
 - d. For major manufactured products that are commonly purchased by brand name, and any other products so indicated, provide manufacturer's product literature on at least one actual brand name product that meets the specifications, including performance data and sample warranty.
4. During Construction:
- a. Identify actual brand name products used for every product, except commodity products specified by performance or description.
 - b. Where a product is specified by performance requirements with test methods, and if so specified, provide test reports showing compliance.
 - c. Provide manufacturer's product literature for each brand name product.
 - d. Provide the manufacturer's certification that the product used on the project complies with the contract documents.
5. Before End of Closeout:
- a. Provide copies of all manufacturer warranties that extend for more than one year after completion.
- F. Regardless of whether substantiation is specified or not, the actual construction must comply with the specified requirements and may, at the Owner's discretion, be examined, inspected, or tested to determine compliance.
- 1. Substantiation submittals will not be approved or accepted, except to the extent that they are part of documents required to be approved or accepted in order to proceed to the next stage of design or construction. However, approval or acceptance of substantiation will not constitute approval or acceptance of deviations from the specified requirements unless those deviations are specifically identified as such on the submittal.
 - 2. The Owner accepts the responsibility to review substantiation submittals in a timely manner and to respond if they are unacceptable.

3.03 FIELD TESTING AND INSPECTION AS SUBSTANTIATION

- A. Perform all testing, observation, and inspection required by code and as specified.
- B. Reports: Written report of each test/inspection; including complete details of conditions, methods, and results, signed by responsible individual.

END OF SECTION 01 3050

SECTION 01 3300
SUBMITTALS

PART 1 GENERAL

1.01 1.01 REQUIREMENTS INCLUDED

- A. Procedures
- B. Insurance Certificates
- C. Construction Progress Schedules
- D. Schedule of Values
- E. Shop Drawings
- F. Product Data
- G. Samples
- H. Manufacturers' Certificates

1.02 RELATED REQUIREMENTS

- A. Uniform Terms and Conditions
- B. Special Terms and Conditions
- C. Section 01 30 00 – Administrative Provisions
- D. Section 01 20 80 – Change Order Procedures
- E. Section 01 77 00 – Project Closeout

1.03 PROCEDURES

- A. Deliver submittals to Architect/Engineer at address listed on cover of Project Manual.
- B. Contractor shall submit within seven (7) calendar days of notice to proceed, a schedule of all proposed submittals that are required by the contract documents.
- C. Contractor shall provide in addition to the number of copies required by these provisions, an additional copy of all shop drawings and miscellaneous submittals direct to the Owner for their review and files.
- D. Transmit each item under Architect/Engineer-accepted form. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Architect/Engineer review stamps.
- E. Within seven (7) working days of the award of the contract, Contractor shall submit in triplicate a comprehensive construction schedule and a material delivery schedule that shall include identification of all materials critical to scheduling of the project or for which long lead time in procurement is anticipated, and project dates for submittal, order and delivery of such material. After review by Architect and Owner, revise and resubmit as required. Contractor shall submit revised schedules with each Application for Payment, reflecting changes since the previous submittal.
- F. The Contractor shall submit and provide to the Architect and Owner, proof of ordering of long lead time materials, via copies of purchase orders or invoices.
- G. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- H. After Architect/Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- I. Distribute copies of revised submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- J. No fabrication or installation shall occur prior to review of all shop drawings, product data or samples.

- K. Furnish for approval to the Architect in time so as to cause no delay in the work all shop drawings, product data and samples as specified and/or required by the Architect. Architect will check and review shop drawings, product data, and samples with reasonable promptness.
- L. Review of shop drawings, product data and samples by the Architect is only for conformance with the design concept of project and compliance with the information given in the Contract Documents and does not relieve the Contractor of responsibility for any deviation from the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the jobsite; for information that pertains solely to the fabrication processes or to techniques of construction; for coordination of the work of all trades; as per General and Supplementary Conditions.
- M. Architect shall not be responsible for quantities, etc., listed on shop drawings, product data and samples, but shall be checked for general conformance to intended design.
- N. The General Contractor shall be responsible for the accuracy of shop drawings, product data and samples, and shall fully check said documents as to accuracy, quantity, dimension, etc., prior to submission to the Architect for his review and the General Contractor shall so stamp all documents with his approval stamp.
- O. Shop drawings, product data and samples shall be submitted for all equipment within twenty-one (21) days after "Notice to Proceed".
- P. Shop drawings, product data and samples will be returned to the Contractor for his checking if the above requirements have not been complied with.

1.04 1.04 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit network analysis system using the critical path method or bar graph, generally as outlined in the Supplemental Conditions.
- B. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each progress Application for Payment.
- C. Show submittal dates required for shop drawings, product data, and samples, and product delivery dates, including those furnished by Owner.

1.05 1.05 SCHEDULE OF VALUES AND SCHEDULE OF ANTICIPATED DRAWS

- A. Submit typed schedule on AIA G702 and G703.
- B. Format: Conform to the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification sections.
- C. Include Contractor's overhead and profit as a separate item. Do not include overhead and profit within each specification section. Contractor shall reflect actual subcontract costs for each line item.
- D. Provide a subschedule for each separate stage of Work specified.
- E. Revise schedule to list change orders, for each application for payment.
- F. Provide with the Schedule of Values a Schedule of Anticipated Monthly Draws that will indicate the approximate anticipated and projected request for payment on a monthly basis over the life of the project for the School District's use in assuring that monies will be available for payment at each pay request.

1.06 1.06 SHOP DRAWINGS

- A. A reproducible photocopy and two (2) prints of each shop print drawing shall be submitted to Architect.
- B. Architect will check drawings and stamp the reproducible copy indicating status of review and will transmit reproducible copy to Contractor. All notes and corrections will be on the copy.
- C. Contractor shall be responsible for the printing and distribution of the copies to the various trades requiring prints.

- D. Should the review of the drawing be marked unacceptable, the drawing is to be corrected by subcontractor or supplier involved and returned to Architect and reprocessed as per above procedure.
- E. See paragraph 1.03.C for submittals to Owner.

1.07 PRODUCT DATA

- A. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work. Include manufacturers' installation instructions when required by the specification section.
- B. Submit the number of copies which Contractor requires, plus two (2) copies which will be retained by Architect/Engineer.

1.08 SAMPLES

- A. Submit full range of manufacturers' standard colors, textures, and patterns in two (2) sets for Architect/Engineer's selection. Submit samples for selection of finishes within twenty-one (21) days after date of Contract.
- B. Submit samples to illustrate functional characteristics of the Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.
- C. Include identification on each sample, giving full information.
- D. Submit the number specified in respective specification section; one will be retained by Architect/Engineer. Reviewed samples which may be used in the Work are indicated in the specification section.

1.09 MANUFACTURERS' CERTIFICATES

- A. Submit certificates, in duplicate, in accordance with requirements of each specification section.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. When required in individual specification section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing in quantities specified for product data.

1.11 FIELD SAMPLES

- A. Provide field samples of finishes at project as required by individual specification sections. Install sample complete and finished. Acceptable samples in place may not be retained in completed work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 3300

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Submittals.
- C. References and standards.
- D. Mock-ups.
- E. Control of installation.
- F. Tolerances.
- G. Testing and inspection agencies and services.
- H. Control of installation.
- I. Mock-ups.
- J. Tolerances.
- K. Manufacturers' field services.
- L. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Uniform Terms and Conditions of the Contract; Regarding Owners right to independent inspection and testing.
- B. Section 01 2100 - Allowances: Allowance for payment of testing services.
- C. Section 01 3000 - Administrative Requirements: Submittal procedures.
- D. Section 01 4216 - Definitions.
- E. Section 01 4219 - Reference Standards.

1.03 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; 2014a.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.
- G. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Testing Agency Qualifications:
 - 1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.
- C. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.
- D. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Conformance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
 2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.
- E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- F. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- G. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
 1. Submit report in duplicate within 30 days of observation to Architect for information.
 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- H. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
 2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.05 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.

- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.06 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Owner will employ services of an independent testing agency to perform certain specified testing; payment for cost of services will be derived from allowance specified in Section 01 2100; see Section 01 2100 and applicable sections for description of services included in allowance.
- B. Owner will employ and pay for services of an independent testing agency to perform other specified testing.
- C. As indicated in individual specification sections, Owner or Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.
- D. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- E. Contractor Employed Agency:
 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, ASTM D3740, and other agencies as required.
 2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
 3. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

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

2.02 MOCK-UPS

- A. Integrated Exterior Mock-ups: construct integrated exterior mock-up as indicated on Drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.
- B. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

- C. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- D. Accepted mock-ups shall be a comparison standard for the remaining Work.

2.03 TOLERANCES

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

2.04 TESTING AND INSPECTION

- A. See individual specification sections for testing and inspection required.
- B. Testing Agency Duties:
 1. Test samples of mixes submitted by Contractor.
 2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 3. Perform specified sampling and testing of products in accordance with specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
 6. Perform additional tests and inspections required by Architect.
 7. Attend preconstruction meetings and progress meetings.
 8. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.
- F. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

2.05 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment and _____ as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

2.06 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.

END OF SECTION 01 4000

SECTION 01 4100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

- A. Regulatory requirements applicable to this project are the following:
- B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice; current edition.
- C. 28 CFR 36 - Nondiscrimination by Public Accommodations and in Commercial Facilities; Final Rule; Department of Justice; current edition.
- D. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- E. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- F. 29 CFR 1910 - Occupational Safety and Health Standards; current edition.
- G. State of Arizona amendments to some or all of the following.
- H. City of Phoenix amendments to some or all of the following.
- I. Zoning Code: Exempt.
- J. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- K. ICC (IFC) - International Fire Code; 2012.
- L. NFPA 1 - Fire Code; 2015.
- M. NFPA 101 - Life Safety Code; 2015.
- N. ICC (IBC) - International Building Code; 2015.
- O. NFPA 5000 - Building Construction and Safety Code; 2012.
- P. ICC (IPC) - International Plumbing Code; 2015.
- Q. ICC (IMC) - International Mechanical Code; 2012.
- R. ICC (IFGC) - International Fuel Gas Code; 2012.
- S. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- T. ICC (IEC) - ICC International Electrical Code, 2012.
- U. ICC (IECC) - International Energy Conservation Code; 2012.
- V. Arizonans with Disabilities Act (ARS 41-1492.03) and the Act's implementing rules (28 CFR Part 35 and 28 CFR 36).

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 4100

SECTION 01 4216
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. This section supplements the definitions contained in the General Conditions.
- B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 4216

SECTION 01 4219
REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Reference standards full title and edition date.

1.02 RELATED REQUIREMENTS

- A. Document 00 7200 - General Conditions: Reference standards.

1.03 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Date of Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS

- 2.01 AA -- ALUMINUM ASSOCIATION, INC.**
- 2.02 AABC -- ASSOCIATED AIR BALANCE COUNCIL**
- 2.03 AAMA -- AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION**
- 2.04 AASHTO -- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS**
- 2.05 ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL**
- 2.06 ADC -- AIR DIFFUSION COUNCIL**
- 2.07 AFPA -- AMERICAN FOREST AND PAPER ASSOCIATION**
- 2.08 AHRI -- AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE**
- 2.09 AI -- THE ASPHALT INSTITUTE**
- 2.10 AIA -- THE AMERICAN INSTITUTE OF ARCHITECTS**
- 2.11 AISC -- AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.**
- 2.12 AISI -- AMERICAN IRON AND STEEL INSTITUTE**
- 2.13 AITC -- AMERICAN INSTITUTE OF TIMBER CONSTRUCTION**
- 2.14 AMCA -- AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.**
- 2.15 ANSI -- AMERICAN NATIONAL STANDARDS INSTITUTE**
- 2.16 API -- AMERICAN PETROLEUM INSTITUTE**
- 2.17 API -- ALLIANCE FOR THE POLYURETHANES INDUSTRY, AMERICAN PLASTICS COUNCIL**
- 2.18 ARI -- AIR-CONDITIONING AND REFRIGERATION INSTITUTE (SEE AHRI)**
- 2.19 ASHRAE -- AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.**
- 2.20 ASME -- THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS**
- 2.21 ASTM A SERIES -- ASTM INTERNATIONAL**
- 2.22 AWI -- ARCHITECTURAL WOODWORK INSTITUTE**
- 2.23 AWWA -- AMERICAN WOOD-PRESERVERS' ASSOCIATION**
- 2.24 AWS -- AMERICAN WELDING SOCIETY**
- 2.25 AWWA -- AMERICAN WATER WORKS ASSOCIATION**
- 2.26 BHMA -- BUILDERS HARDWARE MANUFACTURERS ASSOCIATION**
- 2.27 BIA -- BRICK INDUSTRY ASSOCIATION**
- 2.28 CDA -- COPPER DEVELOPMENT ASSOCIATION, INC.**
- 2.29 CHPS -- COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS**
- 2.30 CISCA -- CEILINGS & INTERIOR SYSTEMS CONSTRUCTION ASSOCIATION**
- 2.31 CLFMI -- CHAIN LINK FENCE MANUFACTURERS INSTITUTE**
- 2.32 CRI -- CARPET AND RUG INSTITUTE**
- 2.33 CRSI -- CONCRETE REINFORCING STEEL INSTITUTE**
- 2.34 CTI -- CERAMIC TILE INSTITUTE**
- 2.35 CTI -- COOLING TECHNOLOGY INSTITUTE**
- 2.36 DASMA -- DOOR & ACCESS SYSTEMS MANUFACTURERS' ASSOCIATION, INTERNATIONAL**
- 2.37 DHI -- DOOR AND HARDWARE INSTITUTE**
- 2.38 EIMA -- EXTERIOR INSULATION MANUFACTURERS ASSOCIATION**

- 2.39 EJMA -- EXPANSION JOINT MANUFACTURERS ASSOCIATION
- 2.40 GA -- GYPSUM ASSOCIATION
- 2.41 GANA -- GLASS ASSOCIATION OF NORTH AMERICA
- 2.42 ICC-ES -- ICC EVALUATION SERVICE, INC.
- 2.43 IEC -- INTERNATIONAL ELECTROTECHNICAL COMMISSION
- 2.44 IEEE -- INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
- 2.45 IES/IESNA -- ILLUMINATING ENGINEERING SOCIETY
- 2.46 IMIAWC -- INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL
- 2.47 ISDI -- INSULATED STEEL DOOR INSTITUTE
- 2.48 ISSFA - INTERNATIONAL SOLID SURFACE FABRICATORS ASSOCIATION
- 2.49 ISO -- INTERNATIONAL STANDARDS ORGANIZATION
- 2.50 MBMA -- METAL BUILDING MANUFACTURERS ASSOCIATION
- 2.51 MFMA -- METAL FRAMING MANUFACTURERS ASSOCIATION
- 2.52 MPI -- MASTER PAINTERS INSTITUTE (MASTER PAINTERS AND DECORATORS ASSOCIATION)
- 2.53 NADCA -- NATIONAL AIR DUCT CLEANING ASSOCIATION
- 2.54 NAPHCC -- NATIONAL ASSOCIATION OF PLUMBING HEATING COOLING CONTRACTORS
- 2.55 NCAA -- NATIONAL COLLEGIATE ATHLETIC ASSOCIATION:
- 2.56 NCMA -- NATIONAL CONCRETE MASONRY ASSOCIATION
- 2.57 NCRP -- NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS
- 2.58 NEBB -- NATIONAL ENVIRONMENTAL BALANCING BUREAU
- 2.59 NECA -- NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
- 2.60 NEII -- NATIONAL ELEVATOR INDUSTRY, INC.
- 2.61 NEMA -- NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- 2.62 NETA -- INTERNATIONAL ELECTRICAL TESTING ASSOCIATION
- 2.63 NFHS -- NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS:
- 2.64 NFPA -- NATIONAL FIRE PROTECTION ASSOCIATION
- 2.65 NFRC -- NATIONAL FENESTRATION RATING COUNCIL, INC.
- 2.66 NFSMI -- NATIONAL FOOD SERVICE MANAGEMENT INSTITUTE:
- 2.67 NHLA -- NATIONAL HARDWOOD LUMBER ASSOCIATION
- 2.68 NPA -- NATIONAL PARTICLEBOARD ASSOCIATION
- 2.69 NPCA -- NATIONAL PAINT AND COATINGS ASSOCIATION
- 2.70 NRCA -- NATIONAL ROOFING CONTRACTORS ASSOCIATION
- 2.71 NSF -- NSF INTERNATIONAL (THE PUBLIC HEALTH AND SAFETY ORGANIZATION)
- 2.72 NWFA -- NATIONAL WOOD FLOORING ASSOCIATION
- 2.73 PCA -- PORTLAND CEMENT ASSOCIATION
- 2.74 PCI -- PRECAST/PRESTRESSED CONCRETE INSTITUTE
- 2.75 PDCA -- PAINTING AND DECORATING CONTRACTORS OF AMERICA
- 2.76 PDI -- PLUMBING AND DRAINAGE INSTITUTE
- 2.77 PEI -- PORCELAIN ENAMEL INSTITUTE
- 2.78 PPI -- PLASTICS PIPE INSTITUTE

- 2.79 PTI -- POST-TENSIONING INSTITUTE
- 2.80 SCAQMD -- SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
- 2.81 SCS - SCIENTIFIC CERTIFICATION SYSTEMS
- 2.82 SDI -- STEEL DECK INSTITUTE
- 2.83 SDI -- STEEL DOOR INSTITUTE
- 2.84 SJI -- STEEL JOIST INSTITUTE
- 2.85 SMA -- STUCCO MANUFACTURERS ASSOCIATION, INC.
- 2.86 SMACNA -- SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.
- 2.87 SRI -- STEEL RECYCLING INSTITUTE
- 2.88 SSPC -- SOCIETY FOR PROTECTIVE COATINGS
- 2.89 STI -- STEEL TANK INSTITUTE
- 2.90 SWI -- STEEL WINDOW INSTITUTE
- 2.91 SWRI -- SEALANT, WATERPROOFING AND RESTORATION INSTITUTE
- 2.92 TCNA -- TILE COUNCIL OF NORTH AMERICA, INC.
- 2.93 TPI -- TRUSS PLATE INSTITUTE
- 2.94 UL -- UNDERWRITERS LABORATORIES INC.
- 2.95 USGBC -- U. S. GREEN BUILDING COUNCIL
- 2.96 WDMA -- WINDOW AND DOOR MANUFACTURERS ASSOCIATION (FORMERLY NWWDA)
- 2.97 WI -- WOODWORK INSTITUTE

PART 3 UNITED STATES GOVERNMENT AND RELATED AGENCIES DOCUMENTS

- 3.01 CFR -- CODE OF FEDERAL REGULATIONS

END OF SECTION 01 4219

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, enclosures, and fencing.
- E. Security requirements.
- F. Vehicular access and parking.
- G. Waste removal facilities and services.
- H. Project identification sign.
- I. Field offices.

1.02 RELATED REQUIREMENTS

- A. Section 01 5100 - Temporary Utilities.

1.03 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

1.04 TEMPORARY UTILITIES - SEE SECTION 01 5100

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

1.05 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:

1.06 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.07 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.08 FENCING

- A. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.09 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.10 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.11 VEHICULAR ACCESS AND PARKING

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.12 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 PROJECT IDENTIFICATION

- A. Provide project identification sign of design, construction, and location approved by Owner.
- B. No other signs are allowed without Owner permission except those required by law.

1.14 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 5000

SECTION 01 5050
MINIMAL SAFETY GUIDELINES

PART 1 GENERAL

1.01 SITE SAFETY GUIDELINES

- A. Regulations:
 - 1. All work shall be performed in compliance with all applicable Federal, State and local laws, statutes, rules and regulations, including OSHA and EPA standards. Prime contractors and subcontractors shall provide safety representatives on site who shall be responsible for ensuring implementation of all procedures within the Safety Guidelines.
- B. Personal Protective Equipment:
 - 1. The contractor shall furnish and require employees to utilize appropriate personal protective equipment for the tasks performed. All employees shall be required to wear hard hats when in the construction area. All employees shall be required to wear safety glasses at all times when in the construction area. (Exception: Hard hats and safety glasses are not required when in office environments, unless indoor hazards dictate their use.) Hearing protection is required where posted in addition to when noisy equipment is being used. Respiratory protection is required when dictated by environmental conditions or the work being performed. The contractor shall ensure that employees required to wear respirators have been appropriately trained, tested and are qualified for respirators use.
- C. Fall Protection:
 - 1. 100% fall protection. Guardrail or personal fall arrest system is required at elevations above six feet. A Fall Protection safe work plan shall be developed and implemented for all elevated work. A full body harness and shock-absorbing lanyard are required for personal fall arrest systems. Anchorage points for personal fall arrest systems must be independent and must be capable of supporting at least 5000 pounds per employee attached.
- D. Speed Limit:
 - 1. The contractor's personnel shall observe any posted speed limits that may be modified (lowered) from time to time as driving conditions change.
- E. First Aid:
 - 1. The contractor shall maintain proper first aid readiness on the job site for employees and shall know the location of the nearest emergency medical facility.
- F. Housekeeping:
 - 1. The contractor shall maintain all staging and work areas in a clean, well organized manner at all times. All debris is to be contained to prevent wind and storm conditions from dispersing the debris.
- G. Sanitation:
 - 1. The contractor shall maintain proper sanitation at the site for employees including drinking water and restroom facilities. A separate job site agreement may be made to identify and isolate a school restroom for contractor employee use during a project.
- H. Wind Storms:
 - 1. Work subject to damage from wind and storm conditions shall be secured or otherwise protected to reduce the probability of damage from these elements.
- I. Mobile Equipment:
 - 1. The contractor's personnel shall not be permitted to ride on any type of equipment unless proper cages, seats, belts or other personnel securing devices are provided and used. Also, vehicles and mobile equipment with partially obstructed rear views shall be equipped with backup alarms.
- J. Compressed Gas Cylinders:

1. Cylinders shall be stored in a secure upright position. Oxygen and fuel shall be separated by 20 feet or a barrier with 1/2 hour fire resistance which is 5 feet high. Valve protection caps shall be installed on cylinder without regulators.
- K. Excavations:
1. Digging should be done with the supervision of a competent person. A stairway ladder, ramp or other means of safe egress shall be provided in excavations which are 4 feet or deeper. There shall be no more than 25 feet of lateral travel to egress. All excavations must be inspected daily, prior to the start of work, by a competent person. Contractor shall provide safety barriers as required.
- L. Compressed Air:
1. Compressed air shall not be used to blow dirt, dust, etc., from clothing or skin. Compressed air used for cleaning materials (metallic shavings, etc.) shall be regulated to a maximum of 30 psi.
- M. Public and Student Safety:
1. The contractor shall use every available means to ensure the safety of the general public, students, school personnel, and contractor personnel at all staging and work locations.
- N. Electrical Work:
1. Ground fault circuit interrupters are required for electrical tools and cord connections. Cords and tools shall not be laid in wet locations or walkways. Pre-job inspection is required for all electric tools and cords. Defective equipment shall be removed from the work area and either repaired or disposed of. Only non-metallic ladders shall be used for electrical work.
- O. Blue Stake Arizona:
1. The contractor is responsible for ascertaining the location of all underground installations that exist in the defined work area prior to beginning the job. The contractor shall take the necessary safeguards to ensure the integrity of these systems and protection of personnel from these systems where appropriate. Shall include propane delivery systems, water, sewer, electric, communications systems, etc.
- P. Power Lines:
1. The contractor shall be aware of overhead electrically energized conductors and shall ensure that personnel maintain the required separation of materials, equipment and personnel from the conductors.
- Q. Work Clearance:
1. All work performed on district equipment that requires a work clearance (complete mechanical and/or electrical isolation) shall comply with applicable procedures for that purpose. The contractor will obtain all work clearances.
- R. Temporary Material Storage:
1. Material yards or set up yards shall not be located near or under power lines. Special attention shall be given to crane safety and the OSHA regulations requiring specific minimum clearances from electrically energized conductors. A signalman shall be used when required.
- S. LOTO:
1. All work performed that requires the control of hazardous energy (a.k.a. Lock Out Tag Out) to achieve zero mechanical state, shall be communicated and coordinated with district and school maintenance personnel. This applies specifically to the use of multiple hasp locks and tags where controls are applied and where they are removed from electrical panels, piping, machines or equipment.
- T. Existing Equipment:
1. All electrical and mechanical switching on school equipment shall be done in accordance with applicable industry procedures.
- U. Barrier Tape and Flagging:

1. The contractor shall ensure that all personnel are familiar with and comply with barrier tapes. Red barrier tape with "Danger" tags attached shall indicate a dangerous condition within the taped area and that entrance into the taped area is prohibited without authorization of the individual whose name appears on the tag. Yellow or yellow and black barrier tape with "Caution" tags attached indicates that caution is necessary within the taped area. Entrance is permitted as long as personnel take the necessary precautions to protect themselves from the hazardous condition(s). The lack of attached "Danger" or "Caution" tags does not change the meaning of the colored barrier tape.
- V. Scaffolding:
1. Scaffolding shall be erected, dismantled or modified only under the supervision of a competent person. Proper access must be provided to all scaffolds. A guardrail system is required on all scaffolds/work platforms more than 6 feet high. Toe boards are required on scaffolds/work platforms more than 10 feet high. No one may ride on a manually propelled scaffold unless it has a standard railing system and is moved from the flooring surface. Wheels must be locked on all rolling scaffolds when not being moved.
- W. Hazard Communication:
1. The contractor shall maintain a listing of all chemical products and a copy of each product's Material Safety Data Sheet (MSDS) for chemicals on the construction site.
- X. Chemical Waste:
1. All solvents and other chemical-cleaning agents, when used, shall be collected, contained and properly labeled as specified by industry practice. Under no circumstances are waste solvents and/or other chemicals to be dumped on the ground, down drainage systems or placed in regular trash receptacles. The contractor will be responsible for the disposal of any hazardous waste, and shall comply with all regulations pertaining to the disposal of such.
- Y. Hazard Comm. Training:
1. Contractors and subcontractors must have a hazards communication program to inform personnel of the hazards associated with the chemicals they work with. To assure that all on-site personnel are trained in the recognition and avoidance of hazards, training must also be provided in the personal protective equipment to be used in association with the use of these chemicals.
- Z. Special Hazards:
1. Asbestos, chemicals and other toxic substances (i.e., PCB's, sulfuric acid, sodium hydroxide, chlorine, etc.) may be found on district properties. The contractor's personnel shall be familiar with the applicable safety and environmental rules governing these substances prior to their disturbance.
- AA. Solid Waste:
1. Empty drums, bags or other chemical containers to be disposed of shall be emptied as much as possible by pumping and/or pouring and shall be labeled and located safely. The contractor shall be responsible for the proper disposal of such containers, bags, drums, etc.
- AB. Spill Reporting:
1. The contractor shall immediately report any accidental spillage of hazardous substances, solvents or cleaning agents to the architect. The spillage shall be contained and removed by the contractor as indicated by the appropriate state agency representative.
- AC. Housekeeping:
1. The contractor's interest in occupational and environmental safety can often be predicted by the degree in which housekeeping is performed at staging and work areas. Owner will not tolerate poor housekeeping practices. The contractor shall ensure that all debris is removed prior to it interfering with the safety of employees and/or the general public, and at least daily. In addition, hoses, welding leads, power cords, etc., shall not be strung across established walkways, but shall be suspended above or below the walkway to avoid tripping hazards.

AD. Cranes and Rigging:

1. Verify that crane inspection and servicing is current for all construction cranes. Identify at least one person per shift to serve as the "competent person" for crane inspections and general safety issues. Document all crane inspections and servicing performed internally or by a vendor, as well as any crane training conducted. Provide swing radius protection when necessary. Only qualified persons may signal cranes.

AE. Manufactured Ladders:

1. Ladders with broken or missing rungs, broken or split side rails or otherwise damaged, shall not be used.
2. All portable ladders shall be equipped with non-skid safety feet and shall be placed on a stable base. The access areas at the top and bottom of ladders in use shall be kept clear.
3. The side rails shall extend 36 inches above the landing. When this is not practical, grab rails shall be installed. All ladders in use shall be tied, blocked or otherwise secured to prevent accidental displacement.

AF. Job Made Ladders:

1. Job made ladders shall be fabricated in compliance with all applicable OSHA regulations, current edition.
2. The general rules applying to the use of manufactured ladders also apply to the use of job made ladders.
3. NOTE: The contractor shall provide additional runways and ladders as he may require for the execution of the work. All such apparatus, equipment and construction shall meet all requirements for safety and all provisions of laws and ordinances applicable thereto. Permanent stairs shall be erected as soon as possible, and the contractor shall provide same with temporary protective treads, handrails and shaft protection.
4. Ladder Training shall be in accordance with all applicable OSHA regulations, current edition.
5. Specific district and site regulations may dictate the identification of additional items.

1.02 FIRE SAFETY GUIDELINES

- A. The contractor shall recognize and minimize all potential fire hazards, become familiar with on-site fire protection systems and enforce applicable fire regulations. The contractor shall maintain an appropriate number of the proper size and type fire extinguishers in the immediate work area.
- B. Materials and/or equipment stored in cardboard cartons, wood crates or other combustible containers shall be stored in an orderly manner and accessibly located.
- C. Remove flammable or combustible materials from the immediate area or cover with suitable non-combustible shield prior to "hot work". Welding, flame cutting or spark producing operations require a fire extinguisher within 25 feet. A designated "Fire Watch" shall be implemented during and for 1/2 hour after any "hot work".
- D. The contractor shall ensure that potentially hazardous areas below work from which debris, parts, tools or cutting/welding slag can fall or splash on personnel are provided with an adequate barrier. The contractor shall ensure that welding operations are shielded or enclosed to protect employees from arc rays and immediately pick up all welding rod stubs. If cutting, welding, etc., are being done in a confined space, appropriate measures will be taken to properly ventilate the area.
- E. Employees shall not be allowed to start fires with gasoline or kerosene or other highly flammable materials. No open fires will be permitted. No tar or other melting kettles will be allowed inside or within 50 feet of any building.
- F. Not more than one day's supply of flammable liquids, such as oil, gasoline, paint or paint solvent, or roofing materials shall be brought into any building at any one time. All flammable liquids having a flash point of 110 degrees F, or below, which must be brought into any building, shall be in Underwriters Laboratories labeled safety cans. Spigots on drums containing

flammable liquids are prohibited on the project site. Drums are to be equipped with approved vented pumps.

- G. Only a reasonable working supply of flammable building materials shall be located on the roof of any building.
- H. All tarpaulins used during the course of construction shall be flameproof, non-asbestos type, secured in place against damage or flapping from the wind.
- I. All oil-soaked rags, papers and other similar combustible material shall be removed from any building at the close of each day's work, or more often if necessary, and placed in metal containers, with self-closing lids.
- J. Gasoline or like flammable materials shall not be poured into sewers, manholes or traps, but shall be disposed of safely and legally.
- K. All heating devices used for temporary heating of facilities under construction shall be of a UL Listed type, shall have proper safeguards and shall be installed at such locations and in such manner to minimize the hazard. Oil-fired stoves and heating units shall have proper combustion controls. Oil-fired heaters shall have integral fuel tanks not to exceed 15 gallons capacity for each unit.
- L. No liquid fuels shall be used for starting solid fuel fires. Wood or other debris shall not be burned in open barrels.
- M. The contractor shall maintain free access to the building areas for fire fighting equipment and shall at no time block off main roadways or fire aisles without providing adequate auxiliary roadways and means of entrance for fire-fighting equipment.

1.03 SECURITY GUIDELINES

- A. Each job site or facility may have specific security regulations. Specifics will be described in the bid specs. These regulations may deal with security perimeter fencing, lunch facilities, signing in and out of the facility at designated gates.
- B. Only persons authorized by the school district and the contractor shall be permitted into the work site.
- C. Each job site or facility may establish work hours for the construction/contractor activities. The contractor shall maintain the work hours as requested and may be asked to stop work to accommodate special scheduled events in the interest of safety and security.
- D. Contractor shall properly store and secure all tools and equipment at the job site including equipment and vehicle ignition locks and locked gang boxes.
- E. The theft or misappropriation of any school property will result in the removal of the responsible party from the project.
- F. The possession or use of alcoholic beverages or illegal drugs is prohibited on job sites or on district property. Any person found to be under the influence or in possession of alcohol or illegal drugs shall be removed from the site.
- G. The possession or use of tobacco products is prohibited in the following locations: school grounds, school buildings, school parking lots, school playing fields, school buses and other district vehicles and off-campus school sponsored events. (Per ARS 36-798.03)
- H. No firearms are permitted on the job site or any district property.
- I. Any act of a criminal nature that occurs at the job site may result in the filing of criminal charges.
- J. All contractors' personal vehicles shall be parked in parking areas designated by the district representative.
- K. To facilitate security during construction, a chain link fence shall be provided around the perimeter of the construction site. Watchmen service should be provided during idle periods commensurate with the exposure at the different stages of construction.

END OF SECTION 01 5050

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations and procedures.
- F. Procedures for Owner-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Special Terms and Conditions of the Contract, Section 3; Item 7 - (for information regarding submittal of substitute materials)
- B. Document 00 4325 - Substitution Request Form
- C. Document 00 2113 - Instructions to Bidders: Product options and substitution procedures prior to bid date.
- D. Section 01 00 50 - Administrative Provisions
- E. Section 01 30 00 - Submittals
- F. Section 01 1000 - Summary: Lists of products to be removed from existing building.
- G. Section 01 4000 - Quality Requirements: Product quality monitoring.
- H. Section 01 77 00 - Project Closeout
- I. Section 01 79 00 - Demonstration and Training

1.03 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Made of wood from newly cut old growth timber.
 - 3. Containing lead, cadmium, asbestos.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period and the documents required. Comply with requirements specified in Section 00 2113.
- B. Submit substitution requests by completing the form in Section 00 4325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- D. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure (after contract award):
 - 1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 - 3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Review Owner reviewed shop drawings, product data, and samples.

2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide off-site storage and protection when site does not permit on-site storage or protection.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Do not store products directly on the ground.
- J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- L. Prevent contact with material that may cause corrosion, discoloration, or staining.
- M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION 01 6000

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Surveying for laying out the work.
- F. Cleaning and protection.
- G. Starting of systems and equipment.
- H. Demonstration and instruction of Owner personnel.
- I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures.
- C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- E. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.
- F. Section 01 7900 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections
- G. Section 01 9113 - General Commissioning Requirements: Contractor's responsibilities in regard to commissioning.
- H. Section 07 8400 - Firestopping.

1.03 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
 - 1. On request, submit documentation verifying accuracy of survey work.
 - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
 - 3. Submit surveys and survey logs for the project record.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.
- D. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.

3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate Contractor.
6. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed work and products to be used.
 - e. Alternatives to cutting and patching.
 - f. Effect on work of Owner or separate Contractor.
 - g. Written permission of affected separate Contractor.
 - h. Date and time work will be executed.

E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

- A. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.
- B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
 1. Minimize amount of bare soil exposed at one time.
 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building at any time of day; excessively noisy includes jackhammers.
 2. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm. on weekends.
 3. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.
- H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

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

3.03 PREINSTALLATION MEETINGS

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

3.04 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Control datum for survey is that established by Owner provided survey.
- E. Control datum for survey is that indicated on Drawings.
- F. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- G. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- H. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- I. Utilize recognized engineering survey practices.
- J. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- K. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- L. Periodically verify layouts by same means.
- M. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as shown.
 - 2. Report discrepancies to Architect before disturbing existing installation.

3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- D. Remove existing work as indicated and as required to accomplish new work.
 1. Remove items indicated on drawings.
 2. Relocate items indicated on drawings.
 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. See Section 01 1000 for other limitations on outages and required notifications.
 - c. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- F. Protect existing work to remain.
 1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
 1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/8" inch (3.5 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

- H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- I. Refinish existing surfaces as indicated:
 - 1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 - 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- J. Clean existing systems and equipment.
- K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- L. Do not begin new construction in alterations areas before demolition is complete.
- M. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.08 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- K. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- L. Site: Maintain Project site free of waste materials and debris.
- M. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

- N. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- O. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- P. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- Q. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- R. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- S. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- T. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.09 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.10 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect and owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

- A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

3.12 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.13 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and landscape areas.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.14 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect for review.
 - 2. Provide copies to Architect and Owner upon approval of draft.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in

accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.15 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION 01 7000

SECTION 01 7329
CUTTING AND PATCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cutting, fitting and patching, including attendant excavation and backfill required to complete Work, and for:
 - 1. Making several parts fit together properly.
 - 2. Uncovering portions of Work to provide for installation of ill-timed Work.
 - 3. Removing and replacing defective and non-conforming Work.
 - 4. Removing samples of installed Work required for testing, as directed by Architect.
 - 5. Providing routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - 6. Attaching new materials to existing remodeling areas.

1.02 SUBMITTALS

- A. In advance of executing any cutting or alterations, submit written request to Architect requesting consent to proceed with cutting which affects:
 - 1. Work of Owner or other trades.
 - 2. Structural value or integrity of any element of Project.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Description of affected Work.
 - 3. Necessity for cutting, alteration or excavation.
 - 4. Effect of Work of Owner or other trades, or structural or weatherproof integrity of Project.
 - 5. Description of proposed Work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades which will execute Work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 - 6. Alternatives to cutting and patching.
 - 7. Cost proposal, when applicable.
 - 8. Written permission of trades whose Work will be affected.
- C. Submit written notice to Architect designating time Work will be uncovered to provide for observation.

1.03 PAYMENT FOR COSTS

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of Architect and Engineer to be paid by Contractor.
- B. Cost of Work done on written instructions of Architect, other than defective or nonconforming Work, will be paid by Owner on approval of written Change Order. Provide written cost proposals prior to proceeding with cutting and patching proposed by Architect.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Provide for replacement of Work removed. Comply with Contract Documents for type of Work standards and Specification requirements for each specific product involved.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Work, including elements subject to movement or damage during cutting and patching, and excavating and backfilling. After uncovering Work, inspect conditions affecting installation of new products and verify procedures with Architect.
- B. Report unsatisfactory or questionable conditions in writing to Architect/Engineer. Do not proceed with Work until further instructions are received.

3.02 PREPARATION

- A. Provide shoring, bracing and supports as required to maintain structural integrity of Work.
- B. Provide devices and methods to protect other portions of Work from damage, including elements which may be exposed by cutting and patching Work. Maintain excavations free from water.

3.03 ERECTION, INSTALLATION AND APPLICATION

- A. Performance:
 - 1. Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - 2. Execute cutting and demolition by methods which prevent damage to other Work to provide proper surfaces to receive installation of repairs and new Work.
 - 3. Execute excavating and backfilling by methods which prevent damage to other Work and settlement as specified in Section 02300.
- B. Employ original installer or fabricator to perform cutting and patching for:
 - 1. Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants and waterproofing.
 - 2. Sight-exposed finished surfaces.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes as shown on Drawings and as specified.
- D. Fit Work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces. Conform to fire code requirements for penetrations and maintain integrity of fire walls and ceilings.
- E. Restore Work which has been cut or removed. Install new products to provide completed Work in accordance with requirements of Contract Documents and as required to match surrounding areas and surfaces.
- F. Refinish entire surfaces as necessary to provide an even, matching finish as follows:
 - 1. Painted Walls or Ceilings: To nearest intersection with another finish or corner.
 - 2. Where Applied Finishes Occur (i.e wallcovering, tile, wood paneling): To nearest intersection of finish without damage to adjacent material. Where match of pattern, grain, texture, or similar finish cannot be made, refinish area to intersection with other finish or corner.
 - 3. Manufactured or Shop Fabricated Materials: Replace entire affected surface or material.

END OF SECTION 01 7329

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions and 00 7300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.

- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.
 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 1. Description of unit or system, and component parts.
 2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests.
 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- O. Include test and balancing reports.
- P. Additional Requirements: As specified in individual product specification sections.

3.05 AS-BUILT DOCUMENTS

- A. Contractor shall provide "As-Built" Documents made from the Course of Construction Record Drawings which shall clearly show all differences between Contract work as drawn and as installed as well as work added to Contract which is not shown on Contract drawings.
- B. "As-Builts" Documents shall incorporate all deviations and differences in both concealed work and exposed work. The "As-Builts" shall reflect the exact manner in which the final project has been constructed including all site work and off-site work.
- C. Electronic Drawings: Upon completion of the Project work, The Architect will furnish the contractor the electronic drawing (CAD Files) of the project. The Contractor must show all of the architect and owner initiated changes. The Contractor is to obtain the services of an architect or computer aided drafter and transfer the information from the Course of Construction Record Drawings to these CAD files.
- D. Contractor shall submit the "As-Built" CAD files to Architect for review and resubmit corrections as requested. The Architect shall be the sole judge of acceptability of these drawings. After the Architect has finally accepted the adequacy of the final CAD files, he will then return them to the contractor. The contractor will have one (1) set of reproducible mylars of the "As-Built" Drawings made from these CAD files, four (4) sets of prints of the "As-Built" Drawings and one (1) set of compact disks of the "As-Built" Drawings which shall be turned over to the owner.
- E. Submit with transmittal letter containing Date, Project Title, Contractor's Name and Address, Sub-contractors' Names and Addresses, List of Documents and Signature of Contractor. Receipt and approval of "As-Built" Documents is a prerequisite for final payment.
- F. AS-BUILT DOCUMENTS
 - 1. Contractor shall provide "As-Built" Documents made from the Course of Construction Record Drawings which shall clearly show all differences between Contract work as drawn and as installed as well as work added to Contract which is not shown on Contract drawings.

2. "As-Builts" Documents shall incorporate all deviations and differences in both concealed work and exposed work. The "As-Builts" shall reflect the exact manner in which the final project has been constructed including all site work and off-site work.
3. Electronic Drawings: Upon completion of the Project work, The Architect will furnish the contractor the electronic drawing (CAD Files) of the project. The Contractor must show all of the architect and owner initiated changes. The Contractor is to obtain the services of an architect or computer aided drafter and transfer the information from the Course of Construction Record Drawings to these CAD files.
4. Contractor shall submit the "As-Built" CAD files to Architect for review and resubmit corrections as requested. The Architect shall be the sole judge of acceptability of these drawings. After the Architect has finally accepted the adequacy of the final CAD files, he will then return them to the contractor. The contractor will have one (1) set of reproducible drawings of the "As-Built" Drawings made from these CAD files, four (4) sets of prints of the "As-Built" Drawings and one (1) set of digital media of the "As-Built" Drawings which shall be turned over to the owner.
5. Submit with transmittal letter containing Date, Project Title, Contractor's Name and Address, Sub-contractors' Names and Addresses, List of Documents and Signature of Contractor. Receipt and approval of "As-Built" Documents is a prerequisite for final payment.

3.06 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Submit (3) copies and (1) digital version, as designated in specific sections. Provide a separate volume for each system, with a table of contents clearly identifying contents.
- B. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- C. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- D. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- E. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- F. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- G. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- H. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- I. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- J. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- K. Arrangement of Contents: Organize each volume in parts as follows:
 1. Project Directory.
 2. Table of Contents, of all volumes, and of this volume.
 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.

4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.07 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.
- F. Manual: Bind in commercial quality 8-1/2 by 11 inch (216 by 279 mm) three D side ring binders with durable plastic covers.
- G. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- H. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- I. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

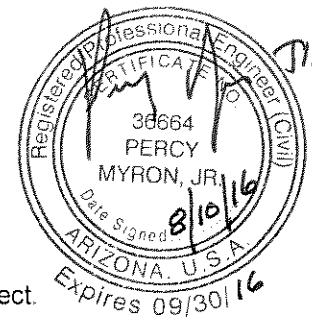
3.08 EXTRA MATERIAL

- A. Contractor to deliver to Owner specified quantities of spare parts, extra material in quantities as specified in each Section, in addition to that used for construction of Work, as a requisite for final payment and shall provide Architect with an Owner-signed receipt for all such materials indicating the date received and actual inventory quantities received.

3.09 CERTIFICATION

- A. Contractor shall provide to Owner, as part of the close out package, a signed certificate or letter stating that no asbestos-containing building materials (ACBMs) have been knowingly installed or provided in any form within this project.
- B. Contractor shall provide to Owner, as part of close out package, a signed certificate or letter stating that no lead bearing building materials have been knowingly installed within domestic drinking water systems and/or products containing lead, have been installed within public contact areas.

END OF SECTION 01 7800



SECTION 02 21 13

CONSTRUCTION STAKING

Construction staking shall be performed by a licensed Surveyor acceptable to the Architect. Staking will be paid from the Construction Staking Allowance in the Contract.

Stakes: A minimum one set of construction grade stakes or "blue-tops" if possible of the following kind and at the stated interval shall be set. Blue-tops shall be set for all finish grading, sidewalk, curbing, concrete valley gutters, paving subgrade and A.B.C. and shall be left in place until checked and certified by the Civil Engineer.

1. Field staking control.
2. Two site benchmarks.
3. Mark out demo/sawcuts.
4. Rough grading cut and fill for onsite: at 50-foot intervals and grade breaks.
5. Concrete sidewalk: line and grade at 25-foot intervals and grade breaks.
6. Storm drain: 25-foot intervals and grade breaks.
7. As-builts finish grade.
8. Storm drain area drains/catch basins: location and elevation.
9. Prepare and submit as-built drawings to Contractor for submittal.
10. Office computer calculation for above staking.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Demolition necessary or required so that the new construction, alterations, remodeling and related work can be performed and completed in accordance with the Contract Documents.

1.02 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Areas for temporary construction and field offices.
 - 2. Areas for temporary and permanent placement of removed materials.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.04 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
 - 1. Minimum of 5 years of documented experience.
- B. Regulatory Requirements
 - 1. Conform to applicable codes for demolition of structures, safety of adjacent structures, dust control, runoff control and disposal.
 - 2. Obtain required permits from authorities.
 - 3. Conform to applicable regulatory procedures if hazardous or contaminated materials are discovered.
 - 4. Test soils around buried tanks for contamination.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Carefully remove salvageable items such as light fixtures, grilles, doors, hardware, plumbing fixtures, and other items which are not specifically indicated for reuse, but which may have salvage value to the Owner.
 - 1. Demolished materials and equipment shall be stockpiled in an area designated by the Owner, in a manner that the Owner may determine those items which have salvage value to the Owner.
 - 2. Those materials which are not salvaged by the Owner shall become the possession of the Contractor and shall be immediately removed from the site.
 - 3. If the following paragraph is to be used, select option.
 - 4. Carefully remove materials (in whole or in part as required) that are scheduled for reuse. Store and protect for reinstallation the materials.
- B. If demolition requires the removal of foundations, Section 31 01 00 must be adhered to.
- C. Fill materials at excavations: As specified in Section 31 01 00.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions and notify the Architect in writing of discrepancies before proceeding with the work.
- B. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

3.02 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
 - 1. Mark location of utilities.
 - 2. Identify, disconnect, remove and cap designated utilities within demolition areas.
- B. Provide, erect, and maintain temporary barriers and security devices where required
- C. Protect existing landscaping materials, appurtenances, and structures which are not to be demolished.
- D. Protect bench marks and existing work from damage or displacement.
- E. Prevent movement or settlement of adjacent structures.
- F. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
- G. The following paragraph is to be included if Project requires limited demolition of building exterior where portions of the existing building are not affected by the demolition.
- H. Protection of existing building exterior:
 - 1. Erect weatherproof closures for exterior openings. Maintain exit requirements.
 - 2. Protect from weather openings cut in existing roof for new work, or where existing roofing is removed to allow new construction to join existing.
 - 3. Install temporary deck of exterior grade plywood and wood skids, or other material approved by Architect, for material and personnel traffic over existing roofing, to protect existing roof and surrounding surfaces from damage. Repair damage caused to the roof and other items.
- I. The following paragraph is to be included if Project requires limited demolition of building interior where portions of the existing building are not affected by the demolition.
- J. Dustproof Partitions:
 - 1. Erect and maintain as required to prevent spread of dust, fumes and smoke to other parts of the building.
 - 2. On completion, remove partitions and repair damage surfaces to match adjacent surfaces.
- K. The following paragraph is to be included if Project requires re-roofing of an existing occupied building.
- L. Roofing Removal: During the removal of the existing parapets and roofing, provide proper protection from falling objects. Maintain interior of building rain and water protection.

3.03 GENERAL DEMOLITION

- A. Carry out demolition work to cause as little inconvenience to any adjacent occupied building or site areas as possible and with minimum interference to public or private accesses. Maintain protected egress and access at all times.
- B. Perform the removal, cutting, drilling, etc., of existing work with extreme care, and using small tools in order not to jeopardize the structural integrity of the building.
- C. Shore existing construction whenever existing supports are removed to allow the installation of new work.
- D. Cease operations immediately if adjacent structures appear to be in danger. Notify authority having jurisdiction and Architect. Do not resume operations until directed by Architect.

- E. Rebuild existing work which must be removed to allow the installation of new work as indicated on the Drawings.
- F. Perform cutting of existing concrete and masonry with saws and core drills. Do not use jack-hammers.
- G. Provide hoses and water connections for sprinkling of debris as necessary to limit dust to lowest practicable level.
- H. Material Disposal:
 1. Remove materials from site and dispose of in a legal manner at no additional expense to Owner.
 2. No materials are to be sold on, or adjacent to, the site. Signs advertising the sale of materials shall not be allowed.
 3. Burning of materials on site is not permitted.
 4. Break concrete and masonry into sections less than 3 feet in any dimension.
 5. Remove from site, contaminated, vermin infested, or dangerous materials encountered and dispose of by safe means so as not to endanger health of workers and public.
 6. Debris from the demolition shall not be allowed to accumulate within the building or on the site.

3.04 SELECTIVE INTERIOR DEMOLITION

- A. Selectively demolish and remove items and materials from the interior of buildings or portions of buildings as indicated.
- B. Items, materials or portions of the interior of the buildings that are designated to remain intact shall be protected and carefully worked around during the demolition work.
- C. Contaminants from work which occurs within a single room may be contained by sealing doors and other openings with duct tape at head, jamb, and sill.
- D. Use window exhaust systems to establish negative pressure in contaminant-producing work area, ensuring continuous flow of air into work area. Do not open windows in work area except when an exhaust fan is used. Close windows at end of each work shift.
- E. Seal exhaust system ductwork which might leak into building or mechanical systems.
- F. Damp mop hard surface floors in work area daily to minimize tracking of contaminants from work area. In carpeted areas, protect carpet with plastic and plywood; provide hard-surfaced area at entrances for daily damp mopping.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions and notify the Architect in writing of discrepancies before proceeding with the work.
- B. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

3.02 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
 1. Mark location of utilities.
 2. Identify, disconnect, remove and cap designated utilities within demolition areas.
- B. Provide, erect, and maintain temporary barriers and security devices where required
- C. Protect existing landscaping materials, appurtenances, and structures which are not to be demolished.
- D. Protect bench marks and existing work from damage or displacement.
- E. Prevent movement or settlement of adjacent structures.

- F. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.

3.03 PROTECTION OF EXISTING BUILDING EXTERIOR:

- A. Erect weatherproof closures for exterior openings. Maintain exit requirements.
- B. Protect from weather openings cut in existing roof for new work, or where existing roofing is removed to allow new construction to join existing.
- C. Install temporary deck of exterior grade plywood and wood skids, or other material approved by Architect, for material and personnel traffic over existing roofing, to protect existing roof and surrounding surfaces from damage. Repair damage caused to the roof and other items.

3.04 DUSTPROOF PARTITIONS:

- A. Erect and maintain as required to prevent spread of dust, fumes and smoke to other parts of the building.
- B. On completion, remove partitions and repair damage surfaces to match adjacent surfaces.

3.05 GENERAL DEMOLITION

- A. Carry out demolition work to cause as little inconvenience to any adjacent occupied building or site areas as possible and with minimum interference to public or private accesses. Maintain protected egress and access at all times.
- B. Perform the removal, cutting, drilling, etc., of existing work with extreme care, and using small tools in order not to jeopardize the structural integrity of the building.
- C. Shore existing construction whenever existing supports are removed to allow the installation of new work.
- D. Cease operations immediately if adjacent structures appear to be in danger. Notify authority having jurisdiction and Architect. Do not resume operations until directed by Architect.
- E. Rebuild existing work which must be removed to allow the installation of new work as indicated on the Drawings.
- F. Perform cutting of existing concrete and masonry with saws and core drills. Do not use jack-hammers.
- G. Provide hoses and water connections for sprinkling of debris as necessary to limit dust to lowest practicable level.
- H. Material Disposal:
 - 1. Remove materials from site and dispose of in a legal manner at no additional expense to Owner.
 - 2. No materials are to be sold on, or adjacent to, the site. Signs advertising the sale of materials shall not be allowed.
 - 3. Burning of materials on site is not permitted.
 - 4. Break concrete and masonry into sections less than 3 feet in any dimension.
 - 5. Remove from site, contaminated, vermin infested, or dangerous materials encountered and dispose of by safe means so as not to endanger health of workers and public.
 - 6. Debris from the demolition shall not be allowed to accumulate within the building or on the site.

3.06 SELECTIVE INTERIOR DEMOLITION

- A. Selectively demolish and remove items and materials from the interior of buildings or portions of buildings as indicated.
- B. Items, materials or portions of the interior of the buildings that are designated to remain intact shall be protected and carefully worked around during the demolition work.
- C. Contaminants from work which occurs within a single room may be contained by sealing doors and other openings with duct tape at head, jamb, and sill.

- D. Use window exhaust systems to establish negative pressure in contaminant-producing work area, ensuring continuous flow of air into work area. Do not open windows in work area except when an exhaust fan is used. Close windows at end of each work shift.
- E. Seal exhaust system ductwork which might leak into building or mechanical systems.
- F. Damp mop hard surface floors in work area daily to minimize tracking of contaminants from work area. In carpeted areas, protect carpet with plastic and plywood; provide hard-surfaced area at entrances for daily damp mopping.

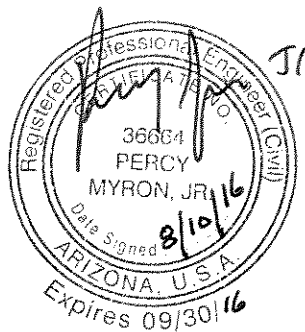
3.07 STRUCTURE DEMOLITION

- A. Begin demolition at top of building and proceed to lowest basement floor, without using explosives.
- B. Demolish structure above each floor level without damaging supporting members on lower levels.
- C. The following paragraph may be used in some cases where it is absolutely certain that the existing foundation will not conflict with the new construction. Edit accordingly.
- D. Remove foundation walls and footings to a minimum of 2'-0" below finished grade
- E. Choose one of the following paragraphs based upon whether or not the remnants of the existing slab construction will not conflict with the new construction. Edit accordingly.
- F. Remove concrete slabs on grade.
- G. Backfill areas excavated and open pits and holes caused as a result of demolition in accordance with Section 31 01 00.
- H. Rough grade and compact areas affected by demolition to maintain site grades and contours unless noted otherwise on drawings.

END OF SECTION 02 4100

SECTION 31 01 00

EARTHWORK



PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Perform earthwork as shown on the Drawing and as specified herein.

1.02 QUALITY ASSURANCE

- A. Regulatory Requirements: Procure necessary permits or certificates required by City of Phoenix, State of Arizona and Maricopa County. Comply with applicable federal, state and local ordinances, including MAG Standard Specifications and Details. Owner to pay for permits.
- B. Layout of all Work under this Section shall be made by a licensed Engineer/Surveyor acceptable to the Architect.
- C. General Contractor shall give the Work his personal supervision. In his absence, he shall leave a responsible representative in charge who shall have the authority to receive and execute orders from the Architect and/or his representative.

1.03 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: No fill materials shall be placed, spread or rolled during unfavorable weather conditions. When the Work is interrupted by rain, fill operations shall not be resumed until it can be shown to the Civil Engineers/Architect's satisfaction that the moisture content and density of the previously placed fill are as specified.
- B. Visit the site. Examine and note conditions as to the character and extent of Work involved.

PART 2 PRODUCTS

2.01 FILL

- A. Cleaned onsite soils may be used for fills in all areas of the site.
- B. Fill materials shall be approved by the Geotechnical Engineer and Civil Engineer and shall have low swell potential and be free of organic or deleterious material.
- C. Imported fill of low or non-expansive soils shall conform with the following requirements:

Maximum Percent Passing	
No. 200 Sieve	15 percent
Maximum Particle Size	6 inches (1 inch in landscape or turf areas)
Maximum Swell Potential	1.5 percent *
Within exterior concrete slabs	

*Based on a sample which is remolded to 95% of the ASTM D698 maximum dry density at a moisture content of 2 percent below optimum, placed under a surcharge load of 100 psf and wetted.

PART 3 EXECUTION

3.01 PREPARATION

- A. Existing Utilities:
 - 1. Where existing utilities not shown on the Drawings are encountered, support, shore up, protect same and immediately notify Engineer and General Contractor. Allow entrance, opportunity and ample time for measures necessary for continuance and/or relocation of such services.
 - 2. Where noted on Drawings, cut and cap all street connections encountered in the excavating along curb line and mark location so they can subsequently be located and reconnected as required.

- B. Protection:
 - 1. Keep all excavations, pits, trenches, etc. entirely free from water.
 - 2. Protect excavations from rain or water from any source during construction. Use suitable pumping equipment or other means as required by conditions. Continue pumping as necessary until completion of project or until released by Engineer.
 - 3. Conduct Work in an orderly manner so as not to create a nuisance. Dirt shall not be permitted to accumulate on streets or sidewalks nor to be washed into sewers.
 - 4. During construction operations and after building construction, buildings shall be protected from surface water run-off and drainage from surrounding heights. Run-off water shall be diverted around buildings and construction operations.

- C. Layout:
 - 1. Maintain all bench marks, control monuments and stakes, whether newly established by Surveyor or previously existing. Protect from damage and dislocation. If necessary to disturb existing bench marks, have Surveyor reestablish in a safe place.
 - 2. If any discrepancies are found by Surveyor between the Drawings and actual conditions at the site, Engineer reserves the right to make such minor adjustments in Work specified as necessary to accomplish the intent of the contract Documents, without increased cost to Owner.

3.02 EXCAVATABILITY

- A. The excavatability of site materials is difficult to evaluate based only on the exploration equipment used during the geotechnical design report. Therefore, the Geotechnical Engineer recommends that the Contractor evaluate the excavatability of site materials by performing test excavations with the size and type of equipment that Contractor plans on using at the site.

- B. The near surface and underlying soils can probably be removed with conventional excavating equipment. Deeper excavations may be slower and more difficult to accomplish due to caving and presence of oversized material. Caving should be expected in the non-cohesive granular soils encountered. OSHA requires all excavations over five feet in depth, in which personnel are to enter, be either braced or sloped in accordance with OSHA regulations.

3.03 WORKABILITY

- A. Wetting site soils such that moisture contents are at or above optimum could result in some soil pumping under dynamic loadings such as heavy construction equipment driving over the area. In the building area, some pumping is not detrimental to foundation or floor slabs provided the specified percent compaction is achieved. However, in flexible pavement areas where pumping has occurred, and in building areas where severe pumping has damaged subgrade conditions, the area shall be allowed to dry until soils are workable without pumping or the wetted areas removed and replaced with drier site soils.

3.04 GRADING

- A. General Contractor shall provide personal supervision for the Work. Leaving a responsible representative in charge, when absent, who shall have the authority to receive and execute instructions from the Architect or his representative.
- B. Grading tolerance shall be +0.00 feet and -0.10 feet.
- C. The following requirements are for site grading under, within and extending five feet beyond the sidewalks, exterior concrete slabs, and concrete fire lanes.
- D. Strip the entire site of all existing fill zones, any backfill zones and any unstable soils. During stripping observe the surface for evidence of buried debris, vegetation or disturbed materials which will require additional removal. If encountered, these materials shall be removed. Areas steeper than 5H to 1V should be benched and any depressions widened to accommodate compaction equipment.
- E. Widen any resulting depressions as necessary to accommodate compaction equipment and provide a level base for placing fill.
- F. Prepare the ground surface in fill areas and in areas cut to grade by scarifying, moisture conditioning and compacting the exposed surface soils to a minimum 10-inch depth. Moisture conditioning and compaction shall meet requirements under Section 3.07, Compaction.
- G. Moisture condition and place engineering fill material required to elevate areas to specified subgrade elevations.
- H. Placing, Spreading and Compacting Fill Materials: Fill materials shall be placed and compacted in horizontal lifts of thickness compatible with the compaction equipment used. Each layer shall be spread evenly, moisture conditioned and compacted per Section 3.7, Compaction. The Contractor shall widen any depressions as necessary to accommodate compaction equipment and provide a level base for placing fill. Compaction of each layer shall be continuous over its entire area and the compaction equipment shall make sufficient trips to insure that the required density has been obtained. No lift shall be placed until the previous lift has been approved. Fill operation shall be continued until the fill has been brought to the finished slopes and elevations shown on the Drawings. Imported fill shall conform to the requirements previously defined.
- I. Compacted subgrade shall be maintained in a moist state and shall not be allowed to significantly dry prior to placing more fill or base course.

3.05 EXCAVATION

- A. Excavation consists of removal and disposal of materials encountered to obtain required subgrade elevations.
- B. Excavation for foundations and footings shall have clean vertical walls, all corners squared up. Keep entire excavation free from any loose material. Excavation shall conform to dimensions and elevations indicated with allowance for erection of forms, shoring and inspection of footings.
- C. Material to be excavated shall be non-classified and shall include all earth or other materials encountered in excavating and grading. Where material encountered within the limits of Work is considered unsuitable by the Architect, such material shall be excavated below the grade shown on the Drawings as directed, and replaced with suitable material.
- D. Earth forms for footings may be permitted provided the earth is suitable and self-supporting as approved by the Architect or Geotechnical Engineer. Earthbank forms for foundation walls will not be permitted.
- E. Unauthorized excavation consists of materials beyond indicated subgrade elevations or dimensions without specific direction of the Architect. Under footing, foundation bases, or retaining walls, fill unauthorized excavations by extending the indicated bottom elevations of footing or base at the excavation bottom, without altering required top elevation. Clean concrete fill may be used to bring elevations to proper position, only when acceptable to the Architect. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavations, unless otherwise directed by the Architect. Costs for testing, if required, shall be borne by the Contractor.
- F. Stockpile satisfactory materials where directed, until required for backfill or fill. Locate and retain materials away from edge of excavations, even though such excavations are sheeted and braced to prevent such material falling or sliding into the excavations.
- G. Maintain sides and slopes of excavations in a safe condition until completion of backfilling, by scaling, benching, shelving or bracing. Take precautions to prevent slide or cave-ins.

3.06 BACKFILLING

- A. Place backfill about the buildings and structures as far as practical, as the Work of construction progresses. Backfilling against concrete work shall be done only when approved and directed. Backfill shall be deposited in layers of not more than six inches (6") in depth, and for the full width of the cross section. The material shall be carefully watered during placing by means of a fine spray or other approved method, so that each layer shall be thoroughly and uniformly wetted as directed by the Architect. The moisture content of all the material shall be carefully controlled at all times, and shall be checked at proper intervals to insure correct moisture content for compaction specified.

Each layer of fill material shall be compacted by hand and machine tampers to the density required in Section 3.07 COMPACTION when forming subgrade for concrete areas or supporting concrete floor slabs or supporting building footings.

- J. Backfilling of trenches shall progress as rapidly as the construction and testing of the Work will permit. In back-filling pipe trenches, approved fill shall first be compacted on both sides of the pipe in eight inch (8") layers to a depth of one foot over the top of the pipe. The remainder of the trenches shall be backfilled in compacted one-foot layers, except that fill in trenches in paved areas shall be compacted in six inch (6") layers to required grade.

3.07 COMPACTION

Compaction of cleaned exposed soil, imported soils, each lift of backfill, subbase fill, imported fill and base course materials shall be accomplished to the following density criteria:

<u>Material</u>	<u>Percent Compaction (ASTM D698)</u>
Cleaned exposed soil, imported soils, backfill and subbase fill:	
Below concrete sidewalk/slabs	90 max
Below pavement sections	95 min
Top soil in playfields and landscape areas	85-90 min
Miscellaneous Backfill not under buildings, concrete or paved areas	90 min

Compaction of clean, exposed site soils or fills of cleaned site soils within sidewalks and exterior concrete slab areas shall be accomplished with soils uniformly mixed at a moisture content of optimum to optimum plus three percent (+3%).

Compaction of imported soils within sidewalks and exterior concrete slab areas shall be accomplished with soils uniformly mixed at a moisture content of optimum plus or minus three percent ($\pm 3\%$).

Natural undisturbed soils or compacted soils subsequently disturbed or removed by construction operations shall be replaced with materials compacted as specified above.

3.08 FINISH GRADING

- A. Perform finish grading required as indicated or reasonably inferred to permit installation of Work of others as shown on Drawings. After final clean-up of exterior and removal of trash and construction of the buildings, the site shall be graded to slopes and elevations as indicated on the Drawings and as directed by the Architect. Additional material required for finish grading shall be of topsoil quality, provided, placed and graded by the Contractor. Lawn areas around walks shall provide good slope drainage away from buildings as indicated. Rake indicated site and lawn areas smooth and level to a tolerance of plus or minus 0.1 foot from elevations indicated.
- B. Existing clean site soils free of debris and rocks over 1 inch in diameter may be used for fills in landscape areas.

3.09 FIELD QUALITY CONTROL

- A. Test: Field density tests shall be made by an approved independent soils testing laboratory, as defined herein, or at the request of the Architect and paid for with the testing allowance. When these tests indicate that the density of any area(s) is below the required density, that particular area(s) shall be reworked until the required density has been obtained.
- B. Restore any damage to adjacent properties, street and the like, caused by operations of this Section to original condition without additional cost to Owner.

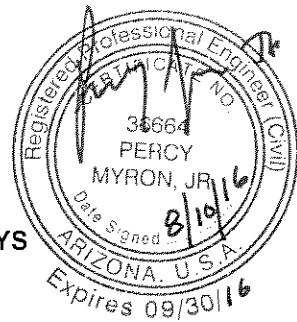
3.10 CLEANING

- A. Conduct Work in an orderly and workmanlike manner and so as not to create a nuisance. Dirt shall not be permitted to accumulate on streets or sidewalks nor to be washed into sewers.
- B. During the course of the Work and on completion of the Work, remove excess materials, equipment and debris and dispose of away from premises. Leave Work in clean condition.

3.11 AS-BUILT DRAWINGS

- A. The Surveyor shall provide certified, signed and sealed as-builts for all finish grade elevations indicated on the Drawings on 4 mil mylar and AutoCAD disk (2011 version or later). The Contractor shall schedule the Work to allow the Surveyor to obtain the as-builts. This Work will not be accepted until as-builts are approved by the Design Civil Engineer and City of Glendale.

END OF SECTION



SECTION 32 16 00

CONCRETE CURBS, GUTTERS, SIDEWALKS, AND DRIVEWAYS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Installation of concrete curbs, gutters, sidewalks, and driveways as shown on the Drawings and as specified herein.

1.02 REFERENCE STANDARDS

- A. MAG Specifications Section 340: Concrete curb, gutter, sidewalk, driveways and alley entrances.
- B. City of Glendale and MAG Standard Details.

1.03 SUBMITTALS

- A. Mix design to Architect a minimum of seven (7) days prior to start of construction.
- B. Tests: Submit three certified copies of test results, samples and suppliers certification that materials conform to specified criteria.

1.04 QUALITY ASSURANCE

- A. Contractor shall obtain, at his expense, all necessary construction permits and shall coordinate all necessary inspections with City of Glendale.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Concrete Curb, Gutter (where not next to driveway) and Sidewalk:
Concrete: 2,500 psi (28 day strength), MAG Section 725
- B. Concrete Driveway and Curb and Gutter (where next to driveway):
Concrete: 4,000 psi (28 day strength), MAG Section 725

PART 3 EXECUTION

3.01 CONSTRUCTION METHODS FOR CONCRETE CURB, GUTTER, SIDEWALK AND DRIVEWAY

- A. Execute Work in accordance with MAG Specifications Section 340 and MAG Details and City of Glendale specifications and details.
- B. Sawcut existing pavements and concrete joined by new construction to a true line with straight vertical edges free from irregularities.
- C. Construct and compact true to grades and line shown on the Drawings.
- D. Curb machines may not be used.

- E. Do not place material displaced in the construction on the base and/or surfacing material already in place on the roadway nor the excavated material in such a manner as to interfere with access to property or traffic flow in the street.

3.02 TESTING

- A. Inspection and testing will be performed by an independent testing agency employed and paid for in accordance with Section 01 43 26.
- B. Provide free access to Work and cooperate with appointed firm.
- C. Submit 3 copies of proposed mix design of each class of concrete including water/cement/strength and all supporting data to testing agency and Architect for review a minimum seven (7) days prior to commencement of Work.
- D. Tests of cement and aggregates may be performed to ensure conformance with requirements stated herein.
- E. Four (4) concrete test cylinders will be taken for every 100 or less cubic yards of each class of concrete placed. Make and cure concrete compressive strength test specimens in accordance with ASTM C31. Construct storage box of sufficient size and design to provide protection required by paragraph 7(a).
- F. One (1) additional test cylinder will be taken during cold weather concreting, and be cured on job site under same conditions as concrete it represents.
- G. One (1) slump test will be taken in accordance with ASTM C-143 of each set of compressive strength test cylinders taken.
- H. Where concrete is placed by pumping, tests shall be taken at the truck before concrete is placed in the pump.
- I. Tests to be performed by testing agency personnel in accordance with ASTM C39.

3.03 CLEANING

- A. During the course of the Work and on completion of the Work, remove excess materials, equipment and debris and dispose of away from premises. Leave Work in clean condition.

END OF SECTION

SECTION 32 71 00
STORM DRAIN SYSTEM



PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Storm Drain Construction as shown on the Drawings and as specified herein.

1.02 SUBMITTALS

- A. General: Submittal requirements are specified in Section 01300 - Submittals.
- B. Quality Control Submittals:
1. Storm drainage pipe, fittings, cleanouts, etc.
 2. Area drains, catch basins
 3. Dry well
 4. Oil grease interceptor

1.03 PROJECT/SITE CONDITIONS

- A. Visit the site. Examine and note conditions as to the character and extent of Work involved.

1.04 QUALITY ASSURANCE

- A. Contractor shall obtain all necessary construction permits and shall coordinate all necessary inspections with the City of Glendale. Owner to pay for permits.
- B. Construction staking shall be performed by a State of Arizona licensed Surveyor acceptable to the Architect and Owner.

PART 2 PRODUCTS

2.01 MATERIALS

- A. As specified on the Drawings and as allowed per MAG Specifications and City of Glendale codes and requirements and as indicated on Drawings.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Failure to observe this requirement constitutes a waiver to subsequent claims to the contrary and holds Contractor responsible for correction(s) Architect may require. Commencement of Work will be construed as acceptance of subsurfaces.
- B. Coordination with other work: Coordinate with other work which affects, connects with, or will be concealed by this Work.

3.02 STORM DRAIN CONSTRUCTION

- A. Storm drain construction shall conform to the applicable requirements of MAG Specifications, Section 601, Trench Excavation, Backfilling and Compaction, Section 745, P.V.C. Sewer Pipe and Fittings and Section 603, Installation for High Density Polyethylene Pipe. Backfill and compaction shall be performed per Specifications, Section 02200, Earthwork, except as modified below.
- B. Storm drain pipe shall consist of installing P.V.C. or H.D.P.E. storm drain pipe to the alignment and grades indicated on the Drawings.
- C. Granular bedding will be required from four inches (4") below the bottom of the pipe to one foot (1') above the pipe. All clean dirt spoils generated from the installation of the storm drain lines shall be removed from the site and disposed of legally.

3.03 CATCH BASINS, AREA DRAINS, DRYWELLS AND OIL/GREASE INTERCEPTOR

- A. Catch Basins, area drains, Bubbler Boxes, Drywells and oil/grease interceptors shall be installed per the details on the Drawings and per the MAG Standard Details as indicated on the Drawings.

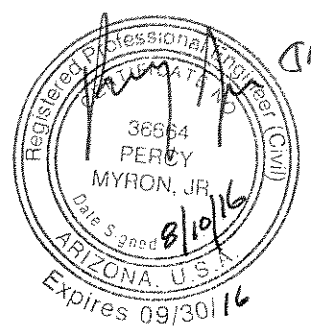
3.04 "AS-BUILT" DRAWINGS

- A. The Contractor's Surveyor shall provide as-builts for all site storm drain lines (outside building areas). The Contractor shall schedule the Work to allow the Surveyor to obtain as-builts for the actual locations and elevations of the completed storm drain line including location, invert elevation and rim elevation of all catch basins, area drains, cleanouts, bends, etc. As-builts shall be provided on 4 mil mylars, certified, sealed and signed by the Surveyor. Mylar and Auto CADD 2011 disk as-builts shall be submitted to the Design Civil Engineer, Owner, and City for review and approval. Project is not accepted until all parties listed above approve as-built Drawings.

3.05 CLEANING

- A. During the course of the Work and on completion of the Work, remove excess materials, equipment and debris and dispose of legally away from premises. Leave Work in clean condition.

END OF SECTION



SECTION 33 70 00
DECOMPOSED GRANITE

DECOMPOSED GRANITE

The Work under this item shall consist of installing a 2 inch compacted thickness of decomposed granite at the locations as indicated on the plans. The Work shall conform to MAG Specifications Section 430.4 except that no 10-mm black polyethylene liner will be required. Two applications of pre-emergent (one prior to placement of granite and one after placement) will be required.

Granite shall conform to MAG Specifications Section 702.4 and have a size of 1/4 inch minus. Color shall be Madison Gold to match the existing granite at the site.

END OF SECTION