PROJECT MANUAL

PROJECT:

HIGH POINT SCHOOL ADDITION

BUILDING DEMOLITION - BID PACKAGE 1

OWNER:

WASHTENAW INTERMEDIATE SCHOOL DISTRICT
1819 South Wagner Road
PO Box 1406
Ann Arbor, MI 48106

TMP PROJECT NO.: 19040

DATE: January 14, 2020

ISSUED FOR BUILDING DEMOLITION – BID PACKAGE 1

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Not Used

END OF SECTION

SECTION 00 0115 - LIST OF DRAWINGS

LIST OF DRAWINGS

1.01 GENERAL

A. Drawings: Drawings consist of the Contract Drawings including drawings listed on the TITLE SHEET page of the separately bound drawing set titled High Point School Addition - Bid Package 1, dated January 14, 2020 and any subsequent Addenda and Contract modifications which may occur.

END OF SECTION

SECTION 00 3100 - AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 SUMMARY

A. Project Manual uses Appendixes to organize information that does not conform to 3-part specification formatting as defined by the Construction Specifications Institute (CSI).

1. Appendix information does not have a six-digit number or title as defined by CSI's MasterFormat.

1.02 MISCELLANEOUS INFORMATION

A. Miscellaneous information relating to the project is available in the Appendixes as follows:

1. Includes information issued as an Appendix by Addendum or other subsequent Contract modification.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION -- NOT USED

END OF SECTION

SECTION 00 8200 - AVAILABILITY OF ELECTRONIC FILES

AVAILABILITY OF ELECTRONIC FILES

1.01 POLICY

A. As a service to Contractor, subcontractors, vendors, material suppliers and others needing electronic copies of Drawings, the Architect will provide CAD files electronically in accordance with the following policy:

1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.
2. It is further understood and agreed that the undersigned will hold TMP Architecture, Inc. harmless and indemnify TMP Architecture, Inc. from all claims, liabilities, losses, and so forth, including attorney's fees arising out of the use or misuse of the transferred files.
3. It is understood and agreed that the files transmitted are prepared from CAD files current at the time of preparation. All files are AutoCAD version 2014 dwg files.
4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.
5. As a record of information to be transmitted, TMP Architecture, Inc. will prepare a duplicate electronic back-up for its record.
6. Compensation Fee for providing this material will be as follows:
    a. Base Fee of $250 for 1 to 3 Drawings.
    b. Base Fee of $500 for 4 to 10 Drawings.
    c. For each additional Drawing after 10, the fee is $40 per Drawing.
        1) Example: 11 Drawings = $540.
7. A signed copy of the Release Form and Fee must be provided before files will be released.

1.02 REQUEST PROCEDURE

A. To receive Drawing CAD files the Release Form must be completed in full and submitted to the Construction Manager to be forwarded to the Project Manager at TMP Architecture, Inc.

1. A signed copy of the Release Form must be submitted.
    a. Faxed or emailed copies will be accepted.
2. Upon remittance of the signed Release Form and Fee, allow five working days for processing.
3. Transmission of Drawings will be provided electronically after the receipt of Fee.

1.03 RELEASE FORM

A. Release Form is located immediately after this Section. Refer to Section 008200.01 Electronic Files Release Form.

END OF SECTION

ELECTRONIC FILES RELEASE FORM

Re: Authorization Form for CAD File Transfers
Project Name: High Point School Addition
TMP Project No. : 19040 Bid Package 1

Dear Sir/Madam:

Per your request, TMP Architecture, Inc. will electronically transmit requested CAD files upon receipt of an original signed copy of this form which states the conditions of agreement and the receipt of the required compensation fee.

1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.

2. It is further understood and agreed that the undersigned will hold TMP Architecture, Inc. harmless and indemnify TMP Architecture, Inc. from all claims, liabilities, losses, and so forth, including attorney's fees arising out of the use or misuse of the transferred items.

3. It is understood and agreed that the items transmitted are prepared from CAD files current at the time of preparation. All files are AutoCAD version 2014 dwg files.

4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.

5. As a record of information to be transmitted, TMP Architecture, Inc. will prepare a duplicate electronic back-up for its record.

6. Compensation for providing this material will be as follows:
   a. Base Fee of $250 for 1 to 3 Drawings.
   b. Base Fee of $500 for 4 to 10 Drawings.
   c. For each additional Drawing after 10 the fee is $40 per Drawing.
   d. Example: 11 drawings = $540.

7. Payment must be provided along with a signed copy of this form before files will be released. Please remit to Construction Manager to be forwarded to the Project Manager at TMP Architecture, Inc. and allow five working days for processing.

Fee: $_____ Requested Drawings: _____

_____

_____

Firm Requesting Files:

Company: _____

Address: _____

Signed: _____ Date: _____

Printed Name / Title: _____

Phone: _____ Email: _____

To Be Completed By TMP Architecture, Inc.

Released (signed by): _____ TMP Architecture, Inc.

Printed Name/Title: _____ Date: _____

SECTION 01 0005 - RELATED REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Related requirements.

1.02 DIVISION 00 AND DIVISION 01

A. Unless otherwise noted, all provisions of sections and documents in Division 00 and Division 01, including, but not limited to, General Conditions and Supplementary Conditions, relate and apply to all sections and documents within Project Manual; including, but not limited to, sections and documents in Division 00 through Division 48.

1.03 DRAWINGS

A. Unless otherwise noted, Drawings relate and apply to all specification sections and documents within Project Manual; including, but not limited to, sections and documents in Division 00 through Division 48.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION -- NOT USED

END OF SECTION

SECTION 01 2300 - ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

1.02 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.03 SCHEDULE OF ALTERNATES

A. Alternate 1 - Modular Buildings

1. Base Bid: Modular buildings disconnected and removed by others.
2. Alternate: Demolish modular buildings in their entirety.

B. Alternate 2 - Greenhouse

1. Base Bid: Greenhouse disconnected and removed by others.
2. Alternate: Demolish greenhouse in its entirety.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 01 2500.01 - TMP Substitution Request Form.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies and equipment.

1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials and equipment 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, equipment, assembly, or system.
2. Agrees to provide the same warranty for the substitution as for the specified product.
3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
4. 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.
5. Waives claims for additional costs or time extension that may subsequently become apparent.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

1. Note explicitly any non-compliant characteristics.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

1. Forms included in the Project Manual are adequate for this purpose, and must be used.

D. Limit each request to a single proposed substitution item.

1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Refer to Section 00 2113 - Instructions to Bidders.

B. Substitution Request Form: TMP Substitution Request Form must be completed and provided at the beginning of each substitution request.

1. Refer to Section 01 2500.01 - TMP Substitution Request Form.
2. Submittals without a completed TMP Substitution Request Form will not be acknowledged, reviewed, or returned. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Substitution Request Form: TMP Substitution Request Form must be completed and provided at the beginning of each substitution request.

1. Refer to Section 01 2500.01 - TMP Substitution Request Form.
2. Submittals without a completed TMP Substitution Request Form will not be acknowledged, reviewed, or returned. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause immediately upon discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
3. Bear the costs engendered by proposed substitution of:
    a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
    b. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:

1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
2. Without a separate written request.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

1. During construction, Architect's decision following review of proposed substitution will be noted on the submitted form.

2. During bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

END OF SECTION

SUBSTITUTION REQUEST FORM

Substitution Request Number: _____ Date Submitted: _____

TMP Project Number: _____ Project Name: _____

SPECIFIED ITEM

Specification Title: _____

Specification Section: _____ Specification Article/Paragraph: _____

Specified Product / Description: _____

Specified Manufacturer: _____

Specified Product / Model: _____

Reason specified item cannot be provided: _____

_____

PROPOSED SUBSTITUTION

Description of Proposed Substitution: _____

Proposed Manufacturer: _____

Address: _____

Website: _____

Product / Model: _____

Years manufacturer has been in business: _____ Years product/model has been manufactured: _____

Differences between proposed substitution and specified item: _____

_____

_____

Will proposed substitution affect other parts of work? ☐ No ☐ Yes

If Yes, explain how: _____

_____

_____

How will substitution benefit the Owner: ☐ Cost savings ☐ Time savings ☐ Other

Provide specific details: _____

_____

_____

The following information is required; check to indicate information is attached. (Request will be rejected without required data)

- ☐ List of references where proposed product has been installed; include address, owner, architect, and date installed.
- ☐ Product data sheets.
- ☐ Applicable certificates and test reports.
- ☐ Comparative Data: Provide point-by-point, side-by-side comparison of specified product and proposed substitution addressing essential attributes specified.

Indicate which of the following voluntary information is attached, if any:

- ☐ Drawings.
- ☐ Samples.
- ☐ Other Items: _____

_____

SIGNATURE

The undersigned certifies:

- The proposed substitution meets or exceeds the quality level of the specified product, equipment, assembly, or system.
- To provide the same warranty for the substitution as for the specified product.
- Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
- 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.
- The proposed substitution will have no adverse effects on other work.
- The proposed substitution will not affect project schedule.
- Waives claims for additional costs or time extension that may subsequently become apparent.

Contractor / Company: _____

Signed By: _____ Printed Name: _____

Title: _____

Address: _____

Email: _____ Phone: _____

ARCHITECT'S RESPONSE

- During bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected.
- During construction, Architect will notify Contractor in writing (see below) of decision to accept or reject request, and incorporate the substitution into the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments as provided for in the Conditions of the Contract.

☐ Substitution Approved - Provide submittals per Section 01 3000 and respective section for which substitution was made.

☐ Substitution Rejected - Provide specified materials.

Signed By: _____ Printed Name: _____

Architect's Comments: _____

_____

_____

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals for review, information and project closeout.

B. Number of copies of submittals.

C. Requests for Interpretation (RFI) procedures.

D. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 3000.01 - TMP Submittal and Sample Transmittal Form.

B. AIA G716 - Request for Information 2004.

C. CSI/CSC Form 13.2A - Request for Interpretation Current Edition.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

1. Include written certification that major contractors have reviewed and accepted proposed schedule.
2. Graphically indicate progress of each activity to date of revision, with projected completion date of each activity.
3. Record actual start and finish dates of completed activities.

3.02 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare a separate RFI for each specific item.
   a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
   b. Do not forward requests which solely require internal coordination between subcontractors.

2. Prepare in a format and with content acceptable to Architect. Use one of the following:
    a. Use AIA G716 - Request for Information .
    b. Use CSI/CSC Form 13.2A - Request for Interpretation.
    c. Other format acceptable to Architect.
3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
2. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response and may include an explanatory notation.
3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response and may include an explanatory notation.
    a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Discrete and consecutive RFI number, and descriptive subject/title.
3. Issue date, and requested reply date.
4. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
5. Annotations: Field dimensions and/or description of conditions which have engendered the request.
6. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.

3. Identify and include improper or frivolous RFIs.

G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 3:00 PM will be considered as having been received on the following regular working day.

1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.

2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.

3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.

4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.03 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.

1. Submit at the same time as the preliminary schedule.

2. Coordinate with Contractor's construction schedule and schedule of values.

3. Format schedule to allow tracking of status of submittals throughout duration of construction.

4. Arrange information to include scheduled date for initial submittal, specification number and title, description of item of work covered and role and name of subcontractor.

5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.04 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:

1. Product data.

2. Shop drawings.

3. Samples for selection.

4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.05 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:

1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.07 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy.

B. Samples: Submit the number specified in individual specification sections, but not less than 3; one (minimum) of which will be retained by Architect.

1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

A. Transmittal Form: TMP Submittal and Sample Transmittal Form must be completed and provided at the beginning of each submittal.

1. Refer to Section 01 3000.01 - TMP Submittal and Sample Transmittal Form.
2. Submittals without a completed TMP Submittal and Sample Transmittal Form will not be acknowledged, reviewed, or returned.

B. Submittals shall be submitted in electronic form.

1. Exceptions: Physical samples.
    a. Physical Samples must be accompanied by an electronic copy and a hard/physical copy of the completed TMP Submittal and Sample Transmittal Form.

C. Electronic Submittals: Comply with the following:

1. Submittal process shall be through a data management system (i.e. Submittal Exchange) or other approved method agreed to by the Architect and Owner.
2. File Format: Portable Document Format (PDF).
3. File Naming: File naming shall be in the following format:
    a. Specification section number, followed by a hyphen, and a consecutive number indicating sequential submittals for that section; followed by a general description of the submittal contents.
        1) Examples:
            (a) Section 07 9200; first submittal:
                (1) 07 9200-01 Joint Sealants
            (b) Section 07 9200; second submittal:
                (1) 07 9200-02 Joint Sealant Color
    b. Resubmittals. For revised resubmittals use original number and a sequential combination numerical and alphabetical suffix; hyphen followed by "R" and a two-digit consecutive number indicating sequential resubmittals for that particular submittal.
        1) Examples:
            (a) Section 07 9200; resubmittal of first submittal of section:
                (1) 07 9200-01-R01 Joint Sealants.
            (b) Section 07 9200; second resubmittal of first submittal of section:
                (1) 07 9200-01-R02 Joint Sealants
            (c) Section 07 9200; first resubmittal of second submittal of section:
                (1) 07 9200-02-R01 Joint Sealant Color
4. Each Submittal shall be one file, complete with all attachments.
    a. Multi-file submittal will not be acknowledged, reviewed, or returned.

D. General Requirements:

1. Use a single transmittal for related items.
    a. Each transmittal shall be for one specification section only; do not submit items for multiple sections under the same transmittal.
        1) Multi-section submittals will be acknowledged and returned; stamped "X - Not Approved - Resubmit".
2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
3. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
    a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
4. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
5. Schedule submittals to expedite the Project, and coordinate submission of related items.
    a. For each submittal for review, allow 14 calendar days excluding delivery time to and from the Contractor.
    b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 calendardays.
6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
7. When revised for resubmission, identify all changes made since previous submission.
8. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
9. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
10. Submittals not requested will be recognized and returned; stamped "NA - No Action Taken - Not Reviewed"

E. Product Data Procedures:

1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Submit concurrently with related shop drawing submittal.
4. Do not submit (Material) Safety Data Sheets for materials or products unless specifically called for in individual sections.

F. Shop Drawing Procedures:

1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.

2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
4. Non-complying submittals will be acknowledged and returned; stamped "X - Not Approved - Resubmit".

G. Samples Procedures:

1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Submit actual physical samples.
4. Electronic submittals will not be accepted unless prior approval is received from the Architect. Electronic samples without prior approval will be acknowledged and returned; stamped "X - Not Approved - Resubmit."

3.09 SUBMITTAL REVIEW

A. General: Submittals that do not conform to the requirements of this section will not be acknowledged, reviewed, or returned.

B. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

C. Submittals for Information: Architect will acknowledge and may review. See below for actions to be taken.

D. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

1. Where more than one action has been indicated, each shall apply to that portion of the submittal for which the action is indicated.

E. Architect's review shall not indicate approval of dimensions, quantities or fabrication processes unless specific notations are made by the Architect regarding same.

F. Architect's and consultants' actions on items submitted for review:

1. Authorizing purchasing, fabrication, delivery, and installation:
    a. "Reviewed - No Exceptions Taken", "Approved", or language with same legal meaning.
    b. "Reviewed with Corrections Noted", "Approved as Noted, Resubmission not required", or language with same legal meaning.
        1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
    c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
        1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.

2. Not Authorizing fabrication, delivery, and installation:
    a. "Not Approved - Resubmit", "Revise and Resubmit", or language with the same legal meaning.
        1) Resubmit revised item, with review notations acknowledged and incorporated.

G. Architect's and consultants' actions on items submitted for information:
1. Items for which no action was taken:
    a. "No Action Taken - Not Reviewed" or "Received" - to notify the Contractor that the submittal has been received for record only.

END OF SECTION

SUBMITTAL AND SAMPLE TRANSMITTAL FORM

01 1300.01

CONST. MANAGER / CONTRACTOR	PROJECT	TMP PROJECT NO.	DATE SUBMITTED	SUBMITTAL NO.
Name and Address:	Title:			

* ACTION CODES	
R	Reviewed – No Exceptions Taken
RN	Reviewed with Corrections Noted
RR	Revise and Resubmit
X	Not Approved – Resubmit
NA	No Action Taken – Not Reviewed

Initial Submittal ☐

Resubmittal ☐

Email:	Location:
Phone:	

REVIEWED BY

TMP ☐

Consultant ☐

Reviewer:

SPECIFICATION SECTION NO.	SUBCONTRACTOR / MANUFACTURER	ITEM DESCRIPTION	NO. OF SAMPLES	NO. OF SAMPLES RETURNED	ACTION CODE *	DATE REVIEWED	DATE RETURNED
Transmittal shall be for one specification section only; do not submit items from multiple sections under the same transmittal. Multi-section submittals will be returned; stamped "X - Not Approved - Resubmit"							

Submittal Stamps may be placed on subsequent blank page.

CONTRACTOR COMMENTS	ARCHITECT COMMENTS

The undersigned certifies that the above submitted items have been reviewed in detail and are correct and in strict conformance with the Contract Documents except as otherwise noted. NOTE: Approval of items submitted does not relieve Contractor from complying with all requirements of the Contract Documents.

CONTRACTOR NAME

SIGNATURE

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SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Contractor's design-related professional design services.

F. Control of installation.

G. Mock-ups.

H. Tolerances.

I. Manufacturers' field services.

J. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2018.

B. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2015.

C. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.

1.03 DEFINITIONS

A. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.

1. Design Services Types Required:

a. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.

B. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.04 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Base design on performance and/or design criteria indicated in individual specification sections.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

1. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.

2. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

C. Test Reports: After each test/inspection, promptly submit 1 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. Compliance 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 compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

D. 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 complies with 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.

E. 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.

F. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.

1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications:

1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time specialist and responsible officer.

B. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.07 REFERENCES AND STANDARDS

A. Obtain copies of standards where required by product specification sections.

B. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. 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.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:

1. Testing agency: Comply with requirements of ASTM E329, ASTM E543 and ASTM E699.

2. Inspection agency: Comply with requirements of ASTM E329.

3. Laboratory Staff: Maintain a full time specialist on staff to review services.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 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.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. 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.

D. Notify Architect 5 working days in advance of dates and times when mock-ups will be constructed.

E. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.

F. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

G. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

H. Obtain Architect's approval of mock-ups before starting work, fabrication, or construction.

1. Make corrections as necessary until Architect's approval is issued.

I. Accepted mock-ups shall be a comparison standard for the remaining Work.

J. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 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.

3.04 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.

2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
5. Perform additional tests and inspections required by Architect.
6. 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.
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 48 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-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.05 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 equipment 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.

3.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

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

SECTION 01 4219 - REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements relating to referenced standards.

1.02 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. Comply with the reference standard of date of issue specified in this section, except where a specific date is established by applicable code.

C. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.

D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION -- NOT USED

END OF SECTION

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-use of existing products.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Procedures for Owner-supplied products.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 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. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

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

1. Refer to Drawings and Section 02 4100 - Demolition.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

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: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

D. Available Products: Products specified by naming one or more Manufacturers as an Available Product indicates that these Manufacturers' products may be provided but other comparable products and Manufacturers not named may also be provided without submitting a request for substitution.

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 and place in location as directed; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

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. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

F. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

G. 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 weathertight, 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

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 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2019.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. 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. Effect on work of Owner or separate Contractor.

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

D. Warranties: For each affected material under warranty, submit written verification, signed by manufacturer of existing materials, stating that the Owner's full warranty will remain in effect after cutting and patching operations have been completed

1.04 QUALIFICATIONS

A. For surveying 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. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

1.05 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. Perform dewatering activities, as required, for the duration of the project.

E. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

F. 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.

1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.

2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

G. 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. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

H. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.

2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

I. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

J. 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.

1.06 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 indicated 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.

1.07 WARRANTIES

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

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 5 calendar 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 1 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. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

G. Utilize recognized engineering survey practices.

H. 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.

4. Controlling lines and levels required for mechanical and electrical trades.

I. Periodically verify layouts by same means.

J. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. 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.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. 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 only.

1. Verify that construction and utility arrangements are as indicated.
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.

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. 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. 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.

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-complying 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 skilled and experienced 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.
      a. This includes painted surfaces.
      b. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
   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. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

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 coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architectand Owner 7 calendar 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. See Section 01 7900 - Demonstration and Training.

B. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.

D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

F. 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.

G. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

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 and drainage systems.

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.

B. Accompany Contractor 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

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 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. General:

1. Project Record Documents include:
   a. Complete set of Record Drawings.
   b. Complete set of Record Submittals.
   c. Complete set of Specifications.
2. Project Record Documents shall be submitted in electronic form.
   a. File Format: Portable Document Format (PDF).

b. Files shall be named and organized in a searchable, easy to understand, system.

3. Ensure entries are complete and accurate, enabling future reference by Owner.

4. Record information concurrent with construction progress.

B. Record Drawings: Record Drawings shall include the following:

1. Complete set of Drawings.

a. Indicate and record actual construction including, but not limited to, the following:

1) Show all systems and assemblies as they exist at completion of the Work.

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.

2. Addenda.

3. Change Orders and other modifications to the Contract.

C. Record Submittals: Record Submittals shall include the following:

1. Complete set of Submittals, including resubmittals.

2. Shop Drawings shall indicate all field changes and other variations from the Submittal as originally reviewed by Architect.

D. Specifications: Specifications shall include the following:

1. Complete Project Manual including all specifications, front end material, reports, and information available to bidders, as originally bid.

2. Addenda.

3. Change Orders and other modifications to the Contract.

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.

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. Additional information as specified in individual product specification sections.

D. 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 charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Include test and balancing reports.

N. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. General:

1. Operational and Maintenance Manuals include:
    a. Operational and maintenance data.
    b. Operational and maintenance data for materials and finishes.
    c. Operational and maintenance data for equipment and systems.
2. Operational and Maintenance Manuals shall be submitted both in electronic form and as hard copy/durable manuals.
    a. Subject to Owner approval, hard copy/durable manuals may be omitted.
    b. Electronic File Format: Portable Document Format (PDF).
        1) Files shall be named and organized in a searchable, easy to understand, system similar to the descriptions for the hard copy/durable manuals

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 three D side ring binders with durable plastic covers; 3 inch 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. Operation and maintenance data.

c. Field quality control data.

d. Photocopies of warranties and bonds.

3.06 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. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. 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.

G. 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.

H. 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.

END OF SECTION

SECTION 02 4100 - DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

D. Salvaged items.

E. Removed and reinstalled items.

1.02 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2019.

B. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings 2011.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Temporary Shoring and Bracing:

1. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.04 QUALITY ASSURANCE

A. Temporary Shoring and Bracing Designer Qualifications: Design temporary shoring and bracing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located

B. Demolition Firm Qualifications: Company specializing in the type of work required.

1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: As specified in Division 31.

PART 3 EXECUTION

3.01 SCOPE

A. Remove portions of existing building as indicated on Drawings including, but not limited to, the following:

1. Remove all paving and curbs as indicated on drawings.

2. Remove indicated foundation walls and footings completely.

3. Remove concrete slabs on grade as indicated on drawings.

4. Remove manholes and manhole covers, curb inlets and catch basins.

5. Remove other items indicated, for salvage and relocation.
6. Unless otherwise indicated, fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Division 31.

B. Salvage the following, unless otherwise indicated:

1. Greenhouse.
2. Modular building.
3. Playground equipment.
4. Field stones at planter bed around flag pole.
5. And other items as indicated on Drawings.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Comply with applicable requirements of NFPA 241.
3. Prior to start of demolition operations, perform an engineering survey of building condition to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures.
4. Use of explosives is not permitted.
5. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
6. Provide, erect, and maintain temporary barriers and security devices.
7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
8. Do not close or obstruct roadways or sidewalks without permit.
9. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Temporary Shoring and Bracing: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

1. Where concrete cannot be cut full depth, cut concrete to a depth of at least 3/4 inch. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI (RWP). Do not use methods requiring solvent-based adhesive strippers.

3.04 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.05 SELECTIVE DEMOLITION FOR 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 indicated.
2. Report discrepancies to Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.

1. Provide, erect, and maintain temporary dustproof partitions of construction as specified and/or 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.

D. Remove existing work as indicated and as required to accomplish new work.

1. Remove items indicated on Drawings.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical and Telecommunications): Remove existing systems and equipment as indicated.

1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
2. 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.
3. Verify that abandoned services serve only abandoned facilities before removal.
4. 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.

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.
4. Patch as specified for patching new work.

3.06 SALVAGED ITEMS

A. Clean salvaged items.

B. Pack or crate items after cleaning. Identify contents of containers.

C. Store items in a secure area until delivery to Owner.

D. Transport items to Owner's storage area on-site.

E. Protect items from damage during transport and storage.

3.07 REMOVED AND REINSTALLED ITEMS

A. Clean and repair items to functional condition adequate for intended reuse.

B. Pack or crate items after cleaning and repairing. Identify contents of containers.

C. Protect items from damage during transport and storage.

D. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.08 EXISTING ITEMS TO REMAIN

A. Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete

3.09 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 20 0500 - MECHANICAL GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to work of this Section.

1.02 SUMMARY

A. This Section includes mechanical general administrative and procedural requirements. The following requirements are included in this Section to supplement the requirements specified in Division 01 Specification Sections.

1.03 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
3. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
4. ABMA - American Boiler Manufacturers Association; www.abma.com.
5. AGA - American Gas Association; www.aga.org.
6. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
7. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
8. ANSI - American National Standards Institute; www.ansi.org.
9. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
10. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
11. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
12. ASTM - ASTM International; www.astm.org.
13. AWS - American Welding Society; www.aws.org.
14. AWWA - American Water Works Association; www.awwa.org.
15. CDA - Copper Development Association; www.copper.org.
16. CGA - Compressed Gas Association; www.cganet.com.
17. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
18. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
19. CSI - Construction Specifications Institute (The); www.csiresources.org.
20. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
21. FM Approvals - FM Approvals LLC; www.fmglobal.com.
22. HI - Hydraulic Institute; www.pumps.org.
23. ICC - International Code Council; www.iccsafe.org.
24. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
25. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
26. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
27. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org
28. NADCA - National Air Duct Cleaners Association; www.nadca.com.
29. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
30. NEBB - National Environmental Balancing Bureau; www.nebb.org.
31. NECA - National Electrical Contractors Association; www.necanet.org.
32. NEMA - National Electrical Manufacturers Association; www.nema.org.
33. NETA - InterNational Electrical Testing Association; www.netaworld.org.
34. NFPA - National Fire Protection Association; www.nfpa.org.

35. NSF - NSF International; www.nsf.org.
36. NSPE - National Society of Professional Engineers; www.nspe.org.
37. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
38. STI - Steel Tank Institute; www.steeltank.com.
39. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
40. UL - Underwriters Laboratories Inc.; www.ul.com.
41. USGBC - U.S. Green Building Council; www.usgbc.org.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.04 QUALITY ASSURANCE

A. Scope of Work: Furnish all labor, material, equipment, technical supervision, and incidental services required to complete, test and leave ready for operation the mechanical systems as specified and as indicated on Drawings.

1. Contract Documents are complimentary, and what is required by one shall be as binding as if required by all. In the event of inconsistencies or disagreements within the Construction Documents bids shall be based on the most expensive combination of quality and quantity of the work indicated.

B. Ordinances and Codes: Perform all Work in accordance with applicable Federal, State and local ordinances and regulations, the Rules and Regulations of ASHRAE, NFPA, SMACNA and UL, unless otherwise indicated.

1. Notify the Architect/Engineer in writing before submitting a proposal should any changes in Drawings or Specifications be required to conform to the above codes, rules or regulations.
2. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without notice to A/E, the Contractor shall bear all costs arising from corrective measures.

C. Tests and Inspections: Perform all tests required by state, city, county and/or other agencies having jurisdiction. Provide all materials, equipment, etc., and labor required for tests.

D. Performance Requirements: Perform all work in a first class and workmanlike manner, in accordance with the latest accepted standards and practices for the trades involved.

E. Sequence and Schedule: Perform work to avoid interference with the work of other trades. Remove and relocate work which in the opinion of the Owner's Representatives causes interference.

1.05 CODES, PERMITS AND FEES

A. Unless otherwise indicated, all required permits, licenses, inspections, approvals and fees for Mechanical Work shall be secured and paid for by the Contractor. All Work shall conform to all applicable codes, rules and regulations.

B. Rules of local utility companies shall be complied with. Check with each utility company supplying service to the installation and determine all devices including, but not limited to, all valves, meter boxes, and meters which will be required and include the cost of all such items in proposal.

C. All work shall be executed in accordance with the rules and regulations set forth in local and state codes. Prepare any detailed drawings or diagrams which may be required by the governing authorities. Where the drawings and/or specifications indicate materials or construction in excess of code requirements, the drawings and/or specifications shall govern.

1.06 DRAWINGS

A. The drawings show the location and general arrangement of equipment, piping and related items. They shall be followed as closely as elements of the construction will permit.

B. Examine the drawings of other trades and verify the conditions governing the work on the job site. Arrange work accordingly. Provide fittings, valves, and accessories as required to meet actual conditions.

C. Deviations from the drawings, with the exception of minor changes in routing and other such incidental changes that do not affect the functioning or serviceability of the systems, shall not be made without the written approval of the Architect/Engineer.

D. The Architectural and Structural Drawings take precedence in all matters pertaining to the building structure, Mechanical Drawings in all matters pertaining to Mechanical Trades and Electrical Drawings in all matters pertaining to Electrical Trades. Where there are conflicts or differences between the drawings for the various trades, report such conflicts or differences to the Architect/Engineer for resolution.

E. Drawings are not intended to be scaled for rough-in or to serve as shop drawings. Take all field measurements required to complete the Work.

1.07 INSPECTION OF SITE

A. Visit the site, examine and verify the conditions under which the Work must be conducted before submitting Proposal. The submitting of a Proposal implies that the Contractor has visited the site and understands the conditions under which the Work must be conducted. No additional charges will be allowed because of failure to make this examination or to include all materials and labor to complete the Work.

B. No contract sum adjustments or contract time extensions will be made for Contractor claims arising from conditions which were or could have been observable, ascertainable or reasonably foreseeable from a site visit or inquiry into local conditions affecting the execution of the work.

1.08 ITEMS REQUIRING PRIOR APPROVAL

A. Bids shall be based upon manufactured equipment specified. All items that the Contractor proposes to use in the Work that are not specifically named in the Contract Documents must be submitted for review prior to bids. Such items must be submitted in compliance with Division 01 specifications. Requests for prior approval must be accompanied by complete catalog information, including but not limited to, model, size, accessories, complete electrical information and performance data in the form given in the equipment schedule on the drawings at stated design conditions. Where items are referred to by symbolic designations on the drawings, all requests for prior approval shall bear the same designations.

B. Voluntary alternates may be submitted for consideration, with listed addition or deduction to the bid, but will not affect the awarding of the contract.

PART 2 PRODUCTS

NOT APPLICABLE

PART 3 EXECUTION

3.01 MECHANICAL DEMOLITION WORK

A. Demolition of existing mechanical equipment and materials shall be done by the Contractor unless otherwise indicated. Include items such as, but not limited to, existing piping, pumps, ductwork, supports, and equipment where such items are not required for the proper operation of the modified system.

B. Include draining of piping systems where required for demolition, modification of, or connection to existing systems.

C. In general, demolition work is indicated on the Drawings. However, the Contractor shall visit the job site to determine the full extent and character of this Work.

D. Unless specifically noted to the contrary, removed materials shall not be reused in the work. Salvaged materials that are to be reused shall be stored safe against damage and turned over to the appropriate trade for reuse.

1. Salvaged materials of value that are not to be reused shall remain the property of the Owner unless such ownership is waived.
2. Remove items from the systems and turn over to the Owner in their condition prior to removal. The Owner will move and store these materials.
3. Items on which the Owner waives ownership shall become the property of the Contractor, who shall remove and legally dispose of same, away from the premises.

E. Work that has been cut or partially removed shall be protected against damage until covered by permanent construction.

F. Clean and flush the interior and exterior of existing relocated equipment and its related piping, valves, and accessories that are to be reused of mud, debris, pipe dope, oils, welding slag, loose mill scale, rust, and other extraneous material so that the existing equipment and accessories can be repainted and repaired as required for the proper operation and performance of the relocated equipment.

G. Where existing equipment is to be removed, cap piping under floor, behind face of wall, above ceiling, or at mains.

H. Cap ductwork and cap piping immediately adjacent to demolition as soon as demolition commences in order to allow existing systems to remain in operation.

1. Cap or plug piping with same or compatible piping material.
2. Cap or plug ducts with same or compatible ductwork material.

3.02 REFRIGERANT HANDLING

A. Refrigerant Installation and Disposal: Perform all work related to refrigerant contained in chillers, cooling coils, air conditioners, and similar equipment, including related piping, in strict accordance with the following requirements:

1. ASHRAE Standard 15 and Related Revisions: Safety Code for Mechanical Refrigeration.
2. ASHRAE Standard 34 and Related Revisions: Number Designation and Safety Classification of Refrigerants.
3. United States Environmental Protection Agency (US EPA) requirements of Section 8 08 (Prohibition of Venting and Regulation of CFC) and applicable State and Local regulations of authorities having jurisdiction.

B. Recovered refrigerant is the property of the Contractor. Dispose of refrigerant legally, in accordance with applicable rules and regulations.

3.03 WORK IN EXISTING BUILDINGS

A. The Owner will provide access to existing buildings as required. Access requirements to occupied buildings shall be identified on the project schedule. The Contractor, once Work is started in the existing building, shall complete same without interruption so as to return work areas as soon as possible to Owner.

B. Adequately protect and preserve all existing and newly installed Work. Promptly repair any damage to same at Contractor's expense.

C. Consult with the Owner’s Representative as to the methods of carrying on the Work so as not to interfere with the Owner's operation any more than absolutely necessary. Accordingly, all service lines shall be kept in operation as long as possible and the services shall only be interrupted at such time as will be designated by the Owner's Representative.

D. Prior to starting work in any area, obtain approval for doing so from a qualified representative of the Owner who is designated and authorized by the Owner to perform testing and abatement, if necessary, of all hazardous materials including but not limited to, asbestos. The Contractor shall not perform any inspection, testing, containment, removal or other work that is related in any way whatsoever to hazardous materials under the Contract.

3.04 TEMPORARY SERVICES

A. Provide temporary service as described in Division 01.

3.05 WORK INVOLVING OTHER TRADES

A. Certain items of equipment or materials specified in the Mechanical Division may have to be installed by other trades due to code requirements or union jurisdictional requirements. In such instances, the Contractor shall complete the work through an approved, qualified subcontractor and shall include the full cost for same in proposal.

END OF SECTION

SECTION 26 0010 - ELECTRICAL GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.

1.02 SUMMARY

A. This Section includes electrical general administrative and procedural requirements. The following requirements are included in this Section to supplement the requirements specified in Division 1 Specification Sections.

1.03 REFERENCES

A. All materials shall be new. The electrical and physical properties of all materials, and the design, performance characteristics, and methods of construction of all items of equipment, shall be in accordance with the latest issue of the various, applicable Standard Specifications of the following recognized authorities:

1. ANSI - American National Standards Institute; www.ansi.org.
2. ASTM - ASTM International; www.astm.org.
3. CSI - Construction Specifications Institute (The); www.csiresources.org.
4. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
5. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
6. NEC - National Electrical Code
7. NECA - National Electrical Contractors Association; www.necanet.org.

    a. NECA 1-2000, “Practices for Good Workmanship in Electrical Contracting (ANSI).”

8. NEMA - National Electrical Manufacturers Association; www.nema.org.
9. NETA - InterNational Electrical Testing Association; www.netaworld.org.
10. UL - Underwriters Laboratories Inc.; www.ul.com.

1.04 QUALITY ASSURANCE

A. Scope of Work: Furnish all labor, material, equipment, technical supervision, and incidental services required to complete, test and leave ready for operation the electrical systems as specified in the Division 26 Sections and as indicated on Drawings.

1. Contract Documents are complimentary, and what is required by one shall be as binding as if required by all. In the event of inconsistencies or disagreements within the Construction Documents bids shall be based on the most expensive combination of quality and quantity of the work indicated.
2. The Contractor understands that the work herein described shall be complete in every detail.

B. Ordinances and Codes: Perform all Work in accordance with applicable Federal, State and local ordinances and regulations, the Rules and Regulations of NFPA, NECA, and UL, unless otherwise indicated.

1. Notify the Architect/Engineer before submitting a proposal should any changes in Drawings or Specifications be required to conform to the above codes, rules or regulations. After entering into Contract, make all changes required to conform to above ordinances, rules and regulations without additional expense to the Owner.

C. Tests and Inspections: Perform all tests required by state, city, county and/or other agencies having jurisdiction. Provide all materials, equipment, etc., and labor required for tests.

D. Performance Requirements: Perform all work in a first class and workmanlike manner, in accordance with the latest accepted standards and practices for the trades involved.

E. Sequence and Schedule: Work so as to avoid interference with the work of other trades. Be responsible for removing and relocating any work which in the opinion of the Owner's Representatives causes interference.

1.05 CODES, PERMITS AND FEES

A. Unless otherwise indicated, all required permits, licenses, inspections, approvals and fees for electrical work shall be secured and paid for by the Contractor. All work shall conform to all applicable codes, rules and regulations.

B. Rules of local utility companies shall be complied with. Coordinate with the utility company supplying service to the installation and determine all devices including, but not limited to, all current and potential transformers, meter boxes, C.T. cabinets and meters which will be required and include the cost of all such items and all utilities costs in proposal.

C. All work shall be executed in accordance with the rules and regulations set forth in local and state codes. Prepare any detailed Drawings or diagrams which may be required by the governing authorities. Where the Drawings and/or Specifications indicate materials or construction in excess of code requirements, the Drawings and/or Specifications shall govern.

1.06 DRAWINGS

A. The Drawings show the location and general arrangement of equipment, electrical systems and related items. They shall be followed as closely as elements of the construction will permit.

B. Examine the Drawings of other trades and verify the conditions governing the work on the job site. Arrange work accordingly, providing such fittings, conduit, junction boxes and accessories as may be required to meet such conditions.

C. Deviations from the Drawings, with the exception of minor changes in routing and other such incidental changes that do not affect the functioning or serviceability of the systems, shall not be made without the written approval of the Architect/Engineer.

D. The architectural and structural Drawings take precedence in all matters pertaining to the building structure, mechanical Drawings in all matters pertaining to mechanical trades and electrical Drawings in all matters pertaining to electrical trades. Where there are conflicts or differences between the Drawings for the various trades, report such conflicts or differences to the Architect/Engineer for resolution.

E. Drawings are not intended to be scaled for rough-in or to serve as shop drawings. Take all field measurements required to complete the Work.

1.07 INSPECTION OF SITE

A. Visit the site, examine and verify the conditions under which the Work must be conducted before submitting Proposal. The submitting of a Proposal implies that the Contractor has visited the site and understands the conditions under which the Work must be conducted. No additional charges will be allowed because of failure to make this examination or to include all materials and labor to complete the Work.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.01 DEMOLITION WORK

A. All demolition of existing electrical equipment and materials will be done by this Contractor unless otherwise indicated. Include all items such as, but not limited to, electrical equipment, devices, lighting fixtures, conduit, and wiring called out on the Drawings and as necessary whether such items are actually indicated on the Drawings or not in order to accomplish the installation of the specified new work.

B. In general, demolition work is indicated on the Drawings. However, the Contractor shall visit the job site to determine the full extent and character of this work.

C. Unless specifically noted to the contrary, removed materials shall not be reused in the work. Salvaged materials that are to be reused shall be stored safe against damage and turned over to the appropriate trade for reuse. Salvaged materials of value that are not to be reused shall remain the property of the Owner unless such ownership is waived. Items on which the Owner waives ownership shall become the property of the Contractor, who shall remove and legally dispose of same, away from the premises.

D. Where equipment or fixtures are removed, outlets shall be properly blanked off, and conduits capped. After alterations are done, the entire installation shall present a "finished" look, as approved by the Architect/Engineer. The original function of the present electrical work to be modified shall not be changed unless required by the specific revisions to the system as specified or as indicated.

E. Reroute signal wires, lighting and power wiring as required to maintain service. Where walls and ceilings are to be removed as shown on the Drawings, the conduit is to be cut off by the Electrical Trades so that the abandoned conduit in these walls and ceilings may be removed with the walls and ceilings by the Architectural Trades. All dead-end conduit runs shall be plugged at the remaining line outlet boxes or at the panels.

F. Where new walls and/or floors are installed which interfere with existing outlets, devices, etc., the Electrical Trades shall adjust, extend and reconnect such items as required to maintain continuity of same.

G. All electrical work in altered and unaltered areas shall be run concealed wherever possible. Use of surface raceway or exposed conduits will be permitted only where approved by the Architect/Engineer.

3.02 WORK IN EXISTING BUILDINGS

A. The Owner will provide access to existing buildings as required. Access requirements to occupied buildings shall be identified on the project schedule. The Contractor, once Work is started in the existing building, shall complete same without interruption so as to return work areas as soon as possible to Owner.

B. Adequately protect and preserve all existing work. Promptly repair any damage to same at Contractor's expense.

C. Consult with the Owner’s Representative as to the methods of carrying on the Work so as not to interfere with the Owner's operation any more than absolutely necessary. Accordingly, all service lines shall be kept in operation as long as possible and the services shall only be interrupted at such time as will be designated by the Owner's Representative.

D. Prior to starting work in any area, obtain approval for doing so from a qualified representative of the Owner who is designated and authorized by the Owner to perform testing and abatement of all hazardous materials including but not limited to, asbestos. The Contractor shall not perform any inspection, testing, containment, removal or other work that is related in any way whatsoever to hazardous materials under the Contract.

3.03 TEMPORARY SERVICES

A. Provide and remove upon completion of the project, in accordance with the general conditions and as described in Division 01, a complete temporary electrical service during construction.

3.04 DISPOSAL

A. Fluorescent Lamps

1. Fluorescent lamps are known to contain mercury and are classified as hazardous material. All fluorescent lamps shall be assumed to contain mercury unless tested and confirmed otherwise with a toxicity characteristic leaching procedure (TCLP).
2. Hazardous materials (fluorescent lamps), shall be sent to a lamp recycling facility. The materials shall be properly packaged with labels that meet the Department of Transportation Regulations and stored in a secure location prior to transportation.
3. The Contractor shall identify the costs of the lamp disposal process including, but not limited to, the lamp packaging, storage, transportation, disposal, and any profile fees.
4. At the completion of the project, provide documentation to verify that the lamps have been properly disposed of in accordance with all local, state and federal guidelines.

B. Ballasts

1. Lighting ballasts manufactured prior to 1979 have been known to contain polychlorinated biphenyls (PCBs). Unless specifically noted on the ballast as containing "No PCBs," the ballast shall be assumed to contain components with PCB materials.
2. Hazardous materials (ballasts with PCBs), shall be disposed of at a hazardous waste incineration facility, or at a recycling facility in accordance with the Code of Federal Regulations as administered by the EPA in regards to this issue. The ballasts shall be packaged/stored in fifty-five gallon steel drums with labels that meet the Department of Transportation Regulations.
3. The Contractor shall identify the costs of the ballast disposal process including, but not limited to, the packaging, storage, transportation, disposal, and any profile fees.
4. Provide at completion of the project documentation (manifests) to verify that the ballasts have properly been disposed of in accordance with all local, state and federal guidelines.

3.05 CUTTING, PATCHING AND DAMAGE TO OTHER WORK

A. Refer to General Conditions for requirements.

B. All cutting, patching and repair work shall be performed by the Contractor through approved, qualified subcontractors. Contractor shall include full cost of same in bid.

3.06 EXCAVATION AND BACKFILLING

A. Provide all excavation, trenching, tunneling, dewatering and backfilling required for the electrical work. Coordinate the work with other excavating and backfilling in the same area.

B. Backfill all excavations with well-tamped granular material. Backfill all excavations under wall footings with lean mix concrete up to underside of footings and extend concrete within excavation a minimum of four (4) feet each side of footing. Granular backfill shall be placed in layers not more than 8 inches in thickness, 95 percent compaction throughout with approved compaction equipment. Tamp, roll as required. Excavated material shall not be used.

C. Backfill all excavations inside building, under drives and parking areas with well-tamped granular material. Granular backfill shall be placed in layers not more than 8 inches in thickness, 95 percent compaction throughout with approved compaction equipment. Tamp, roll as required. Excavated material shall not be used.

D. Backfill outside building with granular material to a height 12 inches over top of pipe compacted to 95 percent compaction as specified above. Backfill remainder of excavation with unfrozen, excavated material in such a way to prevent settling.

3.07 CLEANING

A. All debris shall be removed daily as required to maintain the work area in a neat, orderly condition.

3.08 PROTECTION AND HANDLING OF EQUIPMENT AND MATERIALS

A. Equipment and materials shall be protected from theft, injury or damage.

B. Protect conduit openings with temporary plugs or caps.

C. Provide adequate storage for all equipment and materials delivered to the job site. Location of the space will be designated by the Owner's representative or Architect/Engineer. Equipment set in place in unprotected areas must be provided with temporary protection.

3.09 DRAWINGS AND MEASUREMENTS

A. The Drawings are not intended to be scaled for rough-in measurements nor to serve as Shop Drawings.

END OF SECTION

SECTION 31 1000 – SITE DEMOLITION AND CLEARING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the demolition, removal and proper disposal, including end disposal fees, for asphalt pavement and aggregate base; concrete pavement and sidewalk; bike racks; curb and gutter; sidewalk; brick pavement and concrete underlayment, fence and posts, including fence and post foundation removal; guardrail, signs and sign foundations; light posts and light post foundations; trees and tree roots; buried piping as required; the termination, cutting, plugging and/or capping of all buried utilities as required; and the demolition, removal and disposal of any miscellaneous items required to complete the project.

B. Removal and relocation of existing playground equipment that is to be salvaged and memorial trees to be completed by others, under direction of WISD. Removal and disposal of remaining equipment is to be completed under Bid Pack 1.

C. See Architectural plans and specifications for removal of existing school buildings, modular building, and greenhouse.

1.03 REFERENCES

A. City of Ann Arbor Public Services Department Standard Specifications

B. Michigan Department of Transportation’s (MDOT) 2012 Standard Specifications for Construction

PART 2 PRODUCTS

2.01 MATERIALS

A. Not applicable.

PART 3 EXECUTION

3.01 GENERAL

A. Areas which have been excavated to below grade shall be adequately protected with barricades or fencing at all times.

B. Removed materials not to be incorporated into the work, or otherwise called out on the plans to be delivered to WISD, shall become the property of this Contractor and shall be disposed of in a proper and approved manner meeting all local, state and federal laws, or as otherwise directed. Coordinate with the Construction Manager.

C. Removal of sub-base or subgrade, not authorized by the Construction Manager shall be replaced and compacted by this Contractor, using materials specified by the Construction Manager. This work will be completed at this Contractor's expense.

D. The locating of disposal areas and the proper disposal of asphalt and concrete shall be the responsibility of this Contractor at his expense and in coordination with the Construction Manager. At no time shall this Contractor stockpile excavated material overnight on or adjacent to the site without the Construction Manager's permission.

E. The Contractor shall be responsible for providing and maintaining all temporary pumping necessary to maintain existing utility line flows. The Contractor shall provide pump(s) sized to maintain peak flow condition. Pumps shall be manned 24 hours. Backup pumps for each pumping location shall be maintained and readily available.

F. All existing utilities, including drainage through existing sewers and drains shall be maintained at all times during demolition and construction and all nearby gutters shall be kept open for drainage. Where existing sewers are encountered in the line of the work which interfere with the construction, the flow in the sewers, including both dry weather flow and storm flow, shall be maintained.

G. The Contractor shall coordinate intermediate site grading work with site removal items. The site is to be maintained at all times in a condition of maintainable site grades to allow application of temporary soil erosion control measures. (See Section 31 2500, Soil Erosion and Sedimentation Control.)

H Do not discharge grout washout into storm drains, catch basins or to the sanitary sewer system. Perform washing of concrete trucks in designated areas or offsite.

1. Designated areas should be clearly labeled. They should be in a pit to prevent run-off of waste water. Place designated areas a minimum of 50 feet from storm drains, bodies of water and ditches. All designated areas should be lined to prevent seepage and should have a barrier.

2. Alternative to a designated area: Provide a concrete box. If only a small amount of concrete washing is to occur, one option is to line a roll-off box. For very small projects this could be done with a drum.

I. Once grout washout has hardened, break up and dispose of properly. Disposal of hardened grout should occur on a regular basis.

J. Washout facilities must be cleaned, or new facilities provided once the washout area is 75% full.

3.02 REMOVAL OF VEGETATION

A. Trees, stumps and roots shall be removed and disposed of in conformance with the 2012 MDOT Specifications for Construction, Sections 201 and 202, including the salvaging of all marketable timber.

B. Remove and dispose of lawn and groundcover, and stockpile topsoil, in conformance with the 2012 MDOT Specifications for Construction, Section 205. Any earth excavation performed in Bid Pack 1 (building demolition) shall be stockpiled on-site.

3.03 ASPHALT PAVEMENT REMOVAL

A. Site demolition includes removing asphalt pavement of any thickness from any aggregate and/or concrete base course without the removal of the aggregate or concrete base.

B. The locating of disposal areas and the proper disposal of asphalt and concrete shall be the responsibility of the Contractor at his expense.

C. Cutting of asphalt surface for removal shall be by saw or other methods approved by the Engineer. Backhoe teeth and jackhammers equipped with spike points are not acceptable for cutting pavement along the edges of each patch; however, they may be used to break-up pavement within the patch for removal.

D. The edges of the patch shall be as straight and uniform as possible, using the above means and without disturbance to the adjacent pavement.

E. Any damage to the adjacent pavement, pavement base, sub-base, or utility structures caused as a result of the removal of the asphalt surface is the complete responsibility of the Contractor and shall be corrected by the Contractor, at his expense.

F. Prior to filling the excavated areas with patching material, if the base has become damp/wet due to rain or due to the Contractor's operation, it shall be dried by aerating or other approved method(s), by the Contractor, at his expense. Prior to patch placement, the excavation(s) shall be cleaned with compressed air to remove dirt and loose material. The Contractor shall use an air source which provides a minimum 90 psi and 150 cubic feet per minute of oil-free air at the nozzle. The base shall then be recompacted to 95% of its maximum unit weight as determined by AASHTO T-180 test with a vibratory plate compactor or other approved method(s), and the exposed edges of each patch shall be tacked by a power sprayer.

3.04 CONCRETE PAVEMENT, SIDEWALK AND CURB AND GUTTER REMOVAL

A. In removing concrete pavement, curb, gutter, curb and gutter, sidewalk, crosswalk, and similar structures, removal shall be to existing joints or to a sawed joint. The concrete shall be cut full depth with a concrete saw. The removal procedures used adjacent to structures that are to remain in place, shall be such that no damage occurs to the structure. Sufficient removal shall be made to provide for proper grades and connections in the new work. Earth which may be removed when removing concrete shall be replaced with a similar material at the Contractor's expense.

B. Concrete pavement, curb, gutter, curb and gutter, integral curb, shall be removed as part of Site Demolition regardless of the type and thickness.

C. The removal of curb and gutter of any type and ramps shall include full depth saw-cutting at the removal limits, as indicated on the Plans or as directed by the Engineer. All cuts shall be made at the locations specified by the Engineer, and as marked for removal.

D. Reinforcement bars shall be cut as required, including at all areas of removal. This work shall be included in the removal items, regardless of the size and quantities.

E. Removed materials not to be incorporated into the work shall become the property of the Contractor and shall be disposed of off-site. Removal units may not be stockpiled overnight on or adjacent to the site.

F. Removal of sub-base or subgrade, not authorized by the Engineer, shall be replaced and compacted by the Contractor, using materials specified by the Engineer. This work will be completed at the Contractor's expense.

G. Remove brick paving, mortar bed, concrete underlayment, concrete edging, aggregate base and pavement underdrainage system.

3.05 CONCRETE, ASPHALT, AND SAWCUTTING WORK

A. The following requirements apply to concrete, sawcutting, and asphalt work (cutting, grinding, drilling, hydro-demolition, etc.):
   1. Discharge of water, dust or debris from concrete saw cutting to storm or sanitary systems is prohibited.
   2. Storm and sanitary drains must be protected from dust and debris.
   3. Any water used during concrete and asphalt work (including sweeping and sawcutting) must be contained and collected for proper disposal. Suggested controls include wet vacuum or absorbents.
   4. Good housekeeping practices must be employed at the jobsite. Minimize dust.

3.06 REMOVE UTILITY STRUCTURES

A. Manholes, Catch Basins, and Inlets: In removing manholes, catch basins, and inlets any live sewers connected with them shall be rebuilt and properly reconnected through the removal area, and service shall be maintained, as directed by the Engineer, during such construction operations, unless the sewer runs are also designated for removal.

B. Abandonment: If the plans call for abandoning manholes, catch basins or inlets, the covers shall be removed and the masonry broken down to an elevation at least 3 feet below the finish grade. Existing live sewer connections shall be rebuilt and properly reconnected through the abandoned area, and service shall be maintained during such construction operations.

C. Disposing of Materials: Materials salvaged during the construction of the project shall become the property of the Contractor unless otherwise shown on the plans or in the proposal. Materials reserved for use by the Construction Manager shall be removed without damage to the material and stored outside the limits of construction at the location and in the manner approved by the Construction Manager. Materials that become the property of the Contractor shall be removed from the project before acceptance of the project. Broken concrete which is matted together by steel reinforcement and all other waste material shall be disposed of off-site. Locating disposal areas and the proper disposal including fees shall be the responsibility of the Contractor. No stockpiling of removed materials overnight or adjacent to the site will be allowed.

3.07 REMOVE SEWER AND WATER MAIN

A. Removal shall be by open cut trenches, removal trenches shall be backfilled with granular material conforming to MDOT Specification Class II sand compacted to 95% maximum density per AASHTO T-180 (modified proctor) test requirements.

B. All sewer and water main which are specified for removal shall be removed. When existing sewers are to be extended or incorporated into the new work, only such part of the existing sewer shall be removed as to provide a proper connection to the new work and the connecting edges shall be cut, chipped and trimmed to the required lines and grades without weakening or damaging the parts of the sewer to be retained. When existing water mains and water service leads are to be removed or abandoned, they shall be removed or abandoned up to the existing main. Any tee connections shall be removed and replaced with an appropriately sized sleeve according to City of Ann Arbor Standard Specifications.

C. Bulkheads shall be placed as necessary to maintain existing sewer flows where sewer removal stops at existing lines to remain in place. Masonry bulkheads shall be placed at this location and/or at locations specified on the plans. Bulkhead shall be constructed in accordance with the City of Ann Arbor Standard Specifications:

D. Ductile iron plugs shall be installed at the ends of all water main removals, in accordance with the City of Ann Arbor Standard Specifications for Construction. This applies to both permanent ends, and temporary ends, if the temporary end shall remain for more than 72 hours or be backfilled.

3.08 REMOVING RETAINING WALLS

A. Retaining walls shall be removed in such a manner as not to damage work or materials which are to be salvaged or any new work under construction. Explosives shall NOT be used. Portion of existing structures not interfering with the new construction outside of construction limits shall only be removed as indicated on the plans.

B. Breaking down of the existing structure shall be done in a manner that does not disrupt adjacent building facilities or operations. Coordination with the Construction Manager is necessary to limit disturbance to adjacent buildings and facilities.

C. It shall be the responsibility of the Contractor to find and pay for suitable off-site disposal areas and fees. No overnight stockpiling of disposed materials shall be allowed.

D. Concrete required for fill or plugging shall be a minimum 3000 psi, 8-day strength.

END OF SECTION

SECTION 31 2500 – SOIL EROSION & SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes conducting earthwork and earth change activity operations in a manner to protect Waters of the State of Michigan, storm drains, and adjacent properties from soil erosion and sedimentation. This Section also includes furnishing all materials and placing all temporary and permanent erosion control measures.

1.03 DEFINITIONS

A. "Waters of the State of Michigan" include the Great Lakes and their connecting waters, lakes, ponds and streams which may or may not be serving as a County drain as defined by the drain code; or any other body of water that has definite banks, a bed and visible evidence of a continued flow or continued occurrence of water or wetlands regulated under Part 303

1.04 REFERENCES

A. MDOT refers to the Michigan Department of Transportation 2012 Standard Specifications.

B. The WCWRC (Washtenaw County Water Resources Commissioner) Soil Erosion & Sedimentation Control Procedures.

https://www.washtenaw.org/2442/Soil-Erosion-Requirements-Standards

C. Guidebook of Best Management Practices for Michigan Watersheds.

http://www.michigan.gov/deq/0,1607,+7-135-3313_3682_3716-103496--,00.html

1.05 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: For earth changes, comply with the following:
   1. Part 91, Soil Erosion and Sedimentation Control (SESC) of the Natural Resources & Environmental Protection Act, 1994, PA 451, as amended (Part 91).
   2. The WCWRC (Washtenaw County Water Resources Commissioner) Soil Erosion & Sedimentation Control Procedures.
   3. The Contractor is responsible for obtaining permits from the WCWRC and Michigan EGLE, and complying with agency inspections and requirements.

1.06 SUBMITTALS

A. Submit product information for materials proposed for use.

1.07 PERFORMANCE REQUIREMENTS

A. Implement the soil erosion and sedimentation control plan including required maintenance during construction and final removal as directed in the plans, and as needed per site conditions and as required by site inspections by U of M Occupational Safety and Environmental Health (EHS).

B. Control runoff, soil erosion, and sedimentation. No sediment should leave the site.

C. Prevent wind erosion. No visible emissions (dust) should leave the site.

PART 2 PRODUCTS

2.01 MATERIALS

A. All materials shall be provided in accordance with MDOT Specifications, and as specified on the detail sheets of the plan set.

PART 3 GENERAL

3.01 EXAMINATION

A. Examine site and notify the Owner's representative of any issues that will not allow placement of temporary soil erosion control measures as directed herein.

B. Where the following events result in the need for additional or modified soil erosion and sedimentation control installations to meet the objective of the referenced procedures, provide remedial installations on a timely basis.

1. Unanticipated alterations to the construction schedule.
2. Unanticipated site conditions except Acts of God such as a tornado or fire.

3.02 INSTALLATION

A. Install temporary erosion and sedimentation control measures prior to or upon commencement of earthwork activities.

B. Install an entrance anti-tracking pad with a minimum of 50 feet in length. A geotextile filter fabric should be placed under six (6) inches of limestone aggregate.

C. Install temporary inlet protection at all adjacent and down-gradient stormwater inlets, catch basins and manholes that may be impacted. Silt sacks per detail on plans shall be used per manufacturer’s instructions.

D. Install erosion eels on the site down gradient from the disturbed area. Erosion eels to be the type as shown on the detail on the plans.

3.03 SEDIMENT CONTROL

A. Place stockpiles and other spoil piles away from the drainage system to minimize sediment transport. Keep as few stockpiles as possible during the course of the project. If the stockpile and/or spoil pile must remain on-site overnight, or if the weather conditions indicate the change for precipitation:

1. Cover the pile with water repellent material to prevent erosion (tarp with sandbags on a rope); or

2. Install silt fencing around the base of the pile to prevent transport of sediment to the stormwater system and wet the pile as needed to prevent wind erosion; or

3. Apply other control methods as appropriate to the site.

B. Where runoff enters the existing stormwater system, protect the storm system from sedimentation.

1. Temporary inlet protection must prevent the release of sediment and allow for proper drainage:

a. Use of burlap is not acceptable as a SESC measure.

b. If filter fabric is used on drains, ensure the filter fabric is placed over (not under) the storm grates to facilitate maintenance (cleaning) of the controls.

c. If high stormwater flows are expected, use silt sacks in lieu of filter fabric for drain protection. Based on site conditions select regular or high flow silt sacks as appropriate.

C. Utilize a water truck as needed for dust control.

D. Utilize a sweeping machine to remove sediment tracked onto the pavement on a daily basis at minimum. Use sweeper more frequently as dictated by site conditions.

3.04 MAINTENANCE OF SESC DEVICES

A. Maintain erosion and sedimentation controls on a daily basis until the contract has been completed and accepted. Maintenance shall include:

1. Repair of damaged installations.

2. Replacement of lost soil erosion and sedimentation control measures.

3. Periodic removal of collected silt and sedimentation as required or directed to maintain effectiveness of the silt traps, filters and basins.

B. Correct non-conforming soil erosion and sedimentation control work on a timely basis within 24 hours, if Waters of the State are being impacted or within five (5) days if not impacting Waters of the State.

C. Complete permanent soil erosion control measures for all slopes, channels, ditches, or any disturbed land area within five (5) calendar days after final grading or the final earth change has been completed. Maintain temporary control measures until permanent soil erosion control measures are in place and the area is stabilized.

D. Place all temporary soil erosion control measures. Placement, maintenance and ultimate removal of all temporary measures shall be per the WCWRC requirements.

E. All permanent measures shall be placed as soon as practical based on construction scheduling for the project.

F. All temporary measures shall be maintained until the Owner's representative determines that the site is stable enough to allow removal.

G. The Contractor shall place cereal rye seeding at 200 lbs/acre as directed by Engineer as a temporary soil stabilization means in those areas that are not part of the work staging or work areas, but which have been disturbed. Cereal rye seeding, including mulching, shall be performed per MDOT Specification 816 for turf establishment.

H. Intermediate slopes created as a result of phased site removals shall also have mulch blankets for slopes 3H to 1V or steeper. Materials and placement shall be per MDOT Specification 816 for turf establishment. The Contractor shall include up to 400 square yards of high velocity mulch blankets in addition to the amount shown on the plans for intermediate grading use purposes.

I. The Contractor shall include in his Bid up to 150 feet of silt fence or erosion eel for intermediate soil erosion control work in excess of the amount shown on the plans.

J. The Contractor shall cooperate and coordinate with the site stormwater inspector in regard to maintenance of erosion control measures.

3.05 PROJECT CLOSEOUT

A. Remove temporary erosion control measures after permanent soil erosion measures are in place and the area is stabilized, unless ordered by the Owner's Representative to remain in place. Care shall be taken during removal to prevent soil erosion and sedimentation. Erosion control devices shall remain the property of the Contractor.

END OF SECTION