The following is issued to supplement or revise the Contract Documents. The revisions to the documents are described below. Unless specifically changed by this addendum, the remainder of the drawings, documents, specifications, and bid date/time shall remain in effect as originally issued.

**CLARIFICATIONS**

- **Item #1.** DSA approved specifications are included as part of this bid package.
- **Item #2.** Limited Asbestos and Lead Sampling Report included as part of this bid package.

Attachments: Revision/Clarification drawings:
Technical Specifications For:

EES Program Upgrades
Monte Vista Elementary School
Vista Unified School District

ASDG Job Number: 19-034

Client:
Vista Unified School District
1234 Arcadia Ave.
Vista, CA
92084

Architect:
AlphaStudio Design Group
6152 Innovation Way
Carlsbad, CA
92009
760-431-2444

www.alphastudio-design.com
EES Program Upgrades
Monte Vista Elementary School
Vista Unified School District

ASDG Job Number: 19-034

Architect:
Joshua Eckle
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PART 1 GENERAL

1.01 PROJECT
A. Project Name: EES Upgrades at Monte Vista ES
B. Owner's Name: Vista Unified School District.
C. Architect's Name: AlphaStudio Design Group.
D. The Project consists of the construction of 1-new concrete access walkway. Additional scope includes finish upgrades to 2-existing classrooms, site fencing, and paving.

1.02 DEFINITIONS
C. Furnish: To supply products to the project site, including delivery.
D. Install: To put products in place in the work ready for the intended use, including unloading, unpacking, handling, storing, assembling, installing, erecting, placing, applying, anchoring, working, finishing, curing, protecting, cleaning, and similar operations.
E. Provide: To furnish and install products.
F. Indicated: Shown, noted, scheduled, specified, or drawn, somewhere in the Contract Documents.

1.03 REGULATORY REQUIREMENTS
A. The following regulations are applicable to this project:

1.04 CONTRACT DESCRIPTION
A. Contract Type: A single prime contract based on a Stipulated Price.

1.05 OWNER OCCUPANCY
A. Owner intends to continue to occupy adjacent existing building during the entire construction period.
B. Owner intends to occupy the Project upon Substantial Completion.
C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
D. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES
A. Construction Operations: Limited to areas noted on Drawings.
B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.
D. Time Restrictions:
1. Limit conduct of especially noisy exterior work to the hours regulated by the local jurisdiction.

E. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the site is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 48-hours notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

END OF SECTION
SECTION 01 2000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Procedures for preparation and submittal of applications for progress payments.
B. Documentation of changes in Contract Sum and Contract Time.
C. Contract Change procedures.
D. Correlation of Contractor submittals based on changes.
E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS
A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Special Conditions, and other Sections in Division 1 of these Specifications.
B. The Contract Sum and the schedule for payments are described in other Documents of the Contract.

1.03 SCHEDULE OF VALUES
A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
B. Forms filled out by hand will not be accepted.
C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.
D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
F. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.
G. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS
A. Payment Period: Submit at intervals stipulated in the Agreement.
B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
C. Forms filled out by hand will not be accepted.
D. Present required information twoon electronic media printout.
E. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
F. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   10. Retainage.
G. Execute certification by signature of authorized officer.

H. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

I. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

J. Submit one electronic and three hard-copies of each Application for Payment.

K. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 3000.
   2. Construction progress schedule, revised and current as specified in Section 01 3000.
   3. All items listed and required under Article 37 of the General Conditions.

L. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

M. PROCESSING:
   1. The Contractor shall submit a proposed Schedule of Values along with a draft Application for Payment to the Architect and Project Inspector for review, comment and approval prior to submitting the first Application for Payment.
   2. When preparing the Application for Payment each month, the Contractor shall review the proposed percentages of completion of work being applied for with the Project Inspector, who shall approve of the percentages prior to formalizing the Application for Payment. If possible, the percentages should be reviewed with the District, Architect and Project Inspector at the closest scheduled job meeting prior to finalizing.
   3. The Contractor shall submit three (3) copies of the Applications for Payment, with original signatures to the Project Inspector, who will verify the percentages and sign all copies. The Contractor shall be responsible for delivery to the Architect for signatures.
   4. The Architect will review the Application for Payment, and the Architect of Record will sign all copies and forward it to the Contractor, who in turn shall be responsible for delivery to the District for signatures, processing and payment.
   5. Applications for Payment shall be made on a monthly basis and shall be filed by the Contractor to the District in the timeframe as set forth in the General Conditions. Signatures on the Application for Payment shall include the Contractor, Architect, and Project Inspector. The Contractor shall be responsible for obtaining all required signatures. Once all signatures are obtained, Application for Payment may be submitted to the District. Work for payment may be estimated or pro-rated to the end of the month if approved before hand by the District.
   6. Applications for Payment may include billing for project materials not on-site if these materials have been received and are being stored in a bonded warehouse. Receipts for such project materials must accompany the Application for Payment.
   7. Applications for Payment will not be processed if As-Built Drawings are not updated to the satisfaction of the Project Inspector and the Architect.

1.05 MODIFICATION PROCEDURES

A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.

B. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

C. Architect's Supplemental Instructions (ASI): Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on Architect's Supplemental Instructions (A.S.I.).
D. Construction Change Directive (CCD): Architect may issue a document, signed by District, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

E. Proposal Request (P.R.): Architect may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 5 days.
   1. PROPOSAL REQUEST PRICING:
      a. The Contractor responds to a Proposal Request using the Proposal Request Pricing area on the Proposal Request form, a copy of which is found at the end of this section. The Contractor completes this form providing an itemized cost breakdown and indicating any extensions of time required. Upon review and acceptance of the cost submitted, and when signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY and the Contractor shall proceed with the approved changes. Proceeding with the changes constitutes acceptance of the cost and time adjustment indicated.

F. Proposed Contract Modifications (PCM): Contractor may propose a change by submitting a request for change or Proposed Contract Modification (P.C.M.) to the Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 6000.
   1. PROPOSED CONTRACT MODIFICATIONS (P.C.M.'s):
      a. If additional services are required in the opinion of the Contractor that a Proposal Request has not been issued for, the Contractor issues the Proposed Contract Modification form, a copy of which is found at the end of this section. The Contractor completes this form providing an itemized cost breakdown and any pertinent backup information deemed necessary to fully justify the cost submitted, and indicating any extensions of time required. Upon review and acceptance of the cost submitted, and when signed by the District and Architect and received by the Contractor, this document becomes effective IMMEDIATELY and the Contractor shall proceed with the approved changes. Proceeding with the changes constitutes acceptance of the cost and time adjustment indicated.
      b. P.R. / P.C.M. REPLY:
         a. If the Architect takes exception to any portion of the Proposal Request Pricing and/or Proposed Contract Modification submitted by the Contractor, the Architect shall reply in writing using the the P.R./P.C.M. Reply form. The Contractor shall resubmit a revised P.R. or P.C.M. (utilizing the same number but with a letter suffix, i.e. "P.C.M. #1A") in response to the comments made by the Architect.
         b. Should the dollar amount of additional costs or credits attributable to the P.R. and/or P.C.M. become a point of contention, the Contractor and the Architect shall each make a reasonable effort to arrive at a mutually agreed upon dollar amount. If an agreement cannot be reached within a reasonable time frame, dollar amounts will be based on the current edition of SAYLOR PUBLICATIONS, INC. CURRENT CONSTRUCTION COSTS. Other cost estimating books or reference materials may be used for determining dollar amounts if acceptable to the General Contractor, Architect and the Owner.

G. Execution of Change Orders: All approved P.R.’s and P.C.M.’s shall be processed as Change Orders. Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract. All Change Orders must be approved by the School Districts Governing Board and D.S.A.
   1. Refer to Article 40 of General Conditions.
I. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
J. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
K. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
L. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT
A. As specified in the Agreement and Conditions of the Contract.
   1. Refer to Article 37 of the General Conditions.
B. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
C. Application for Final Payment will not be considered until the following have been accomplished:
   1. All requirements of Article 37 of the General Conditions.
   2. DSA Form 6-C Contractor Verified Report filed with the Division of the State Architect.
   3. All closeout procedures specified in Section 01780.

END OF SECTION
2.01 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 coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
      4. Waives claims for additional costs or time extension that may subsequently become apparent.
   B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   D. Limit each request to a single proposed substitution item.

2.02 RESOLUTION

2.03 ACCEPTANCE

END OF SECTION
SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Preconstruction meeting.
B. Progress meetings.
C. Construction progress schedule.

1.02 RELATED REQUIREMENTS
A. Section 01 1000 - Summary: Stages of the Work, occupancy, .
B. Section 01 3025 - Submittals: Submittal procedures.
C. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.
D. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 DEFINITIONS
A. REQUEST FOR INFORMATION (R.F.I.'s):
   1. Requests for Information may be generated by the Contractor, any of the Contractor's subcontractors or the Owner's Inspector and should be directed to the Architect through the General Contractor using the form provided at the end of this section. Request for Information forms are used to help clarify and/or interpret the information contained in the Contract Documents or to resolve construction questions in the field.

PART 3 EXECUTION

2.01 REQUEST FOR INFORMATION
A. Request for Information (RFI): Requests for Information may be generated by the Contractor, any of the Contractor's subcontractors or the Owner's Inspector and should be directed to the Architect through the General Contractor using the form provided at the end of this section. Request for Information forms are used to help clarify and/or interpret the information contained in the contract documents or to resolve construction questions in the field.
   1. The Architect shall respond in writing within three (3) working days of receipt of the RFI. The Architect will promptly advise the Contractor when a Request for Information being processed will be delayed beyond three (3) working days due to a need for additional information, research or coordination. The Contractor should allow sufficient review time so that the work will not be delayed as a result of the time required to process RFI's. No extension of contract time will be authorized because of failure by the Contractor to transmit RFI's to the Architect sufficiently in advance of work to permit processing.
   2. Deductions for Unnecessary or Redundant RFI's: Should the Contractor or the Contractor's subcontractor submit unnecessary or redundant RFI's to the Architect for review, the Architect shall be entitled to bill the Owner at his (Architect's) hourly rate for the additional work generated by the Contractor's inefficiency. The Owner shall then deduct the comparable dollar amount from the payments due the Contractor.
   3. Unnecessary and/or Redundant RFI's Include (But Are Not Limited To):
      a. RFI's questioning items or information clearly noted in the contract documents.
      b. RFI's generated as a result of a Contractor's substitution or construction error which requires additional coordination with other related items or a revision to the contract documents.

END OF SECTION
SECTION 01 3025
SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Submittal Log
B. Preparing and processing of submittals for review and action.
C. Preparing and processing of informational submittals.

1.02 DEFINITIONS
A. "Shop drawings" are drawings and other data prepared, by the entity who is to do the work, specifically to show a portion of the work.
B. "Product data submittals" are standard printed data which show or otherwise describe a product or system, or some other portion of the work.
   1. Product data submittals also include:
      a. Performance curves, when issued by the manufacturer for all products of that type.
      b. Selection data showing standard colors.
      c. Wiring diagrams, when standard for all products of that type.
C. "Samples" are actual examples of the products or work to be installed.
D. Informational Submittals: Submittals identified in the contract documents as to be submitted for information only.

1.03 SUBMITTAL LOG
A. Contractor shall prepare submittal log in format approved by the Architect and School District.
B. As a minimum the submittal log shall list all submittals required by the contract documents, with assigned submittal number, corresponding specification section and description of submittal.

1.04 SUBMITTALS FOR REVIEW
A. Submit the following for the architect's review and action:
   1. Shop drawings.
   2. Structural design information required by the contract documents.
   3. Product data.
   4. Samples.
   5. Submittals indicated as "for approval."
   6. Submittals for which procedures are not defined elsewhere.
B. Submit to Architect for review for the limited purpose of checking fro conformance with information given and the design concept expressed in the contract documents.
C. Samples will be reviewed only 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 01780 - Closeout Submittals.

1.05 SUBMITTALS FOR INFORMATION
A. When the following are specified in individual sections, submit them for information:
   1. Certificates.
   2. Coordination drawings.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Qualification statements from manufacturers / installers.
   8. Verified Reports in accordance with Title 24, Part 1, Article 47336, C.C.R.
1.06 SUBMITTALS FOR PROJECT CLOSEOUT
   A. When the following are specified in individual sections, submit them at project closeout:
      1. Project record documents.
      2. Operation and maintenance data.
      3. Warranties.
      5. Other types as indicated.
   B. Submit for Owner's benefit during and after project completion.

1.07 SUBMITTAL REQUIREMENTS
   A. Do not commence work that requires review of any submittals until receipt of returned submittals with an acceptable action.
   B. Do not allow submittals without an acceptable action marking to be used for the project.
   C. Submit all submittals to the Architect.
   D. All Submittals for the project shall be delivered to the Architect's office within five (5) days from the Notice to Proceed.
   E. Do not submit substitute items that have not been approved by means of the procedure specified elsewhere.
   F. Do not include requests for substitution (either direct or indirect) on submittals; comply with procedures for substitutions specified elsewhere.
   G. Related Sections: The following are specified elsewhere in Division 1:
      1. 01 7800 - CLOSEOUT SUBMITTALS
         a. Contract closeout submittals:
            1) Equipment and systems demonstration reports.
            2) Operating and maintenance data.
            3) Request for determination of substantial completion.
            4) Project record documents.
            5) Warranties.
            6) Bonds.

1.08 NUMBER OF COPIES OF SUBMITTALS
   A. Documents for Review:
      1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies which the Contractor requires, plus [four] copies which will be retained by the Architect.
      2. Larger Sheets, Not Larger Than 36 x 48 inches: Submit the number of opaque reproductions which Contractor requires, plus [four] copies which will be retained by Architect.
      3. In lieu of hard copy submittals, electronic submittals are acceptable except for material and/or color selection samples.
   B. Documents for Information: Submit [three] copies.
   C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
   D. Samples: Submit the number specified in individual specification sections; one 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.
   E. Copies in excess of the number requested will not be returned.
   F. Provide additional copies, if required for operating and maintenance data, marked to indicate their purpose.
1.09 SUBMITTAL PROCEDURES

A. Coordination:
   1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
      a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
      b. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
      c. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.

B. Processing:
   1. Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
      a. For each submittal for review, allow 5 days excluding delivery time to and from the Architect. Allow additional time if processing time must be delayed to permit coordination with subsequent submittals. The Architect shall promptly advise the General Contractor when a submittal being processed must be delayed for coordination.
         1) Exceptions:
            (a) Deferred Approval Submittal through the Division of the State Architect's office. Due to the nature of these submittals, no estimated return date can be given.
            (b) Complicated Shop Drawings may require more than ten days for proper review time and coordination.
            (c) If numerous Submittals are provided within a short period of time, the review time may not be able to be met. In these cases, the Contractor should clearly identify on the Submittal Transmittal which Submittals have the highest priority in terms of the Project Schedule and related construction activities.
      b. If an intermediate submittal is necessary, process the same as the initial submittal.
      c. Allow two weeks for reprocessing each submittal.
      d. When revised for resubmission, identify all changes made since previous submission.
      e. No extension of Contract Time will be authorized because of the failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing and review.

C. Submittal Preparation:
   1. Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
      a. Provide a space approximately 4" x 5" on the label or besides the title block on Shop Drawings to record the Architect's/Engineer's review and approval markings and the action taken.
      b. Include the following information on the label for processing and recoding action taken:
         1) Project Name.
         2) Date.
         3) Name and address of Architect.
         4) Name and address of District.
         5) Name and address of Subcontractor.
         6) Name and address of Supplier.
         7) Name of manufacturer.
         8) Number and title of the appropriate Specification Section.
         9) Drawing number and detail references, as appropriate.
D. Submittal Transmittal:
1. Package each submittal appropriately for transmittal and handling. Transmit each submittal from District or General Contractor to Architect using a standard "Submittal Transmittal" form in a format that is acceptable to the Architect and District. Submittals received from sources other than the District or General Contractor will be returned without action.
2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
3. On the transmittal, record relevant information and requests for data.
4. 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.
5. Deliver submittals to Architect at business address.
6. Schedule submittals to expedite the Project, and coordinate submission of related items.
7. Identify all variations from Contract Documents, and all Product or system limitations which may be detrimental to successful performance of the completed Work.
   a. Failure to identify all variations and limitations will be cause for retroactive rejection of submittals previously approved.

E. Distribution:
1. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

1.10 COORDINATION OF SUBMITTALS
A. Coordinate submittals and activities that must be performed in sequence, so that the architect has enough information to properly review the submittals.
B. Coordinate submittals of different types for the same product or system so that the architect has enough information to properly review each submittal.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 TIMING OF SUBMITTALS
A. Transmit each submittal at or before the time indicated on the approved schedule of submittals.
   1. Prepare and submit for approval a schedule showing the required dates of submittal of all submittals.
   2. Organize the schedule by the applicable specification section number.
   3. Incorporate the contractor's construction schedule specified elsewhere.
   4. ALL SUBMITTALS FOR THE PROJECT SHALL BE DELIVERED TO THE ARCHITECT'S OFFICE WITHIN FIVE (5) DAYS FROM THE NOTICE TO PROCEED.
B. Deliver each submittal requiring approval in time to allow for adequate review and processing time, including resubmittals if necessary; failure of the contractor in this respect will not be considered as grounds for an extension of the contract time.
C. Deliver each informational submittal prior to start of the work involved, unless the submittal is of a type which cannot be prepared until after completion of the work; submit promptly.
D. Allow a minimum of 5 business days for the first processing of each submittal. Allow more time when submittals must be coordinated with later submittals, or are more technical in nature and require more review and coordination time.
E. Allow a minimum of 3 business days for processing of resubmittals.
F. If a submittal must be delayed for coordination with other submittals not yet submitted, the architect may at his option either return the submittal with no action or notify the contractor of the other submittals, which must be received before the submittal can be reviewed.
3.02 SUBMITTAL PROCEDURES - GENERAL

A. Contractor Review: Sign each copy of each submittal certifying compliance with the requirements of the contract documents.

B. Notify the architect, in writing and at time of submittal, of all points upon which the submittal does not conform to the requirements of the contract documents, if any. All deviations from the Contract Documents must be clearly indicated on the submittal. All submittals for materials or equipment other than that specified must be submitted with properly completed Substitution Request Form.

C. Preparation of Submittals:
   1. Label each copy of each submittal, with the following information:
      a. Project name.
      b. Date of submittal.
      c. Contractor's name and address.
      d. Architect's name and address.
      e. Subcontractor's name and address.
      f. Manufacturer's name.
      g. Specification section where the submittal is specified.
      h. Numbers of applicable drawings and details.
      i. Other necessary identifying information.
   2. Pack submittals suitably for shipment.
   3. Submittals to receive architect's action marking: Provide blank space on the label or on the submittal itself for action marking; minimum 4 inches wide by 5 inches high.

D. Transmittal of Submittals:
   1. Submittals will be accepted from the contractor only. Submittals received from other entities will be returned without review or action.
   2. Submittals received without a transmittal form will be returned without review or action.
   3. Transmittal form: Use a form matching the sample form attached to this section.
   4. Fill out a separate transmittal form for each submittal; also include the following:
      a. Other relevant information.
      b. Requests for additional information.

3.03 SHOP DRAWINGS

A. Content: Include the following information:
   1. Dimensions, at accurate scale.
   2. All field measurements that have been taken, at accurate scale.
   3. Names of specific products and materials used.
   4. Details, identified by contract document sheet and detail numbers.
   5. Show compliance with the specific standards referenced.
   6. Coordination requirements; show relationship to adjacent or critical work.
   7. Name of preparing firm.

B. Preparation:
   1. Reproductions of contract documents are not acceptable as shop drawings.
   2. Space for architect's action marking shall be adjacent to the title block.

3.04 PRODUCT DATA

A. Content:
   1. Submit manufacturer's standard printed data sheets.
   2. Identify the particular product being submitted; submit only pertinent pages.
   3. Show compliance with properties specified.
   4. Identify which options and accessories are applicable.
   5. Show compliance with the specific standards referenced.
   6. Show compliance with specified testing agency listings; show the limitations of their labels or seals, if any.
7. Identify dimensions which have been verified by field measurement.
8. Show special coordination requirements for the product.

3.05 SAMPLES
A. Samples:
   1. Provide samples that are the same as proposed product.
   2. Where unavoidable variations must be expected, submit "range" samples, minimum of 3 units, and describe or identify variations among units of each set.
   3. Where selection is required, provide full set of all options.
B. Preparation:
   1. Attach a description to each sample.
   2. Attach name of manufacturer or source to each sample.
   3. Where compliance with specified properties is required, attach documentation showing compliance.
   4. Where there are limitations in availability, delivery, or other similar characteristics, attach description of such limitations.
   5. Where selection is required, the first submittal may be a single set of all options; after return of submittal with selection indicated, submit standard number of sets of selected item.
C. Keep final sample set(s) at the project site, available for use during progress of the work.

3.06 REVIEW OF SUBMITTALS
A. Submittals for approval will be reviewed, marked with appropriate action, and returned.
   1. Informational submittals: Submittals will be reviewed.

3.07 RETURN, RESUBMITTAL, AND DISTRIBUTION
A. Submittals will be returned to the contractor by mail. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the architect.
B. Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the architect.
   1. Exception: Transmittal number for resubmittals shall be the number of the original submittal plus a letter suffix; example: 05500-1 would become 05500-1 A.
C. Distribution:
   1. Distribute returned submittals to all subcontractors and suppliers involved in work covered by the submittal.
   2. Make one copy for project record documents.
SECTION 01 3216
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Preliminary schedule.
   B. Construction progress schedule, with network analysis diagrams and reports.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS
   A. Within 10 days after date of Agreement, submit preliminary schedule.
   B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
   C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
      1. Include written certification that major contractors have reviewed and accepted proposed schedule.
   D. Within 10 days after joint review, submit complete schedule.
   E. Submit updated schedule with each Application for Payment.
   F. Submit the number of opaque reproductions that Contractor requires, plus three copies that will be retained by Architect.
   G. Submit under transmittal letter form specified in Section 01 3000 - Administrative Requirements.

1.04 QUALITY ASSURANCE
   A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.05 SCHEDULE FORMAT
   A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
   B. Diagram Sheet Size: Maximum 22 x 17 inches.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE
   A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT
   A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
   B. Identify each item by specification section number.
   C. Identify work of separate stages and other logically grouped activities.
   D. Provide sub-schedules for each stage of Work identified in Section 01 1000 - Summary.
   E. Provide sub-schedules to define critical portions of the entire schedule.
   F. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
   G. Provide legend for symbols and abbreviations used.
3.03 BAR CHARTS
   A. Include a separate bar for each major portion of Work or operation.
   B. Identify the first work day of each week.

3.04 NETWORK ANALYSIS
   A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.
   B. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
   C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
      1. Preceding and following event numbers.
      2. Activity description.
      3. Estimated duration of activity, in maximum 15 day intervals.
      4. Earliest start date.
      5. Earliest finish date.
      6. Actual start date.
      7. Actual finish date.
      8. Latest start date.
      9. Latest finish date.
     10. Total and free float; float time shall accrue to Owner and to Owner's benefit.
     11. Monetary value of activity, keyed to Schedule of Values.
     12. Percentage of activity completed.
   D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.
   E. Required Reports: List activities in sorts or groups:
      1. By preceding work item or event number from lowest to highest.
      2. By amount of float, then in order of early start.

3.05 UPDATING SCHEDULE
   A. Maintain schedules to record actual start and finish dates of completed activities.
   B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
   C. Annotate diagrams to graphically depict current status of Work.
   D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
   E. Indicate changes required to maintain Date of Substantial Completion.
   F. Submit reports required to support recommended changes.

3.06 DISTRIBUTION OF SCHEDULE
   A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.
   B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION
SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Submittals.
B. References and standards.
C. Control of installation.
D. Testing and inspection agencies and services.
E. Control of installation.
F. Manufacturers' field services.
G. Defect Assessment.

1.02 RELATED REQUIREMENTS
A. Section 01305 - Submittals: Submittal procedures.
B. Section 01 4219 - Reference Standards.

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
   2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
C. 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.
D. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
   1. Submit report in duplicate within 30 days of observation to Architect for information.
   2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
E. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
   2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.04 REFERENCES AND STANDARDS
A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
C. Obtain copies of standards where required by product specification sections.
D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

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

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

1.05 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform specified testing. Refer to Section 01900 - Testing and Inspection Requirements.

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

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 TESTING AND INSPECTION

A. See Specification Section 01900 for testing required.

B. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers’ facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Architect and laboratory 48 hours prior to expected time for operations requiring testing/inspection services.
   5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

C. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.
D. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by the Architect. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum/Price.

3.03 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, and ________ as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to 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 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. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS

2.01 AASHTO -- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

2.02 ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL
C. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).

2.03 AGC -- ASSOCIATED GENERAL CONTRACTORS OF AMERICA

2.04 ASTM A SERIES -- ASTM INTERNATIONAL

2.05 ASTM D SERIES -- ASTM INTERNATIONAL
A. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2012.
C. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.

2.06 ASTM E SERIES -- ASTM INTERNATIONAL

2.07 ASTM F SERIES -- ASTM INTERNATIONAL
A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
2.08  AWC -- AMERICAN WOOD COUNCIL

2.09  AWS -- AMERICAN WELDING SOCIETY

2.10  FM -- FACTORY MUTUAL GLOBAL
  A.  FM DS 1-29 - Roof Deck Securement and Above-Deck Roof Components; Factory Mutual System; 2006.

2.11  IAS -- INTERNATIONAL ACCREDITATION SERVICE

2.12  ICC -- INTERNATIONAL CODE COUNCIL, INC.

2.13  ITS -- INTERTEK TESTING SERVICES NA, INC.

2.14  NFPA -- NATIONAL FIRE PROTECTION ASSOCIATION

2.15  SDI -- STEEL DECK INSTITUTE

2.16  UL -- UNDERWRITERS LABORATORIES INC.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary sanitary facilities.
B. Temporary Controls: Barriers and fencing.
C. Security requirements.
D. Vehicular access and parking.
E. Waste removal facilities and services.

1.02 TEMPORARY SANITARY FACILITIES

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

1.03 BARRIERS

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

1.04 FENCING

A. Construction: Commercial grade chain link fence.
B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks as required.
C. All temporary construction fencing shall be provided with privacy cloth.

1.05 SECURITY

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

1.06 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and Owner.
B. Provide and maintain access to fire hydrants, free of obstructions.
C. Provide means of removing mud from vehicle wheels before entering streets.
D. Comply with 2016 C.F.C., Chapter 33 during all phases of construction.

1.07 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
B. Provide containers with lids. Remove trash from site weekly.
C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
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. General product requirements.
   B. Re-use of existing products.
   C. Transportation, handling, storage and protection.
   D. Product option requirements.
   E. Substitution limitations.
   F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS
   A. Section 01 2500 - Substitution Procedures: Substitutions made during and after the Bidding/Negotiation Phase.
   B. Section 01 4000 - Quality Requirements: Product quality monitoring.
   C. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

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

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS
   A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
   B. 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. However, The Owner has the first right of refusal on all existing materials and equipment indicated to be removed, but not to be re-used.

2.02 NEW PRODUCTS
   A. Provide new products unless specifically required or permitted by the Contract Documents.
   B. DO NOT USE products having any of the following characteristics:
      1. Made using or containing CFC's or HCFC's.
   C. Where all other criteria are met, Contractor shall give preference to products that:
      1. If used on interior, have lower emissions, as defined in Section 01 6116.
      2. If wet-applied, have lower VOC content, as defined in Section 01 6116.
      3. Have a published GreenScreen Chemical Hazard Analysis.
D. Provide interchangeable components of the same manufacture for components being replaced.

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.

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

PART 3 EXECUTION
3.01 SUBSTITUTIONS DURING THE BIDDING PERIOD
A. Substitution requests submitted later than 7 days prior to the Bid Date will not be considered.
B. Acceptable substitutions will be added to the contract documents by addendum; no verbal approvals will be valid.

3.02 SUBSTITUTIONS AFTER AWARD OF THE CONTRACT
A. Substitutions will not be considered between the Bid date and the Award of the Contract.
B. Substitutions will not be allowed after Award of the Contract except when, through no fault of the Contractor, none of the specified products are available.
   1. Architect will consider requests for substitutions only within 30 days after date of Agreement.

3.03 SUBSTITUTION LIMITATIONS
A. See Section 01 2500 - Substitution Procedures.
B. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period and the documents required. Comply with requirements specified in Section 00 2113.
C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
D. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner, including:
      a. Redesign.
      b. Additional components and capacity required by other work affected by the change.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
F. Substitutions will not be considered when submitted directly by subcontractor or supplier.
G. Substitution Submittal Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the Contract Documents, utilizing the form provided at the end of this section.
1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. Substitutions shall be considered as a Change Order, and shall be approved by DSA prior to fabrication or use.
4. The Architect will notify Contractor in writing of decision to accept or reject request.

H. Data Required with Substitution Request: Provide at least the following data:
   1. Identify product by specification section and paragraph number.
   2. Manufacturer's name and address, trade name and model number of product (if applicable), and name of the fabricator or supplier (if applicable).
   3. Complete Product Data.
   4. A list of other projects on which the proposed product has been used, with Project Name, the Design Professionals name, and Owner contact.
   5. A itemized side-by-side comparison of the proposed product to the specified product.
   6. Net amount of change to the contract sum.
   7. List of maintenance services and replacement materials available.
   8. Statement of the effect of the substitution on the construction schedule.
   9. Description of changes that will be required in other work or products if the substitute product is approved.

I. The Architect will determine the acceptability of the proposed substitution.

J. There are certain items and/or products that are specified for this project that are District Standards, where no substitutions will be accepted. If this is the case, the Substitution Request related to a District Standard shall be responded to stating such fact.

K. When the proposed substitution is accepted, provide the product (or one of the products, as the case may be) specified.

3.04 TRANSPORTATION AND HANDLING

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

3.05 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
B. Store and protect products in accordance with manufacturers' instructions.
C. Store with seals and labels intact and legible.
D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
E. For exterior storage of fabricated products, place on sloped supports above ground.
F. Provide off-site storage and protection when site does not permit on-site storage or protection.
G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
H. Comply with manufacturer's warranty conditions, if any.
I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
J. Prevent contact with material that may cause corrosion, discoloration, or staining.
K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
L. 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. Cleaning and protection.
F. Starting of systems and equipment.
G. Demonstration and instruction of Owner personnel.
H. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS
A. Section 01305 - Submittals: Submittal procedures.
B. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 SUBMITTALS
A. See Section 01305 - Submittals, 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.
   5. Work of Owner or separate Contractor.

1.04 PROJECT CONDITIONS
A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
E. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
F. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.05 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.

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 seven days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.
E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. 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.

B. Periodically verify layouts by same means.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer’s instructions and recommendations, and so as to avoid waste due to necessity for replacement.

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

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

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

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. 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.

C. Services (Including but not limited to Electrical and irrigation): 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; 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.

D. 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.

E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

F. 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.

G. Refinish existing surfaces as indicated:
H. 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.
I. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
   1. Patch as specified for patching new work.
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. Match work that has been cut to adjacent work.
   4. Repair areas adjacent to cuts to required condition.
   5. Repair new work damaged by subsequent work.
   6. Remove samples of installed work for testing when requested.
   7. Remove and replace defective and non-conforming work.
D. Execute cutting and patching including excavation and fill to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.
E. 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.
F. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
H. Restore work with new products in accordance with requirements of Contract Documents.
I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

J. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

K. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

L. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. 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. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 DEMONSTRATION AND INSTRUCTION

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

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

C. 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.

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

3.11 ADJUSTING

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

3.12 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are nonhazardous.

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 site; sweep paved areas, rake clean landscaped surfaces.

F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 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. Furnish service and maintenance of components indicated in specification sections for one year from date of Substantial Completion.

D. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

E. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

F. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION
PART 1 GENERAL

1.01 SUMMARY

A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
   1. Requirements preparatory to Final Inspection.
   2. Final Inspection Procedures.

B. The work includes performing all operations necessary for and properly incidental to closing out the project and assisting in Owner’s final inspection as hereinafter specified. The Conditions of the Contract and the other sections of Division 1 apply to this section as fully as if repeated herein.

C. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 33.

1.02 RELATED SECTIONS

A. 01 2000 - Price and Payment Procedures; Procedures for preparation and submittal of application for final payment.

B. 01 7000 - Execution Requirements; Starting of systems and equipment and demonstration and instruction of Owner personnel.

C. 01 7700 - Cleaning; Final cleaning requirements.

D. 01 7800 - Closeout Submittals; Project Record Documents, Operation and Maintenance Data and Warranties and Bonds.

1.03 REQUIREMENTS PREPARATORY TO FINAL INSPECTION

A. All temporary facilities shall be removed from the site as specified in Division 01500 sections.

B. The building and site shall be thoroughly cleaned as specified in Section 01740.

C. All plumbing and mechanical equipment shall operate quietly and free from vibration. Properly adjust, repair, balance, or replace equipment producing objectionable noise or vibration in the occupied areas of the building. Provide additional brackets, bracing, other methods to prevent objectionable noise or vibration. All systems shall operate without humming, surging, or rapid cycling.

D. All operating instructions for equipment shall be properly mounted and posted as specified in their respective sections.

E. Record (As-built) Drawings shall be completed, signed, and submitted to the Architect as specified in Section 01 7800 - Closeout Submittals.

F. The Material and Equipment maintenance instructions, as specified in the body of the Specifications, shall be submitted to the Architect.

G. All guarantees and warranties shall be submitted to the Architect as specified in the General Conditions, and Section 01 7800 - Closeout Submittals.

H. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

I. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
   1. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

J. Advise Owner of pending insurance change-over requirements.
K. Make final change-over of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of change-over in security provisions.

1.04 FINAL INSPECTION PROCEDURES

A. After all requirements preparatory to the final inspection have been completed as herein before specified, the Contractor shall notify the Architect to perform the final inspection. Notice shall be given at least one week of the time the final inspection is to be performed.

B. On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfulfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor by preparing a punch list of construction that must be completed or corrected before the certificate will be issued.

C. The Contractor or his principal superintendent, authorized to act in behalf of the Contractor, shall accompany the Architect, Consultants and Owner on the final inspection tour, as well as principal subcontractors that the Architect, Consultants or Owner may request to be present.

D. If the work has been completed in accordance with the Contract Documents, and no further corrective measures are required, the Owner will accept the Project and will include the Notice of Completion on the next Board Agenda for approval by the Board of Trustees.

E. If the work has been substantially completed in accordance with the Contract Documents, and only minor corrective measures are required, the Architect and/or Consultants will prepare a Punch List of work to be corrected and the Owner will conditionally accept the Project and will include the Notice of Completion on the next Board Agenda for approval by the Board of Trustees based upon the Contractor's assurance that the corrective measures will be completed prior to the scheduled Board Meeting.

F. Failure to include an item on the Punch List does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents.

G. If the work has not been substantially completed in accordance with the Contract Documents, and numerous corrective measures are still required, the Owner will not accept the Project nor file for the Notice of Completion. Instead, a Punch List will be prepared, based on the information gathered from the final inspection, and the Contractor will be required to complete this work and then call for another final inspection, following the procedures outlined above.

H. The Architect will repeat inspection when requested and assured that the Work has been substantially completed. If the re-inspection discloses any item not included on the initial Punch List the Contractor shall add these items to the Punch List.

I. The Contractor shall maintain the original full time Superintendent on the job site until all items on the Punch List are completed and accepted.

J. Results of the completed inspection will form the basis of requirements for final acceptance.

1.05 FINAL ACCEPTANCE

A. PRELIMINARY PROCEDURES:
   1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
   2. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
   3. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
   4. Submit consent of surety to final payment.
   5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
SECTION 01 7700
CLEANING

PART 1 GENERAL

1.01 SCOPE
A. Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

1.02 RELATED WORK
A. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.03 QUALITY ASSURANCE
A. Conduct daily inspections, and more often if necessary, to verify that requirements for cleanliness are being met.
B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT
A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY
A. Use only the cleaning materials and equipment, which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 EXECUTION

3.01 PROGRESS CLEANING
A. General:
   1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
   2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
   3. At least twice each month, and when requested by the District Representative, completely remove all scrap, debris, and waste material from the job site.
   4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.
B. Site:
   1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
   2. Weekly, and more often, if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.01 A above.
   3. Maintain the site in a neat and orderly condition at all times.

3.02 FINAL CLEANING
A. "Clean", for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.
C. Site:
   1. Unless otherwise specifically directed by the Construction Manager, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

D. Schedule final cleaning as approved by the Architect to enable the District to accept a completely clean Work.

3.03 CLEANING DURING DISTRICT’S OCCUPANCY

A. Should the District occupy the Work or any portion thereof prior to its completion by the Trade Contractor and acceptance by the District, responsibilities for interim and final cleaning shall be as determined by the Architect in accordance with the General Conditions of the Contract.

3.04 TRADE CONTRACTOR RESPONSIBILITY FOR MISUSE OF MATERIALS

A. Should construction materials or debris created by the construction process not be properly stored in a secure area or placed in the proper secured debris containers and such materials are used in acts of vandalism, the contractor shall be responsible to the District and adjacent property Districts for the repair or replacement of items damaged in such vandalism.

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 RELATED REQUIREMENTS
   A. Section 01305 - Submittals: Submittal procedures, shop drawings, product data, and samples.
   B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
   C. Individual Product Sections: Specific requirements for operation and maintenance data.
   D. Individual Product Sections: Warranties required for specific products or Work.

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS
   A. Maintain on site one set of the following record documents; record actual revisions to the Work:
      1. Drawings.
      2. Specifications.
      3. Addenda.
      4. Change Orders and other modifications to the Contract.
      5. Reviewed shop drawings, product data, and samples.
      6. Manufacturer's instruction for assembly, installation, and adjusting.
   B. Ensure entries are complete and accurate, enabling future reference by Owner.
   C. Store record documents separate from documents used for construction.
   D. Record information concurrent with construction progress.
E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Prepare a full set of transparencies of contract drawings with all record changes marked.
      a. The architect will furnish to the contractor transparencies (erasable vellums) of the original contract drawings at the cost of $10.00 (ten dollars) per sheet.
   3. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   4. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   5. Field changes of dimension and detail.
   6. Details not on original Contract drawings.

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

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES
   A. For Each Product, Applied Material, and Finish:
      1. Product data, with catalog number, size, composition, and color and texture designations.
      2. Information for re-ordering custom manufactured products.
   B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
   C. 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. 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.
D. 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.
E. Provide servicing and lubrication schedule, and list of lubricants required.
F. Include manufacturer's printed operation and maintenance instructions.
G. Include sequence of operation by controls manufacturer.
H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
I. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS
A. 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.
B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
D. Prepare data in the form of an instructional manual.
E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
H. 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.
I. 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.
J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
L. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
M. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment for systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
   a. Shop drawings and product data.
   b. Air and water balance reports.
   c. Certificates.
   d. Photocopies of warranties and bonds.

N. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

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
DESTRUCTION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS
A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.
B. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
C. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS
A. See Section 01 3025 - Submittals, for submittal procedures.
B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 PROJECT CONDITIONS
A. 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.
B. Comply with other requirements specified in Section 01 7000.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE
A. Remove the entire building designated on drawings.
B. Remove paving and site improvements as indicated on drawings and as required to accomplish new work.
C. Remove concrete foundations and slabs on grade as indicated on drawings.
D. Remove fences and gates.
E. Remove items indicated in existing spaces, for replacement or new construction.

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.
2. Obtain required permits.
3. 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.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permit.
8. 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.
9. 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. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

E. 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.
F. 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.
G. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 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.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS
A. Drawings showing existing construction and utilities are based on casual field observation only.
   1. Contractor shall be responsible and shall pay for all services required for locating all existing underground utilities within the area of work.
   2. Verify that construction and utility arrangements are as indicated.
   4. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
D. Services (Including but not limited to HVAC, Plumbing, 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.

E. 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.

3.05 DEBRIS AND WASTE REMOVAL
   A. Remove debris, junk, and trash from site.
   B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 7419 - Waste Management.
   C. Leave site in clean condition, ready for subsequent work.
   D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION
SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Miscellaneous framing and sheathing.
B. Concealed wood blocking, nailers, and supports.

1.02 REFERENCE STANDARDS
A. 2016 California Building Code, Chapter 23.
E. PS 1 - Structural Plywood; 2009.
G. WCLIB (GR) - Standard Grading Rules for West Coast Lumber No. 17; 2004, and supplements.
H. WWPA G-5 - Western Lumber Grading Rules; 2011.

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. See Section 01305 - Submittals, for submittal procedures.
C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.04 QUALITY ASSURANCE
A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.
   1. Acceptable Lumber Inspection Agencies: WCLB and WWPA.
B. Exposed-to-View Rough Carpentry: Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.

1.05 DELIVERY, STORAGE, AND HANDLING
A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS
A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER
A. Grading Agency: Western Wood Products Association; WWPA G-5.
B. Sizes: Nominal sizes as indicated on drawings, S4S.
C. Moisture Content: S-dry or MC19.
D. Stud Framing (2 by 2 through 2 by 6):
   2. Grade: No. 2.
E. Miscellaneous Blocking, Furring, and Nailers:
   1. Lumber: S4S, No. 2 or Standard Grade.

2.03 ACCESSORIES
A. Fasteners and Anchors:
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.

PART 3 EXECUTION
3.01 INSTALLATION - GENERAL
A. Select material sizes to minimize waste.
B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.02 FRAMING INSTALLATION
A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes, AWC (WFCM) Wood Frame Construction Manual, and ______________.
D. Provide Fire Blocks and Draft Stops per the 2013 California Building Code, Section 717.
E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.03 BLOCKING, NAILERS, AND SUPPORTS
A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
D. Provide the following specific non-structural framing and blocking:
   1. Cabinets and shelf supports.
   2. Wall brackets.
   3. Handrails.
   4. Grab bars.
   5. Towel and bath accessories.
   6. Wall-mounted door stops.
   7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.
10. Suspended ceiling perimeter angle locations.

3.04 TOLERANCES
A. Framing Members: 1/4 inch from true position, maximum.
B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.05 CLEANING
A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION
SECTION 07 9005
JOINT SEALERS

PART 1  GENERAL

1.01  SECTION INCLUDES
   A. Sealants and joint backing.

1.02  RELATED REQUIREMENTS
   A. Section 08 8000 - Glazing: Glazing sealants and accessories.

1.03  REFERENCE STANDARDS

1.04  SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data indicating sealant chemical characteristics.

1.05  QUALITY ASSURANCE
   A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
   B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.

1.06  FIELD CONDITIONS
   A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07  COORDINATION
   A. Coordinate the work with all sections referencing this section.

1.08  WARRANTY
   A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
   B. Correct defective work within a five year period after Date of Substantial Completion.
   C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2  PRODUCTS

2.01  MANUFACTURERS
   A. Polyurethane Sealants:
      4. Substitutions: See Section 01 6000 - Product Requirements.
      8. Substitutions: See Section 01 6000 - Product Requirements.
   B. Acrylic Emulsion Latex Sealants:
4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SEALANTS

A. Type ___ - General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25 minimum; Uses M, G, and A; single component.
   1. Color: To match adjacent surfaces.
   2. Applications: Use for:
      a. Control, expansion, and soft joints in masonry.
      b. Joints between concrete and other materials.
      c. Joints between metal frames and other materials.
      d. Other exterior joints for which no other sealant is indicated.

B. Type A1 - General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
   1. Applications: Use for:
      a. Interior wall and ceiling control joints.
      b. Joints between door and window frames and wall surfaces.
      c. Other interior joints for which no other type of sealant is indicated.

C. Type E5 - Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C920, Class 25, Uses T, I, M and A; single component.
   1. Color: To match adjacent surface.
   2. Applications: Use for:
      a. Joints in sidewalks and vehicular paving.

2.03 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.
B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Clean and prime joints in accordance with manufacturer's instructions.
C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
B. Perform installation in accordance with ASTM C1193.
C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
D. Install bond breaker where joint backing is not used.
E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
G. Tool joints concave.

3.04 CLEANING
   A. Clean adjacent soiled surfaces.

3.05 PROTECTION
   A. Protect sealants until cured.

END OF SECTION
SECTION 08 1113
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Non-fire-rated hollow metal doors and frames.
   B. Fire-rated hollow metal doors and frames.

PART 2 PRODUCTS
2.01 DESIGN CRITERIA
   A. Requirements for Hollow Metal Doors and Frames:
      1. Steel used for fabrication of doors and frames shall comply with one or more of the
         following requirements; Galvannealed steel conforming to ASTM A653/A653M, cold-rolled
         steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel
         conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.
      2. Accessibility: Comply with California Building Code, Chapter 11B.
      3. Hardware Preparation: In accordance with BHMA A156.115 and SDI-107, with
         reinforcement welded in place, in addition to other requirements specified in door grade
         standard.
      4. Finish: Factory primed, for field finishing.
   B. HOLLOW METAL DOORS
      A. Door Finish: Factory primed and field finished.
      B. All Doors, Exterior and Interior Non-Rated Typical:
         1. Grade: ANSI A250.8 Level 3, physical performance Level A, Model 2, seamless.
            a. Level 3 - Extra Heavy-duty.
            b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI
               A250.4.
            c. Model 2 - Seamless.
            d. Door Face Metal Thickness: 20 gage, 0.032 inch, minimum.
            e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
         2. Door Core Material: Manufacturers standard core material/construction and in compliance
            with requirements.
         5. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance
            with ASTM A653/A653M, with manufacturer's standard coating thickness.
      C. Fire Rated Doors Exterior and Interior Typical:
         1. Grade: ANSI/SDI A250.8 (SDI-100); Level 3 - Extra Heavy-Duty, Physical Performance
            Level A, Model 2 - Seamless.
            a. Level 3 - Extra Heavy-duty.
            b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI
               A250.4.
            c. Model 2 - Seamless.
            d. Door Face Metal Thickness: 16 gage, 0.053 inch, minimum.
         2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA
            252 ("positive pressure fire tests").
            a. Provide units listed and labeled by UL (DIR) or ITS (DIR).
            b. Attach fire rating label to each fire rated unit after finishing. Lable must be readily
               visible on the hinge side of fire rated unit.
         3. Door Core Material: Manufacturers standard core material/construction in compliance with
            requirements.
2.03 HOLLOW METAL FRAMES
A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
B. General:
   1. Comply with the requirements of grade specified for corresponding door.
   2. Finish: Same as for door.
C. All Steel Door Frames: Fully welded.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.
D. Fire-Rated Door Frames: Full profile/continuously welded type.
   1. Fire Rating: Same as door, labeled.
   2. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.
   3. Attach fire rating label to each fire rated unit after finishing. Label must be readily visible on the hinge side of fire rated unit.
E. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

2.04 FINISHES
A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.05 ACCESSORIES
A. Glazing: As specified in Section 08 8000, factory installed.
B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.06 FRAME ANCHORS
A. Provide sufficient anchorage to attach to wall in accordance with ANSI/SDI-119 Test Compliance Level A of one million cycles, or anchorage as detailed on plans to specific wall conditions.
   1. All frame jamb anchors to be provided: one each jamb per 30 Inches of frame height or fraction thereof. Furnish anchors at headers exceeding 48 Inches.
B. Floor anchors - angle type:
   1. Minimum 16 gage.
   2. To receive 2 fasteners per jamb.
   3. Welded to the bottom of each jamb.
C. Head struts: for frames not anchored to masonry or concrete construction provide ceiling struts spot welded to jambs each side extending to building structure where called for on schedule.

2.07 HARDWARE PREPARATION
A. Reinforcements: reinforce components for hardware installation in accord with SDI-107 and ANSI-A115. Provide minimum gage hardware reinforcing for mortise or surface applied hardware as follows:
   1. Hinges - 10 gage or equivalent number of threads on doors.
   2. Hinges - 7 gage on frames.
   3. Locks - 12 gage or equivalent on threads.
   4. Panics - 12 gage.
   5. Surface Closer - 12 gage.
   6. Hold Open Device - 12 gage.
   7. Floor Check - 7 gage.
B. Punch single leaf frames to receive three (3) silencers. Double leaf frames to receive one silencer per leaf at head.
C. Factory prepared hardware locations to be in accord with "Recommended Locations for Builders' Hardware for Standard Steel Doors and Frames", as adopted by the Steel Door Institute.

D. Supply welded in mortar guards at all hardware cutouts in frames build into masonry or grouted in full.

2.08 FINISH MATERIALS

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.


END OF SECTION
SECTION 09 6500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Resilient plank flooring
   B. Resilient base.
   C. Installation accessories.

1.02 REFERENCE STANDARDS
   A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

1.03 SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
   C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

1.04 DELIVERY, STORAGE, AND HANDLING
   A. Protect roll materials from damage by storing on end.

1.05 FIELD CONDITIONS
   A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
   B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 VINYL PLANK FLOORING
   A. Vinyl plank flooring with UV-cured top and two layers of fiberglass
   B. Manufacturers
      2. Substitutions: See Section 01 6000 - Product Requirements
   C. Style: Transcend Click
      1. Nominal Thickness: .158" (4 mm)
      2. Color: To be selected by Architect from full available colors
   D. Minimum Requirements:
      1. Wear Layer (ASTM F410): 20 mil (.5 mm)
      2. Size/Tolerance per ASTM F2055
      3. Tile Squareness per ASTM F2055
      4. Tile Dimension Stability per ASTM F2199
      5. Flexibility (ASTM F137): 1 inch mandrel
      6. Total Thickness (ASTM F386): .158" (4 mm)
      7. Static Load Limit (ASTM F 970): 250 PSI
      9. Resistance to Light (ASTM F1515): Less than 8
      10. Slip Resistance (ASTM D 2047): SCOF>.5
      11. Fire Performance (ASTM E648): Greater than .45 W/cm2, Class 1
      12. Chemical Resistance per ASTM F925
E. Installation
   1. Concrete subfloor must not exceed 80% RH in accordance with ASTM F2170 or 5 lbs. MVER in accordance with ASTM F1869.
   2. Refer to manufacturer's recommendations for detailed installation instructions.

F. Warranty
   1. 5 year minimum warranty

2.02 RESILIENT BASE
   A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove.
      1. Height: 4 inch.
      2. Thickness: 0.125 inch.
      3. Finish: Matte.
      4. Color: Color as selected from manufacturer's standards.
      5. Manufacturers:
         d. Substitutions: See Section 01 6000 - Product Requirements.

2.03 ACCESSORIES
   A. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

2.04 CODE REGULATIONS
   A. Resilient flooring shall be stable, firm, and slip resistant per CBC Section 11B-302.1.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

3.02 INSTALLATION - GENERAL
   A. Install in accordance with manufacturer's written instructions.
   B. Spread only enough adhesive to permit installation of materials before initial set.
   C. Fit joints and butt seams tightly.

3.03 INSTALLATION - RESILIENT BASE
   A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
   B. Install base on solid backing. Bond tightly to wall and floor surfaces.
   C. Scribe and fit to door frames and other interruptions.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Interior paints and coatings.
   B. Surface preparation.
   C. Field application of paints and other coatings.
   D. See Schedule - Surfaces to be finished, at end of Section.

1.02 RELATED REQUIREMENTS
   A. Section 01 1000 - Summary: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.

1.03 DEFINITIONS
   A. Conforms to ASTM D 16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

1.05 SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on all finishing products, including VOC content.
   C. Samples: Submit two painted samples, 8-1/2" x 11" inch in size, illustrating selected colors and textures for each color and system selected. Submit on cardstock.
   D. Manufacturer's Instructions: Indicate special surface preparation procedures.
   E. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.06 QUALITY ASSURANCE
   A. The Vista Unified School District shall designate an employee as District Representative. All aspects of project coordination including but not limited to; schedules, site coordination, site access, acceptable barricades, quality of work, enforcement of District Policies, periodic and final inspections shall rest with the District Representative.
   B. Applicator Qualifications: Applicator specializing in performing the work of this section must have minimum three years experience.

1.07 PROTECTION AND SAFEGUARD
   A. The contractor shall erect and maintain suitable barriers, protective devices, lights, and warning signs where required for the protection of the public and employees. Said barriers shall meet the requirements of the District as inspected by the District Representative. Contractor shall be fully responsible for any loss or injury to persons or property resulting from neglect of these precautions, his own carelessness, or for the carelessness or neglect of his employees, or for the carelessness or neglect of his sub-contractors’ or sub-contractors’ employees.
   B. The contractor shall provide continuous dust, over-spray and fumes control to protect adjacent areas. Any use of noisy or hazardous equipment shall be coordinated with the District Representative.
   C. Any accidental spillage, etc.; on any surface shall be immediately cleaned and the damaged surfaces restored to their original condition.

1.08 DELIVERY, STORAGE, AND HANDLING
   A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
B. Container Label: Include manufacturer’s name, type of paint, product name, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in an adequately protected well ventilated area, and as required by manufacturer’s instructions.

D. Storage containers: Subject to District Representative approval as to the type, and placement at the site.
   1. All painting materials (including rags, tarpaulins, mixers, empty containers, and filled or partially filled containers) shall be kept in designated storage areas. All material mixing and handling shall be performed in designated area.

1.09 ENVIRONMENTAL REQUIREMENTS

A. Do not apply material when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Do not apply exterior coatings during rain or when relative humidity outside the humidity ranges required by the paint product manufacturer.

C. All work, equipment and material to conform to federal, state and local laws and regulations, including but not limited to Air Pollution Control District, Hazardous material, Cal-OSHA, and wastewater division and fire regulations. MSDS’s for all materials on site must be kept at the work site readily available for inspection.

1.10 CLEANING OF PREMISES

A. Whenever painting and finishing work is being performed; all walks, steps, floors, plants, unpainted surfaces and adjacent areas shall be carefully protected from damage by the preparation and painting work. Contractors to provide clean drop cloths and used wherever necessary. All supply materials, paints, containers, etc.; shall be orderly and carefully arranged and protected.

B. During the process of the work, the contractor shall carefully clean up after his crew and shall leave the area in which his employees are working free from debris.

C. Upon completion of the painting contract, remove all materials and equipment, unusable scraps, waste and debris, leaving the areas in a clean, orderly and acceptable condition. School district trash containers shall not be used for waste of any kind.

D. Collect waste material, which may constitute a fire hazard, place in closed metal containers, and removed daily from site.

1.11 SPECIAL REQUIREMENTS

A. The contractor shall inspect the facilities to be painted carefully to check and verify all dimensions, sizes, etc.; including conditions at the site and shall assume full responsibility for all errors and unexpected conditions, which arise through lack of verification.

B. Prohibition of alcohol, illegal substance, weapons, and tobacco products on School District property will be strictly enforced.

C. All contractors’ employees and representatives shall conduct themselves in a professional manner at all times while on school district property. Any contractor employee practicing inappropriate behavior including but not limited to: vulgar language, inappropriate dress, loud music, etc. will be restricted from working on Vista Unified School District property.

1.12 EXTRA MATERIAL

A. Supply 1-gallon of each color, store where directed.

B. Label each container with color in addition to manufacturer's label.
PART 2 PRODUCTS

2.01 INTERIOR PAINT

A. Contractor shall provide Paint meeting the following specifications exactly.
B. If a Bidder wishes to substitute a product under the “or equal” terms of Public Contracting, please refer to School District Construction Contract Documents: Information for Bidders: Document 00100, #21 and General Conditions: Document 00700: Article 33.
C. If a Bidder submits substitute products for considerations under above referenced documents, substitution forms shall be as follows:
   1. Format shall match VUSD Paint Specifications.
   2. Format shall be “line item by line item” comparison.
   3. Every line item shall have a corresponding line item in the substitution request documentation.
   4. Every line item comparison must meet or exceed VUSD specifications to be considered.

2.02 PAINTS AND COATINGS – GENERAL

A. Material to be factory mixed and factory tinted, except field catalyzed coatings. Field tinting of materials will not be permitted.
B. Paint accessory and sundry materials such as: putty, spackle, thinners, reducers, and caulking shall be of the highest quality and fully compatible with substrate and subsequent finishes.

2.03 PAINT SYSTEMS- INTERIOR

A. Steel Doors/Door and Window Frames
B. Finish: Semi-gloss
C. Coating Type: 100% Acrylic
D. Finishing Schedule: 1st coat Vista # 999 metal primer
   1. 2nd coat Vista #9900 Gloss Protec Alkyd Emulsion
   2. 3rd coat Vista #9900 Gloss Protec Alkyd Emulsion
E. Wood Doors/Door and Window Frames
   1. Finish: Semi-gloss
   2. Coating Type: 100% Acrylic
   3. Finishing Schedule: 1st coat Vista#4200 Terminator II
      a. 2nd coat Vista#9900 Gloss Protec Alkyd Emulsion
      b. 3rd coat Vista#9900 Protec Alkyd Emulsion
F. Gypsum Walls
   1. Finish: Eggshell
   2. Coating Type: 100% Acrylic
   3. Finish Schedule: 1st coat Vista#188 Acrylic undercoat
      a. 2nd coat Vista #8300 Carefree
      b. 3rd coat Vista #8300 Carefree
G. Acoustic Tile Ceilings
   1. Finish: Flat
   2. Coating Type: Vinyl flat
   3. Finish Schedule: 1st coat Vista Paint Sealer
      a. 2nd coat Acoustic-Kote #013
H. METAL: Ferrous - Iron - Steel Doors
   1. Finish: Semi-gloss
   2. Coating Type: 100% acrylic
   3. Finishing Schedule: 1st coat Vista Paint 999 Metal Primer
      a. 2nd coat Vista #9900 Gloss Protec Alkyd Emulsion
      b. 3rd coat Vista #9900 Gloss Protec Alkyd Emulsion
I. METAL: Non Ferrous - Galvanized - Aluminum
1. Finish: Semi-gloss
2. Coating Type: 100% acrylic
3. Finishing Schedule: 1st coat Vista Paint 999 Metal Primer
   a. 2nd coat Vista #9900 Gloss Protec Alkyd Emulsion
   b. 3rd coat Vista#9900 Gloss Protec Alkyd Emulsion

J. All Other Wall Surfaces
1. Finish: Eggshell
2. Coating Type: 100% Acrylic
3. Finishing Schedule: 1st coat Vista #188 Acrylic Undercoat
   a. 2nd coat Vista #8300 Carefree
   b. 3rd coat Vista #8300 Carefree

K. 3rd coat Vista #8300 Carefree

2.04 ACCESSORY MATERIALS
A. Accessory Materials: Paint thinner and other materials not specifically indicated but required to achieve the finishes specified; commercial quality.
C. Caulking Material: Latex painter’s caulk (No silicone).

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that surfaces are ready to receive paint as recommended by the product manufacturer.
B. Examine surfaces scheduled to be finished prior to commencement of work. Prepare surfaces that may potentially affect proper application.
C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishers unless moisture content of surfaces are below the following maximums:
   1. Plaster and Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Unit masonry: 12 percent.
   3. Exterior wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION
A. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fitting prior to preparing surfaces or finishing.
B. Surfaces: Correct defects and clean surfaces, which affect work of this section. Remove or repair existing coating that exhibit surface defects.
C. Marks: Seal marks with shellac, those bleeding through surface finish.
D. Impervious Surfaces: Any surface displaying sign of mold, fungus, mildew or any other rot to be cleansed free of the offending agent by bleaching and the application of the appropriate fungicide, and mildewcide. Rinse with clean water and allow surface to dry.
E. Concrete and Unit Masonry Surfaces: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign mater. Remove oil and grease with a solution or tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering or corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
F. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
G. Aluminum Surfaces: Remove surface contamination by approved method. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
H. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Wash surface with acid etching and apply coat of etching primer.
I. Ferrous Metals: Wash with solvent. Acid etch with phosphoric acid.
J. Wood Doors: Prime wood door top and bottom edge surfaces.
K. Metal Doors: Prime metal door top and bottom edge surfaces.
L. Unless specifically excluded, all surfaces are to be sanded until smooth and cleaned thoroughly. All glossy surfaces are to be de-glossed either by sanding or by the use of a previously district approved de-glossing agent. Use of any de-glossing agent to be used in strict accordance with manufacturer’s instructions.

M. All holes, cracks, joints, abutments, nail heads, pits, depressions, voids, and imperfections to be filled until surface is flush after drying. Fillers to be of the highest quality and appropriate for the conditions to ensure permanency to the surface and compatible to the systems to follow. “Float off” and “texture” the repair material to match adjacent areas. Prime areas first with appropriate primers and then again after being allowed to cure.

N. All surfaces and substrates to be inspected and deemed as substantial. When surfaces do not have integrity the proper remedial actions are to be taken before any further actions are taken.

O. All surfaces are to be tested to tested to insure that any remaining paint is substantial and will not lift, peel separate, bubble, alligator, etc.; and are compatible with subsequent coatings. If the existing paint fails any of these tests then existing paint is to be removed and the surfaces inspected and approved by the district prior to any further coating being applied.

P. Upon completion of each step of the panting process (i.e., after each washing, prepping, filling, priming and painting) the work is to be inspected and approved by the district prior to the next step being taken. Re-work surfaces not approved until they are acceptable and approved by the district representative.

3.03 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
C. Apply primers, undercoats, and finishes free from sags, runs, skips, and other defects. Primers and undercoats will not be allowed to be of the same color as the finish coats.
D. Allow each coat to thoroughly dry before application of succeeding coats in accordance with manufacturer’s recommendations and have each coat inspected and approved by the district representative before applying succeeding coats.
E. Backrolling of all woodsiding to be performed. Stucco to be backrolled when deemed necessary by the district representative. The intent is to insure uniform coverage and sheen.
F. All exposed surfaces to be primed immediately and not allowed to be left unprotected.
G. Paint all soffits and overhangs body colors, not trim or accent color.

3.04 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT
A. Remove unfinished louvers, grilles, and covers and access panels on mechanical and electrical components and paint separately.
B. Finish equipment, piping, conduit, and exposed ductwork in utility areas in colors according to the color schedule.
C. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, etc., and fittings removed prior to finishing.

3.05 SCHEDULE – SURFACES TO BE FINISHED
A. Do not Paint or Finish the following Items:
   1. Items fully factory-finished unless specifically noted.
   2. Fire rating labels, equipment serial number and capacity labels.
   3. Stainless steel items.

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

END OF SECTION
SECTION 10 1400
SIGNAGE

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Room and door signs.

1.02 REFERENCE STANDARDS
D. Title 24, Part 2. C.C.R., 2016 California Building Code, Chapter 11B.

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
   1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
   2. Submit for approval by Owner through Architect prior to fabrication.
D. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.

1.04 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Package signs as required to prevent damage before installation.
B. Package room and door signs in sequential order of installation, labeled by floor or building.
C. Store tape adhesive at normal room temperature.

1.06 FIELD CONDITIONS
A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS
2.01 SIGNAGE APPLICATIONS
A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
B. Room and Door Signs: Provide a sign for every doorway included within the contract work, whether it has a door or not, not including corridors, lobbies, and similar open areas.
   1. Sign Type: Flat signs with cast acrylic panel media as specified.
   2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.

2.02 SIGN TYPES
A. Flat Signs: Signage media without frame.
1. Edges: Square.
2. Corners: Radiused.

B. Acrylic Room and Accessibility Signs:
   1. Cast acrylic sheet: Manufacturer's standard 1/8 inch thickness and as follows:
      a. Color as selected by architect from manufacturer's full range.
      b. Acrylic matte clear sheets with overall thickness of 1/8 inch.
      c. Raised copy, graphic symbols and text to be routed from acrylic applique, and chemically welded to sign panel to produce raised copy 1/32 inch. Grade 2 braille is to be applied via the "Raster" bead method.

   2. Unframed panel signs: Fabricate signs with edges mechanically and smoothly finished to comply with the following requirements:
      a. Edge: Square cut (or eased).
      b. Corner: Radiused to 1".

   3. Graphic content and style: Provide sign copy that complies with requirements indicated below and in the sign schedule and drawings for size, spacing, content, mounting height and location, material, finishes and colors of signage.
      a. Pictograms and other artwork to be reversed-applied vinyl or silk-screened process in colors as indicated (or raised image via machine-routed raised copy).

   4. Raised Characters shall comply with CBC Section 11B-703.2
      a. Depth shall be 1/32 inch (.8mm) minimum above their background and be sans serif uppercase and be duplicated in Braille.
      b. Height shall be 5/8 inch (15.9mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I" per CBC Section 11B-703.2.5.
      c. Finish and contrast: Characters and their background shall have a non-glare finish. Character shall contrast with their background or dark characters on a light background per CBC Section 11B-703.5.1.
      d. Proportions shall be selected from fonts where the width of the uppercase letter "O" is 60% minimum and 110% maximum of the height of the uppercase letter "I". Stroke thickness of the uppercase letter "I" shall be 15% maximum of the height of the character per CBC Sections 11B-703.4 and 11B-703.6.
      e. Character spacing between individual tactile characters shall comply with CBC Section 11B-703.2.7 and 11B-703.2.8.
      f. Text shall be in a horizontal format per CBC Section 11B-703.2.9.

5. Mounting:
   a. Mounting height: A tactile shall be located at 48" minimum to the baseline of the lowest Braille cells and 60" maximum to the baseline of the highest line of raised characters above the finish floor or ground surface.
   b. Mounting location: A tactile sign shall be located on the approach side, as one enters or exits rooms or a space, and be reached within 0" of the required clear floor space per CBC section and figure 11B-703.4.2 as follows:
      1) A clear floor space of 18"x18" minimum, centered on the tactile characters, shall be provided beyond the arc of any door between the closed position and 45 degree open position.
      2) On the wall at the latch side of a single door.
      3) On the inactive leaf of a double door with one active leaf.
      4) On the wall at the right side of a double door with two active leaves.
      5) On the nearest adjacent wall where there is no wall space at the latch side of a single door or no space at the right side of a double door with two active leaves.

6. Colored coatings for acrylic sheets:
   a. For background colors, provide Pantone Matching System colored coatings, including inks and paints, that are recommended by acrylic manufacturer for optimum adherence to surface and that are non-fading for application intended.
   b. For raised copy colors (machine routed copy) provide manufacturer's full range of solid through color applique colors.
7. Braille symbols:
   a. Shall be contracted (Grade 2) and shall comply with CBC Sections 11B-703.3 and
      11B-703.4. Braille dots shall have a domed and rounded shape and shall comply with
      CBC Table and Figure 11B-703.3.1.
8. International Symbol of Accessibility (ISA):
   a. The international symbol of accessibility shall be the standard used to identify facilities
      that are accessible to and usable by physically disabled persons per CBC Section
      11B-703.7.
   b. The symbol shall consist of a white figure on a blue background. The blue shall be
      equal to Color No. 15090 in Federal Standard 595B.
9. Visual characters shall comply with CBC Section 11B-703.5 and shall be a minimum of 40”
    above finish floor or ground.
10. Pictograms shall comply with CBC Section 11B-703.6.
11. Variable message signs shall comply with CBC Section 11B-703.8.
C. Dimensional Letter Signs:
   1. Character Material: Cast Metal
   2. Character Finish: Baked enamel finish, architect to select from manufacturer's full range of
      colors.
   3. Character Case: Uppercase only.
   4. Character Font: Helvetica, Arial, or other sans serif font.
   5. Mounting: As indicated on drawings, wall, or tack mounted. Attached to structure per
      manufacturer's recommendations with tamper resistant fasteners.
   7. Height: 24” maximum height or as indicated on drawings.
   8. Width: 2” minimum or as indicated on drawings.
D. Color and Font: Unless otherwise indicated:
   1. Character Font: Helvetica, Arial, or other sans serif font.
   2. Character Case: Upper case only.
   3. Background Color: As selected by Architect.

2.03 ACCESSORIES
   A. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION
3.01 EXAMINATION
   A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Attach wall and door mounted panel signs to surfaces using the methods indicated below:
      1. Vinyl tape mounting: Use double sided foam tape, of the thickness indicated, to mount
         signs to smooth, non-porous surfaces, such as glass or similar material. Do not use this
         method for vinyl covered or rough surfaces.
      2. Silicone adhesive mounting: Use liquid silicone adhesive recommended by the sign
         manufacturer to attach signs to irregular, porous or vinyl covered surfaces. Use double
         sided vinyl tape where recommended by the sign manufacturer to hold the sign in place
         until the adhesive has fully cured.
   C. Install neatly, with horizontal edges level.
   D. Mounting
      1. Height: A tactile sign shall be located 48” minimum to the baseline of the lowest Braille
         cells and 60” maximum to the baseline of the highest line of raised characters above the
         finish floor or ground surface.
2. Location: A tactile sign shall be located on the approach side, as one enters or exits a room or space, and be reached with 0" of the required clear floor space per CBC Section and Figure 11B-703.4.2 as follows:
   a. a clear floor space of 18"x18" minimum, centered on the tactile characters, shall be provided beyond the arc of any door swings between the closed position and 45 degree open position.
   b. in the wall at the latch side of a single door.
   c. on the inactive leaf of a double door with two active leaves.
   d. on the inactive leaf of a double door with one active leaf.
   e. on the nearest adjacent wall where there is no wall space at the latch side of a single door or no space as the right side of a double door with two active leaves.

E. Locate signs in accordance with approved shop drawings and ADAAG requirements. Install so that sign location is clear of door swing when reading sign.

F. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION
SECTION 31 1000
SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Removal of existing debris.

1.02 RELATED REQUIREMENTS
A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.
B. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
C. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of benchmarks, survey control points, and existing construction to remain; reinstallation of removed products.
D. Section 31 2200 - Grading: Topsoil removal.
E. Section 31 2200 - Grading: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 PROJECT CONDITIONS
A. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
B. Comply with other requirements specified in Section 01 7000.

PART 2 PRODUCTS

2.01 MATERIALS
A. Fill Material: As described in geotechnical investigation

PART 3 EXECUTION

3.01 SITE CLEARING
A. Comply with other requirements specified in Section 01 7000.
B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.02 EXISTING UTILITIES AND BUILT ELEMENTS
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. Protect existing structures and other elements that are not to be removed.

3.03 VEGETATION
A. Do not remove or damage vegetation beyond the limits indicated on drawings.
   1. 40 feet outside the building perimeter.
   2. 10 feet each side of surface walkways, patios, surface parking, and utility lines less than 12 inches in diameter.
   3. 15 feet each side of roadway curbs and main utility trenches.
   4. 25 feet outside perimeter of pervious paving areas that must not be compacted by construction traffic.
B. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
   1. At vegetation removal limits.
C. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.

D. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
   1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
   2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
   3. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.

E. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.04 DEBRIS
   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 31 2200
GRADING

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Removal of topsoil.
B. Rough grading the site for site structures.
C. Finish grading.

1.02  RELATED REQUIREMENTS
A. Section 31 2316.13 - Trenching: Trenching and backfilling for utilities.

1.03  REFERENCES
B. ASTM D 1557-91 -- Test Methods for Laboratory Compaction Characteristics of Soils Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 1991.
D. ASTM D 2487-93 -- Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System); 1993.

1.04  SUBMITTALS
A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.05  QUALITY ASSURANCE
A. Perform Work in accordance with State of California, Public Works Department standards.

1.06  PROJECT CONDITIONS
A. Protect above- and below-grade utilities that remain.
B. Protect plants, lawns, and other features to remain as a portion of final landscaping.
C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from grading equipment and vehicular traffic.

1.07  SITE CONDITIONS
A. The owner makes no representation as to the existing soil or sub-surface conditions or its suitability for the proposed/intended use. The Contractor shall take all necessary measures required to verify and substantiate the existing site conditions, and incorporate in his bid the required materials, methods and labor required to provide an acceptable finished product based on the provisions and requirements of this section.

B. Site Utilities:
1. Advise utility companies of excavation activities before starting excavations. Locate and identify underground utilities passing through work area before starting work.
2. If underground utilities are encountered in locations other than indicated, immediately advise utility owners before proceeding. Amend project record documents to show actual locations.
3. Protect existing utilities indicated to remain.
4. Do not interrupt existing utilities without advance notice to and written approval from the owner.
5. Repair or replace any existing utilities that are damaged due to the work of this contract at no cost to the owner.
PART 2 PRODUCTS

2.01 MATERIALS

A. Where sufficient approved materials are not available from required excavations on site, obtain and pay for materials from approved sources off site without charge to the owner.

B. For each soil material proposed for use as fill or backfill, whether obtained on or off site, testing laboratory shall classify soil material, develop Proctor curve, and perform any other tests required.

C. Obtain approval of the architect / geotechnical engineer for each soil material.

D. Satisfactory Topsoil: Fertile agricultural soil, typical for locality, capable of sustaining vigorous plant growth; free of subsoil, rocks larger than 2 inches in diameter, clay, toxic matter, plants, weeds, and roots.

E. Backfill and Fill Materials: Materials classified as satisfactory.

F. Satisfactory Fill Material (ASTM D 2487): Clean deposits free of roots, stumps, vegetation, deleterious matter, trash, debris, and unsuitable materials as approved in the field by the project geotechnical consultant and classified as follows:
   1. GW (well-graded gravel).
   2. GP (poorly graded gravel).
   3. GM (silty gravel).
   4. SW (well-graded sand).
   5. SM (silty sand).

G. Unsatisfactory Fill Material (ASTM D 2487):
   1. GC (clayey gravel).
   2. SP (poorly graded sand).
   3. SC (clayey sand).
   4. CL (clean clay).
   5. ML (silt).
   6. OL (organic clay).
   7. OL (organic silt).
   8. CH (fat clay).
   9. MH (elastic silt).
   10. OH (organic clay).
   11. OH (organic silt).
   12. PT (peat).

H. Subbase Materials: Well-graded, clean, sound, durable particles of crushed stone or crushed gravel, and screenings. Obtain the architect's / soil engineer's approval of source, quality, and gradation.

PART 3 EXECUTION

3.01 PROJECT GEOTECHNICAL INVESTIGATION

A. Copies of this investigation should be reviewed by the Contractor, and are available upon request.

B. The "Preliminary Geotechnical Investigation" shall be for informational purposes only and any information obtained from such report as to subsurface soil conditions or to elevations of underlying rock is approximate only, and is not guaranteed, and does not form a part of the Contract.

C. All recommendations as provided in the "Preliminary Geotechnical Investigation" shall be adhered to and form the minimum requirements for the execution of the work.

3.02 EXAMINATION

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

B. Verify the absence of standing or ponding water.
3.03 PREPARATION
A. Identify required lines, levels, contours, and datum.
B. Stake and flag locations of known utilities.
C. Protection: Provide markers indicating limits of work and clear identification of items and areas requiring protection.
D. Provide barricades, temporary fences, warning signs, and warning lights around open excavations as necessary to prevent injury to persons.
E. The contractor is solely responsible for determining the potential for injury to persons and damage to property. Any indication of temporary fencing delineated on the drawings is a minimum requirement, and does not relieve the contractor of the responsibility of providing adequate protection of the work.
   1. Where such potential is present, take appropriate protective measures.
   2. Protect persons from injury and protect existing and new improvements from damage caused directly or indirectly by construction operations.
F. Do not allow excavation subgrades and soil at foundations to be subjected to effects of rain or other sources of excessive moisture. Provide protective covering materials and divert site drainage and run off as necessary. Should prepared, compacted subgrades be damaged by rain or excessive moisture, remove soil materials to the depth required by the Soils Engineer and replace with acceptable materials and recompact in conformance with specified requirements.
G. Locate, identify, and protect from damage above- and below-grade utilities to remain.
H. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.
I. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.
J. Protect plants, lawns, and other features to remain as a portion of final landscaping.

3.04 EROSION CONTROL
A. To the maximum extent practicable, prevent erosion or displacement of soils and discharge of soil-bearing water runoff to adjacent properties and waterways.
B. Provide erosion control during the entire project in accordance with applicable regulations.

3.05 COMPLIANCE WITH STATE STORM WATER PERMIT FOR CONSTRUCTION
A. Contractor shall be required to comply with all conditions of the State Water Resources Control Board (State Water Board) National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (the "Permit") for all construction activity which results in the disturbance of in excess of five acres of total land area or which is part of a larger common area development or sale. It shall be the Contractor's responsibility to evaluate cost of compliance with the Storm Water Pollution Prevention Program (SWPPP) in bidding on this contract. Contractor shall comply with all requirements of the State Water Resources Control Board. Contractor shall include all costs of compliance with specified requirements in the contract amount.
B. Contractor shall be responsible for implementing and complying with the provisions of the Permit and the SWPPP, including the standard provisions, monitoring and reporting requirements as required by Permit. Contractor shall provide copies of all reports and monitoring information to the Owner.
C. Contractor shall comply with the lawful requirements of any applicable municipality, the County, drainage district, and other local agencies regarding discharges of storm water to separate storm drain system or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs.
D. Failure to comply with the Permit is in violation of federal and state law. Contractor hereby agrees to indemnify and hold harmless the Owner, its officers, agents, and employees from and against any and all claims, demands, losses or liabilities of any kind or nature which Owner, its officers, agents, and employees may sustain or incur for noncompliance with Permit arising out of or in connection with the project, except for liability resulting from the negligence or wilful misconduct of Owner, its officers, agents or employees. Owner may seek damages from Contractor for delay in completing the contract in accordance with Article 6 of the General Conditions, caused by the Contractor’s failure to comply with Permit.

3.06 PROTECTION OF TREES

A. Provide temporary guards to protect trees and vegetation to remain. Place guards so as to prevent all forms of vehicular traffic or parking within drip lines.
1. Do not allow excess foot traffic within drip lines.
2. Do not stockpile construction materials, soil, or aggregates within drip lines.
3. Water trees and other vegetation to remain within limits of the area of construction activities as required to maintain their health during course of construction operations.

B. Engage a qualified arborist to remove branches or roots to the extent required by this specification or shown on the drawings.

C. Excavate within drip line of trees only where indicated.

D. Where underground utilities must pass within drip line, hand-dig tunnels to avoid cutting main lateral roots and taproots. Minor roots may be cut only when necessary.
1. Where root system is damaged or cut back, prune branches to maintain root/branch balance.

E. Immediately protect exposed roots until re-establishment in backfill. Cover with approved mulching material and keep continuously moist.

F. Where cutting is required, cut branches and roots using properly sharpened tools and without breaking members.

G. Promptly repair any damaged trees to prevent death or loss of vigor.
1. Where the contractor’s operations result in dead or severely damaged trees, remove trees and provide new trees of similar size, except provide 6 inch-caliper trees to replace existing trees over 6 inches caliper.
   a. Species as selected by the architect.

3.07 DEWATERING

A. Do not allow surface or ground water to flow into or accumulate in excavations.

B. Do not allow water to flow in an uncontrolled fashion across the project site or to erode slopes or to undermine foundations. Do not allow water to be diverted onto adjacent properties. Arrange excavation operations so as to provide continual and effective drainage of excavations.

C. Provide and maintain temporary diversion ditches, dikes, and grading as necessary; do not use trench excavations for this purpose. When required by surface or subsurface water conditions, provide sumps, wellpoints, French drains, pumps, and other control measures necessary to keep excavations free of water. When existence of ground water near or above final excavation level is indicated or suspected, provide control measures prior to excavating to lower water level and maintain water level continuously below working level.

3.08 GEOTECHNICAL RECOMMENDATIONS

A. Site Preparation: Site preparation shall begin with the removal of vegetation and other deleterious debris from the project area. Clearing and grubbing should extend outside of the proposed excavation and fill areas when reasonable. The debris and unsuitable material generated during clearing and grubbing shall be removed from the project area and disposed of at a legal dumpsite away from the project area, unless directed otherwise by the District Representative.

B. Compacted Fill:
1. Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift shall be moisture conditioned to near optimum, mixed, and then compacted by mechanical methods to 95 percent of its Proctor density as evaluated by ASTM D 1557.

2. Only existing on-site material that is classified as competent and suitable may be used for compacted fill, provided they meet all the requirements of this section and are moisture conditioned (i.e., dried if above optimum moisture levels) prior to use.

C. Place 6-inches of Cal Trans Class II aggregate base compacted to a minimum of 90% per ASTM D-1557. Place 2-inches asphalt concrete over the aggregate base. The aggregate base and asphalt concrete are to be placed as soon as possible so that the subgrade and aggregate base is not allowed to dry out prior to their placement. If allowed to dry out or allowed to become overly wet, additional testing will be required.

3.09 EXCAVATIONS

A. General: Excavation includes the removal of any and all materials necessary to achieve the required subgrade elevations and includes any required over-excavation necessary to achieve the required sub-grade compaction, and the reuse or disposal of such materials.

B. Unnecessary Excavation: The expense of excavation of materials outside of limits indicated or ordered in writing by the architect and the correction thereof to the satisfaction of the architect shall be borne by the contractor.

1. Unnecessary excavation under footings: Either deepen footings to bear on actual subgrade elevation without changing top elevations or place concrete fill up to required elevation, as required by the architect.

2. Unnecessary excavation other than under footings: Either place compacted fill or otherwise correct conditions, as required by the Soils Engineer.

C. Excavation for Structures:

1. Excavate beyond footings and foundations so as to allow proper construction and inspection of concrete formwork and other materials. Excavate to the required elevation.
   a. Tolerance: Plus or minus 0.10 foot.

D. Excavation for Footings and Foundations:

1. Delay excavation to final grade and final compaction until just before concrete will be placed.

2. Remove any loose or sloughed material and adjust excavations to conform to required lines, grades, and tolerances and to form a suitable bearing surface. Do not disturb bottom of completed excavations.

3.10 STORAGE

A. Stockpile materials to be used for filling and backfilling, including excavated materials classified as satisfactory soil materials, at locations indicated or as directed. Stockpile in a manner to freely drain surface water; cover if necessary to prevent wind-blown dust.

1. Store soil materials without intermixing. Protect from contamination with other soils or debris.

2. Do not stockpile materials inside of drip line of trees to remain.

3.11 FILLING AND BACKFILLING

A. Preparation: Backfill excavations as soon as practicable. Complete the following operations before backfilling:

1. Inspection and acceptance of below-grade construction.

2. Inspection, testing, and approval of underground utilities.

3. Surveying of underground utilities for record documents.

4. Concrete formwork removal.

5. Removal of loose material, muck, debris, and trash from excavation.

6. Installation of temporary or permanent horizontal bracing for structures to receive backfill.

B. Installation: Place approved soil materials in 6 to 8 inch maximum layers to required elevations. Compact to minimum 95% of the corresponding maximum density (ASTM D 1557).
1. Do not place material on muddy or uncompacted surfaces.

C. Installation: Place fill materials to required elevations in lifts of required depth. Provide fill materials beneath each area as indicated.
   2. Paved areas: Subbase material.
   3. Exterior steps/ramps: Subbase material.
   4. Building slabs: Capillary water barrier material.
   5. Piping/conduit: Subbase material where indicated; otherwise use satisfactory soil materials.

3.12 PAVEMENT SUBBASE / SUBGRADE PLACEMENT
A. Place lifts such that compaction true to grade and level is accomplished with a minimum of surface disturbance and segregation or degradation of materials. Maintain moisture content within prescribed limits during placing and compacting.
B. When the total thickness of subbase is less than the maximum lift thickness permitted, place material in a single lift. When the total thickness of subbase is greater than the maximum lift thickness permitted, place materials in two or more lifts of uniform thickness with no lift less than 3 inches or greater than 8 inches in thickness.
C. Cut any over build to grade. Should top elevation be lower than allowable tolerances, scarify to a depth of 6 inches, add new material, and recompact to bring to grade within required tolerances.

3.13 BUILDING AREAS
A. Place fill or backfill lifts such that compaction true to grade and level is accomplished with a minimum of surface disturbance and segregation or degradation of materials as specified in the project preliminary soils report. Maintain grade control and cross section by means of line and grade stakes. Maintain moisture content within prescribed limits during placing and compacting.
B. When the total thickness of materials to be placed is less than the maximum lift thickness permitted, place material in a single lift. When the total thickness of materials to be placed is greater than the maximum lift thickness permitted, place materials in two or more lifts of uniform thickness with no lift less than 3 inches or greater than 8 inches in thickness.

3.14 COMPACTION
A. Place materials used in backfilling and filling in layers not exceeding loose depths as follows:
   1. Heavy equipment compaction: 8 inches.
B. Place material simultaneously on opposite sides of walls, small structures, utility lines, etc. to avoid displacement or overstressing.
C. In-Place Density Requirements: Compact soil to not less than the values given below, expressed as a percentage of maximum density at optimum moisture content.
   1. Unpaved areas: Top 12 inches of bottom of over-excavation and subsequent lifts:
      a. 90 percent.
   2. Paved areas: Top 12 inches of bottom of over-excavations and subsequent lifts, except the upper one foot from rough finish grade:
      a. 95 percent.
      b. 95 percent within upper one foot below base coarse.
   3. Exterior steps and ramps: Top 12 inches of bottom of over-excavation and subsequent lifts:
      a. 95 percent.
   4. Building areas and structures: Top 12 inches of bottom of over-excavation and subsequent lifts:
      a. 95 percent.
   5. Utility trenches: Compact backfill and fill materials to in-place density specified for applicable area of trench, but in no case less than 90 percent.
D. Moisture Control: During compaction, control moisture of bottom of over-excavations and subsequent lifts to within tolerances from optimum moisture content as recommended by testing laboratory. Wet surface with water when additional moisture is required. Aerate soil to aid in drying or replace soil when excessive moisture is present.

3.15 ROUGH GRADING

A. General: Smooth grade to a uniform surface that complies with compaction requirements and required lines, grades, and cross sections and is free from irregular surface changes.

B. Provide smooth transition between existing adjacent grades and changed grades. Cut out soft spots, fill low spots, and cut down high spots to conform to required surfaces tolerances.

C. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.

D. Do not remove topsoil when wet.

E. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.

F. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.

G. When excavating through roots, perform work by hand and cut roots with sharp axe.

H. See Section 31 2323 for filling procedures.

I. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

J. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack surface water control.

K. Slope grades to direct water away from structures and to prevent ponding. Finish subgrade to required elevations within the following tolerance:
   1. Unpaved areas: Plus or minus 0.10 foot.
   2. Paved areas: Plus or minus 0.05 foot.
   3. Exterior steps and ramps: Plus or minus 0.05 foot.
   4. Inside building lines: 1/2 inch in 10 horizontal feet.

3.16 FINISH GRADING

A. Before Finish Grading:
   1. Trench backfilling has been inspected.
   2. Verify subgrade has been contoured and compacted.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.

C. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 3 inches.

D. Place topsoil where required to level finish grade.

E. Place topsoil during dry weather.

F. Remove roots, weeds, rocks, and foreign material while spreading.

G. Near plants spread topsoil manually to prevent damage.

H. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.

I. Lightly compact placed topsoil.

J. Maintain stability of topsoil during inclement weather. Replace topsoil in areas where surface water has eroded thickness below specifications.

3.17 PROOFROLLING

A. After completion of required compaction and immediately prior to proceeding with subsequent construction, proof roll in the presence of testing laboratory representative.

B. Areas to Receive:
1. Pavement.
2. Building slabs on grade.

3.18 TOLERANCES
   A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) from required elevation.
   B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).

3.19 REPAIR AND RESTORATION
   A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
   B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Architect as to remedy.
   C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.20 FIELD QUALITY CONTROL
   A. Testing Laboratory Services: Provide timely notice to testing laboratory. Do not proceed with construction until testing of each bottom of over excavation and lift of fill or backfill has been performed and required inspections and approvals have been obtained.
   B. Maximum Density at Optimum Moisture Content: Determine in accordance with ASTM D 1557-91.
   C. In-Place Density Tests: ASTM D 1557-90 (sand cone method), ASTM D 2167 (rubber balloon method), or ASTM D 2922 (nuclear method), as applicable.
   D. If testing service reports indicate that subgrade or fills are below specified density, scarify or remove and replace to the required depth, recompact, and retest at no cost to the owner.

3.21 FIELD QUALITY CONTROL
   A. See Section 31 2323 for compaction density testing.

3.22 MAINTENANCE
   A. Completed Areas: Protect from damage by pedestrian or vehicular traffic, freezing, erosion, and contamination with foreign materials.
      1. Repair and re-establish grades to specified tolerances in settled, eroded, or rutted areas.
   B. Damaged Areas: Where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction and whether due to subsequent construction operations or weather conditions, restore materials to required conditions: Scarify or remove and replace to the required depth, return to optimum moisture content, and compact materials to the required density before continuing construction.
   C. Correction: Should settling occur within the project correction period, remove finished surfacing, add additional approved material, compact material, and reconstruct surfacing. Construct surfacing to match and blend in with adjacent surfacing as nearly as practicable.

3.23 CLEANING
   A. Spread any excess satisfactory topsoil in locations on site as directed by the architect and District. Properly dispose of unsatisfactory topsoil off site.
   B. Spread any excess satisfactory soil in location on site as directed by the architect and District.
   C. Remove any unsatisfactory soil, trash, debris, and other materials not required for use on the project and legally dispose of it off the owner's property.
   D. On-site burning is not permitted.
   E. Leave site clean and raked, ready to receive landscaping.

END OF SECTION
SECTION 31 2316
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Excavating for paving and site structures.

1.02 RELATED REQUIREMENTS
A. Section 01 7000 - Execution and Closeout Requirements: General requirements for dewatering of excavations and water control.
B. Section 31 2200 - Grading: Grading.

1.03 PROJECT CONDITIONS
A. Verify that survey bench mark and intended elevations for the Work are as indicated.
B. Protect plants, lawns, rock outcroppings, and other features to remain.
C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

PART 3 EXECUTION

2.01 EXAMINATION
A. Verify that survey bench mark and intended elevations for the work are as indicated.

2.02 PREPARATION
A. Identify required lines, levels, contours, and datum locations.
B. See Section 31 2200 for additional requirements.
C. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by the Architect.

2.03 EXCAVATING
A. Excavate to accommodate new structures and construction operations.
B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
D. Do not interfere with 45 degree bearing splay of foundations.
E. Cut utility trenches wide enough to allow inspection of installed utilities.
F. Hand trim excavations. Remove loose matter.
G. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.
H. Provide temporary means and methods, as required, to remove all water from excavations until directed by the Architect. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.
I. Determine the prevailing groundwater level prior to excavation. If the proposed excavation extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter drains routed to sump pumps, or as directed by the Architect. If the proposed excavation extends more than 1 foot into the excavation, control groundwater intrusion with a comprehensive dewatering procedures, or as directed by the Geotechnical Engineer.
J. Remove excavated material that is unsuitable for re-use from site.
K. Remove excess excavated material from site.
2.04 FIELD QUALITY CONTROL
   A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
   B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

2.05 PROTECTION
   A. Divert surface flow from rains or water discharges from the excavation.
   B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
   C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.
   D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
   E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION
SECTION 31 2323
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Filling, backfilling, and compacting for footings, slabs-on-grade, and paving.
B. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.02 RELATED REQUIREMENTS
A. Section 31 2200 - Grading: Removal and handling of soil to be re-used.
B. Section 31 2200 - Grading: Site grading.
C. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.
D. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

1.03 REFERENCE STANDARDS
B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2012.
D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.
F. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.
G. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.
H. New Asphalt Pavement Area Recommendations, Solana Vista Elementary School Relocatables, Solana Beach, California, dated March 11, 2011, Project No. 107032001, by Ninyo & Moore; 5710 Ruffin Road, San Diego, CA 92123; (858) 576-1000.

1.04 DEFINITIONS
A. Finish Grade Elevations: Indicated on drawings.
B. Subgrade Elevations: As indicated on drawings and/or as determined by paving or slab sections.

1.05 SUBMITTALS
A. See Section 01305 - Submittals, for submittal procedures.
B. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used, including manufactured fill.
C. Compaction Density Test Reports.

1.06 DELIVERY, STORAGE, AND HANDLING
A. When necessary, store materials on site in advance of need.
B. When fill materials need to be stored on site, locate stockpiles where indicated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.
C. Verify that survey bench marks and intended elevations for the Work are as indicated.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill: Subsoil excavated on-site.
   1. Graded.
   2. Clean deposits free of roots, stumps, vegetation, deleterious matter, trash, debris, and unsuitable materials as approved in the field by the project geotechnical consultant.

B. Concrete for Fill: Lean concrete.


D. Topsoil: Topsoil excavated on-site, or imported.
   1. Graded.
   2. Free of roots, rocks larger than 1 inch, subsoil, debris, large weeds and foreign matter.

E. Bedding Material: Bedding material shall be sand, gravel, crushed aggregate or approved native material. Bedding material shall have a sand equivalent of not less than 30 or have a coefficient of permeability greater than 0.001 centimeters per second. Bedding material shall be sized within the following range:
   1. 3/4" Sieve: 100 percent passing.
   2. No. 4 Sieve: 35 to 65 percent passing.
   3. No. 200 Sieve: 0 to 10 percent passing.

2.02 ACCESSORIES

2.03 SOURCE QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION

A. Identify required lines, levels, contours, and datum locations.

B. See Section 31 2200 for additional requirements.

C. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

D. Verify areas to be filled are not compromised with surface or ground water.

3.02 PREPARATION

A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

A. Fill to contours and elevations indicated using specified materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.
F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

G. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

H. Correct areas that are over-excavated.
   2. Other areas: Use general fill, flush to required elevation, compacted to minimum 90 percent of maximum dry density.

I. Compaction Density Unless Otherwise Specified or Indicated:
   1. Under paving, slabs-on-grade, and similar construction: 90 percent of maximum dry density.
   2. At other locations: 90 percent of maximum dry density.

J. Reshape and re-compact fills subjected to vehicular traffic.

K. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.04 FILL AT SPECIFIC LOCATIONS

A. At Foundation Walls and Footings:
   1. Use general fill.
   2. Fill up to subgrade elevation.
   3. Compact each lift to 90 percent of maximum dry density.
   4. Do not backfill against unsupported foundation walls.

B. Over Buried Utility Piping, Conduits, and Duct Bank in Trenches and _____:
   1. Bedding: Use sand or granular fill.
   2. Cover with general fill.
   3. Compact in maximum 8 inch lifts to 90 percent of maximum dry density.

3.05 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.06 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.

B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor"), ASTM D 1557 ("modified Proctor"), or AASHTO T 180.

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.07 CLEANING

A. See Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION
SECTION 32 1313
CONCRETE PAVING

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Concrete walks.

PART 2 PRODUCTS
2.01 FORM MATERIALS
   A. Wood form material, profiled to suit conditions.
   B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D1751) or sponge rubber or cork (ASTM D1752).
      1. Thickness: 1/2 inch.

2.02 REINFORCEMENT
   A. Reinforcing Steel: ASTM A615/A615M, Grade 80 (80,000 psi) yield strength; deformed billet steel bars; unfinished.
   B. Steel Welded Wire Reinforcement: Plain type, ASTM A1064/A1064M; in flat sheets; unfinished.
   C. Dowels: ASTM A615/A615M, Grade 40 - 40,000 psi yield strength; deformed billet steel bars; unfinished finish. Dowel sizing shall be as indicated on drawings.

2.03 CONCRETE MATERIALS
   A. Obtain cementitious materials from same source throughout.
   B. Cement: ASTM C150/C150M, Type II/V Portland cement, gray color.
   C. Fine and Coarse Mix Aggregates: ASTM C33/C33M.
   D. Fly Ash: ASTM C618, Class C or F.
   E. Water: Clean, and not detrimental to concrete.

2.04 ACCESSORIES
   A. Curing Compound: ASTM C 309, Type 1, Class A.
   B. Joint Sealer: Type as specified in Section 07900.

2.05 CONCRETE MIX DESIGN
   A. Proportioning Normal Weight Concrete: Comply with the 2010 California Building Code, Chapter 19A.
   B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
   C. Concrete Properties:
      1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; 3,250 psi.
      2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
      3. Minimum cement content per cubic yard: 6.5 sacks.
      5. Water-Cement Ratio: Maximum 50 percent by weight.
      6. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
      7. Maximum Slump: 4 inches +/- 1" (+/- 25.4 mm).
      8. Maximum Aggregate Size: 1 inch.

2.06 CODE REGULATIONS
   A. Portland cement concrete paving shall be stable, firm, and slip resistant and shall comply with CBC Sections 11B-302 and 11B-403.

END OF SECTION
SECTION 32 3113
CHAIN LINK FENCING AND GATES

PART 1  GENERAL
1.01  SECTION INCLUDES
A.  Types of Fence
   1.  Buried perimeter fencing shall be a fence with 8'-0" of chain link fabric, top, and bottom rails. The bottom rail and fabric shall be buried 6" below grade.
   2.  Standard fencing shall be a fence with 8'-0" of chain link fabric and top rails. If required the bottom rail shall be within two inches above the finish grade.
   3.  Standard fencing will be used as non-preimeter fences and for perimeter fences placed over concrete or asphalt paved surface. Exceptions to this rule shall be indicated on drawings.
   4.  Safety Netting for sports fields.
B.  Relocation of Existing Fencing
   1.  Any existing fence to be removed and relocated shall be taken down, have concrete broken off posts, and be reinstalled in accordance with these specifications. The contractor is permitted to keep the removed posts and install new posts. Splicing posts by welding is not permitted.
C.  Underground Utilities
   1.  Identification and repair of any and all underground utilities (irrigation, power, water, and low voltage wiring) affected by work being done is the responsibility of the contractor.

PART 2  PRODUCTS
2.01  MANUFACTURERS
A.  Chain Link Fences and Gates:
   1.  Allied Tube and Conduit.
   3.  Anchor Fence Div.
2.02  MATERIALS
C.  Concrete: ASTM C 94; Normal Portland Cement, 2,500 psi strength at 28 days, 3 inch slump; 3/4 to 1 inch nominal sized coarse aggregate.

2.03  COMPONENTS
A.  Line Posts: All line posts shall be nominal 2-3/8"inch, 2.375 inch O.D. galvanized tubing for fabric height up to 8 feet, and 2-7/8 inch O.D. for fabric height over 8 feet to 16 feet or less.
   1.  8' fabric height, with netting above - 2.875" o.d. steel pipe, 5.79 lbs. per l.f.
B.  Terminal Posts: Angels, corners, ends and pull posts shall be nominal 3-7/8 inch schedule 40 galvanized tubing for fabric height up to 8 feet, and, 4 inch O.D. for fabric height over 8 feet to 16 feet or less. 2.88 inch.
D.  B. All 6-5/8" posts shall be A-53, Grade B Steel or equivalent
E.  Top and Brace Rail: All top rails shall be nominal 1-5/8 inch schedule 40 galvanized tubing. Top rails shall be provided with expansion coupling and shall be securely fastened to gate and terminal posts by means of suitable hot-dipped galvanized connections. Top rail shall pass through the extension arms to form a continuous brace from end to end of each stretch of fence.
F. Bottom Rail: All bottom rails shall be nominal 1-5/8 inch, 1.625 inch O.D schedule 40 galvanized tubing. Bottom rail shall be installed in accordance with manufacturer's directions using couplings.

G. Gates: Gate frames shall be nominal 1-5/8 inch, O.D. schedule 40 galvanized tubing welded at all joints to provide rigid water-tight construction. Gate fabric shall match the line fence fabric in all regards with the exception of the mesh size which shall be 1 inch on the gates. Gates shall be 8-feet high with heavy malleable iron extension arms as previously described. Swing gates shall be furnished with pivot-type hinges, center stop, and hold open devices. Gates shall provide clear openings as shown on the drawings.

H. Gate Posts
   1. Man Gate Posts: Posts shall be 4" OD schedule 40 galvanized steel pipe.
   2. Drive Through Gate Posts: Posts shall be 6-5/8" OD schedule 40 galvanized steel pipe.
   3. All gate posts shall be provided with heavy malleable iron extension arms as previously described.

I. Fabric shall be ASTM A392, Class 1, zinc coated (1.2 oz.), steel wire/fabric, woven in a 2 inch mesh size, 9 gauge coated wire size, galvanized after weaving, with salvage knuckle end closed, bottom salvage knuckle end closed.

J. Tension Wire: 9 gage thick steel, single strand.

K. Tension Bar shall be 3/16" x 3/4 inch hot-dipped galvanized steel.

L. Tie Wire: 9 gage steel tie wire and hog rings zinc coated.

M. Pipe: All posts, braces, rails and gate framing members shall be coated with zinc by the hot-dip process after fabrication. The strip steel used in the manufacturer of the pipe shall conform to either ASTM A-120 (Schedule 40) or ASTM A0569 (SS 40 by Allied Tube and Conduit Corporation or equal). Pipe conforming to ASTM A-120 shall receive not less than 1.8 ounces per square foot of zinc coating. Pipe conforming to ASTM A-569 shall be triple coated with a minimum of 0.9 ounces per square foot of zinc, 15 micrograms per square inch of chromate, and 0.3 mils of polyurethane finish. Pipe shall be straight or have an installed deflection not greater than ½" per span or post.

N. Bracing: Rails shall be nominal 1-5/8 inch, 1.660 inch O.D. schedule 40 galvanized tubing with adjustable truss braces 3/8" in diameter and all fittings hot-dipped galvanized. All end and corner posts, unless otherwise shown, shall be suitably braced with pipe set in horizontal position, with adjustable truss braces between terminal and first line posts, complete with all fittings. Terminal posts shall be braced laterally in an approved manner.

2.04 ACCESSORIES

A. Caps: Formed steel, malleable cast iron, or aluminum, sized to post diameter with set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.

C. Gate Hardware at Maintenance Gate Only: Fork latch with gravity drop; two 180-degree gate hinges per leaf and hardware for padlock.

D. Accessible Gate Hardware: Refer to drawings and details.
   1. Gates equipped with panic hardware shall utilize the following hardware:
      a. Von Duprin 99EO-626-299 w/ PA option.
      b. Von Dupring 994L-626 Trim w/ breakaway lever.
      c. Falcon Rim Cylinder 953-626.

2.05 FINISHES

A. Components (Other than Fabric): Powder coated finish

B. Chain link mesh/fabric: PVC coated

C. Hardware: Galvanized to ASTM A 153/A 153M, 1.3 oz/sq ft coating.

D. Accessories: Same finish as framing.
2.06 CODE REGULATIONS

A. Gates that are part of the accessible route shall meet all the requirements of an accessible door in compliance with CBC section 11B-404.

B. The levers of lever actuated latches or locks for accessible gates shall be curved with a return to within 1/2” of the gate surfaces to prevent catching on the clothing or persons. California Referenced Standards Code T-24 Part 12, Section 12-10-202, Item (F).

C. Swing doors and gate surfaces within 10” of the finish floor or ground shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16” of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped. CBC section 11B-404.2.10.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that line of fence has been properly identified.

B. Verify that proper grade has been established.

C. Verify location of underground utilities and structures.

D. Begin fence construction only after adequate clearance on both sides of fence is available.

3.02 INSTALLATION

A. Concrete Placement: Posts and gate hold open devices shall be placed in concrete. Concrete shall meet the minimum requirements of Section 03 3000 Cast-In-Place Concrete.

B. Post Setting and Spacing

1. All posts shall be spaced in the line of fence not to exceed 10-foot centers for a fence not exceeding 8 feet and 8-foot centers for a fence height greater than 8 feet not exceeding 16 feet.

2. All post shall be set in a concrete foundation to a depth of not less than 36 inches for a fence not exceeding 8 feet and a minimum of 60 inches for a fence height greater than 8 feet not exceeding 16 feet.

3. Set terminal posts (end, corner, and gate) at beginning and end of each continuous length of fence and at abrupt changes in vertical and horizontal alignments.

4. Coordinate supply and Installation of Softball Field Foul Poles as corner/terminal posts within the run of outfield fence for the Softball Field.

C. Install framework, fabric, accessories and gates in accordance with ASTM F 567. The fence erection, including all connections, shall be made in accordance with manufacturer’s directions and the “Product Manual” published by the Chain Ling Manufacturers Institute.

D. Place fabric on outside of posts and rails. Fabric shall be stretched out enough to resist a 6-inch deflection laterally, top or bottom, when force is exerted with the hand. Fabric shall be attached to and supported by terminal and gate posts by means of 3/16 x ¾ inch hot-dipped galvanized tension bars.

1. Fabric shall be fastened to line posts and to the top and bottom rails by means of tie wire spaced approximately two feet apart. There shall be two complete wraps made with the tie wire around the fabric on all perimeter security fence.

2. Posts bracing and other structural members of the fence shall be located on the inside of the security fence.

3. The fence and gate fabric for fences 16 feet in height shall be 2 pieces of 8 foot high 9 gauge material overlapped 4 inches and hog tied every 12 inches using 9 gauge galvanized steel wire per SNL Standard Drawing CJ005STD.

E. Set intermediate posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.

F. Line Post Footing Depth Below Finish Grade: ASTM F 567.
1. For fence less than 5'-0" in height footing shall be 32" dep, for fences between 5'-0" and 8'-0" footings shall be 36" deep.

2. Diameter - 12" minimum.

G. Corner, Gate and Terminal Post Footing Depth below Finish Grade: ASTM F 567. All posts shall be spaced in the line of the fence not to exceed 10-foot centers for a fence height not exceeding 8 feet. Gate post footings shall be a minimum of 12" in diameter and a minimum of 36" deep. Terminal and corner post footings shall be a minimum of 4 times the O.D. of the post diameter and 32" in depth for gates under 5'-0" and 36" deep for fences over 5'-0", but under 8'-0".

H. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gateposts. All ends of corner posts, unless otherwise shown, shall be suitably braced with pipe set in horizontal position, with adjustable truss braces between terminal and first line of posts, complete with all fittings.

I. Provide top rail through line post tops and splice with 6-inch long rail sleeves. Top rail shall pass through the extension arms to form a continuous brace from end to end of each stretch of fence.

J. Install center brace rail on corner gate leaves.

K. Do not stretch fabric until concrete foundation has cured 48 hours.

L. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.

M. Position bottom of fabric 2 inches above finished grade.

N. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire or hog rings at maximum 15 inches on centers.

O. Attach fabric to end, corner, and gateposts with tension bars and tension bar clips.

P. Do not attach the hinged side of gate to building wall: provide gate posts.

Q. Install gate with fabric to match fence. Install two hinges per leaf up to 4 feet, and 3 hinges per leaf anything over 4 feet, with latch, catches, and drop bolt.

R. All bolts shall be cut flush on the face of the nut, and shall have a smooth surface.

S. All screw, nuts, bolts, bars, wire mesh, hinges and hinge pins shall be securely fastened inward to preclude surreptitious removal and assure visual evidence of tampering. All bolts protruding into areas of travel or that will pose a threat of injury will be cut so as only 2 or less threads are exposed beyond the nut.

T. Hardware accessible from outside the area shall be restrained by peening, brazing or spot welding to preclude removal.

1. Exceptions: Carriage bolts with round head need not be restrained when used to connect top or bottom rail, latches or center stop. Carriage bolts need not be restrained when used on hardware where the nut is not accessible from the outside.

2. Exceptions: Bolts and hardware on fence other than perimeter security fence shall not be restrained unless directed otherwise.

U. Surfaces that have been cut, filed, or where the galvanized coating has been damaged shall be coated with a zinc enriched paint, anti corrosive aluminum paint or suitable substitute to prevent corrosion per ASTM A-780.

V. Clearances

1. The bottom rail shall be installed so that it is not over 2 inches above grade at any point (standard fence only).

2. Provide suitable closure at irregularities in grade, such as curbs or ditches.
   a. Provide suitable extension from the bottom rail made from an equivalent material.
   b. Fabric closures shall be sufficiently secured to the bottom rail and extensions with fabric ties, Overlap the fabric for the enclosure a minimum of 6 inches above the bottom rail.

3. Vertical posts shall not exceed 5 inches open space to the adjacent post or solid structure.
4. Gates in the closed position shall have vertical and horizontal clearances not greater than 6 inches.

W. Ball Control Netting System Installation
1. Locate eye-bolts and pre-drill steel pipe end posts. Clean, deburr, and apply two coats cold-galvanizing compound as applicable immediately. Prepare, apply, and cure as directed by the manufacturer.
2. Eye bolts shall be located 3”-5” from the top of the Ball Control Net System End and Line Posts, and within 2” of the top rail of the chain link fencing below.
3. Support cable is to be continuous along the sides and top of each panel between the terminal and line posts as shown and described. Cable tension shall be 70 lbf. Horizontal cable runs spanning up to 30’ shall not deflect vertically more than 18”. Maintain support cable as a removable component by making all connections to eye-bolts and turnbuckles with threaded speed link or carabineer.
4. Wire Rope terminations to be constructed using thimble and u-bolted connections to match the size and materials of the approved wire rope. Minimum two u-bolts per termination.
5. Attach pre-fabricated rope-bordered net panels as follows;
   a. Spanning (horizontal) Support Cable to Ball Control Net Panel Rope Border to be aluminum or galvanized carabineer or other spring-type clip 15” o.c., or approved equivalent.
   b. Vertical Support Cable (at steel post) to Ball Control Net Panel Rope Border, hog ring at 15” o.c.
6. Ball Control Net Panel Rope Border to chain link fence fabric, hog ring at 15” o.c.

X. Wind Screen/Sight Obscuring Screen
1. Securely fasten the wind screen to the top and bottom rails of the fencing per manufacturer’s instructions with approved fastening devices.

Y. Foul Pole Installation
1. Coordinate with equipment specified in Section 11 68 24. Set foul pole in concrete footings in accordance with the manufacturer’s recommendations.
2. The foul poles shall be set plumb with vertical and shall be located within 1” of the surveyed foul line for the field.

3.03 TOLERANCES
A. Maximum Variation from Plumb: 1/8” Tolerance.
B. Maximum Offset From True Position: 1/2 inch.
C. Components shall not infringe adjacent property lines.
D. The bottom rail shall be installed so that it is not over 2 inches above grade at any point.
E. Vertical posts shall not exceed 6 inch open spaces to the adjacent post or solid structure.
F. Gates in the closed position shall have vertical and horizontal clearance not greater than 6 inches.
G. Provide suitable closure at irregularities in grade, such as curbs or ditches. This can be accomplished with suitable extensions from the bottom rail made from an equivalent material. Vertical posts shall not exceed 6 inch open spaces to the adjacent post or solid structure. If fabric is utilized in the closure it shall be sufficiently secured to the bottom rail and extensions with fabric ties. Overlap the fabric for the enclosure a minimum of 6 inches above the bottom rail.

END OF SECTION
Limited Asbestos & Lead Sampling Report

Property:
Monte Vista Elementary
Kindergarten
1720 Monte Vista Drive
Vista, CA 92084

Owner:
Vista Unified School District
1234 Arcadia Avenue
Vista, CA 92084
760.726.2170

Conducted on:
May 12, 2020

Prepared by:
Western Environmental Services, LLC
4614 Mataro Drive
San Diego, California 92115
Phone: (619) 287-3986

Prepared for:
Vista Unified School District
1234 Arcadia Avenue
Vista, CA 92084
Attn: Nathan Andersen

WES PROJECT NO. A200372
As requested, Western Environmental Services, LLC (WES) collected bulk samples of suspect asbestos and lead containing material from Monte Vista Elementary located at 1720 Monte Vista Drive in Vista, California. The asbestos samples were analyzed by EMLAB P&K, a NVLAP accredited laboratory in San Diego, CA. The lead samples were analyzed by Western Environmental Services, LLC. The sampling was conducted by Anthony Terrell, a California State DOSH Certified Site Surveillance Technician and CDPH Certified Inspector/Assessor.

As directed, the sampling was limited to the materials that will be potentially disturbed and/or removed (Rooms 1, & Equipment Room) during future renovation activities. Materials in other locations of the building were not sampled. Materials not listed in this report should be presumed asbestos or lead containing material or tested prior to disturbance or removal.

**Asbestos Sampling:**
Samples of suspect asbestos containing plaster, plaster skim coat, cove base, cove base glue, carpet glue, 12 x 12 floor tile, floor tile glue, sheet flooring and sheet flooring glue from kindergarten rooms were submitted to the laboratory for asbestos analysis in accordance with procedures described in Appendix A, “Interim Method for the Determination of Asbestiform Minerals in Bulk Insulation Samples”, published in 40 CFR Ch. I (7-1-91 edition) Pt. 763, Subpart F App. A, pages 293 – 299. This procedure involves examination of the samples with a petrographic microscope utilizing polarized light, a procedure commonly known as Polarized Light Microscopy (PLM).

Sample results are attached and indicate that Chrysotile Asbestos was identified in the black mastic/carpet glue.

**Lead Sampling:**
Samples of suspect lead containing material from Room 1 were analyzed by XRF for lead analysis. Lead containing materials are defined as those materials containing lead at/or above 1.0 mg/cm²; 0.5% by weight; or 5000 ppm (parts per million).

Sample results are attached and indicate that the samples collected did not meet the definition of lead based paint.

Appropriate federal, state, and local rules and regulations must be followed when disturbing asbestos and/or lead containing material. WES is not responsible for the conclusions, opinions, or recommendations made by others based on this information. If you have any questions regarding this report or need additional information, please do not hesitate to contact me at (619) 287-3986.

Respectfully submitted,

Anthony Terrell
DOSH – Certified Site Surveillance Technician #17-5952 Exp. 8/16/20
CDPH – Certified Lead Inspector/Assessor #24203 Exp. 8/9/21

George H. Robinson, BS, MS, CIAQC, CIEC
Senior Partner / Principal Industrial Hygienist
Council-certified Indoor Air Quality Consultant
Council-certified Indoor Environmental Consultant (American Council for Accredited Certification)
CDPH – Certified Lead Inspector/Assessor #24202 Exp 4/21/21
DOSH – Certified Asbestos Consultant #18-6044 Exp. 10/18/20
<table>
<thead>
<tr>
<th>Sample #</th>
<th>Location</th>
<th>Material</th>
<th>Asbestos Results</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Room 1 – South Wall</td>
<td>Gray Plaster</td>
<td>None Detected</td>
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<tr>
<td>1a</td>
<td>Room 1 – South Wall</td>
<td>White Skim Coat</td>
<td>None Detected</td>
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<tr>
<td>1b</td>
<td>Room 1 – South Wall</td>
<td>Brown Mastic</td>
<td>None Detected</td>
</tr>
<tr>
<td>1c</td>
<td>Room 1 – South Wall</td>
<td>White Mastic</td>
<td>None Detected</td>
</tr>
<tr>
<td>2</td>
<td>Room 1 – West Wall</td>
<td>Gray Plaster</td>
<td>None Detected</td>
</tr>
<tr>
<td>2a</td>
<td>Room 1 – West Wall</td>
<td>White Skim Coat</td>
<td>None Detected</td>
</tr>
<tr>
<td>2b</td>
<td>Room 1 – West Wall</td>
<td>Brown Mastic</td>
<td>None Detected</td>
</tr>
<tr>
<td>2c</td>
<td>Room 1 – West Wall</td>
<td>White Mastic</td>
<td>None Detected</td>
</tr>
<tr>
<td>3</td>
<td>Equipment Room</td>
<td>Gray Plaster</td>
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<tr>
<td>3a</td>
<td>Equipment Room</td>
<td>White Skim Coat</td>
<td>None Detected</td>
</tr>
<tr>
<td>3b</td>
<td>Equipment Room</td>
<td>Brown Mastic</td>
<td>None Detected</td>
</tr>
<tr>
<td>3c</td>
<td>Equipment Room</td>
<td>White Mastic</td>
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<tr>
<td>4</td>
<td>Room 2 – South Wall</td>
<td>Gray Plaster</td>
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<td>4a</td>
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<td>5a</td>
<td>Room 2 – East Wall</td>
<td>White Skim Coat</td>
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<tr>
<td>5b</td>
<td>Room 2 – East Wall</td>
<td>White Mastic</td>
<td>None Detected</td>
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<tr>
<td>6</td>
<td>Equipment Room – North Wall</td>
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<td>6a</td>
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<tr>
<td>6c</td>
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<td>White Mastic</td>
<td>None Detected</td>
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<td>6d</td>
<td>Equipment Room – North Wall</td>
<td>Gray Baseboard</td>
<td>None Detected</td>
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<tr>
<td>7</td>
<td>Room 2</td>
<td>Black/Yellow Mastic</td>
<td>3% Chrysotile</td>
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<td>8</td>
<td>Room 1</td>
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<tr>
<td>8a</td>
<td>Room 1</td>
<td>Black/yellow Mastic</td>
<td>2% Chrysotile</td>
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<tr>
<td>9</td>
<td>Room 1</td>
<td>Black/Yellow Mastic</td>
<td>3% Chrysotile</td>
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<td>10</td>
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<td>Beige 12 x 12 Floor Tile</td>
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<tr>
<td>10a</td>
<td>Equipment Room</td>
<td>Black/yellow Mastic</td>
<td>2% Chrysotile</td>
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</table>

Asbestos samples results are reported in % using Polarized Light Microscopy (PLM). The sample location represents were a particular sample was collected. The sampled material may be present in other areas of the structure.
### Lead XRF Sampling Analysis

<table>
<thead>
<tr>
<th>Sample#</th>
<th>Location</th>
<th>Component</th>
<th>Substrate</th>
<th>Color</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Room 1 – South Wall</td>
<td>Wall</td>
<td>Plaster</td>
<td>White</td>
<td>0.2 mg/cm²</td>
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<td>2</td>
<td>Room 1 – West Wall</td>
<td>Wall</td>
<td>Plaster</td>
<td>White</td>
<td>0.3 mg/cm²</td>
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<tr>
<td>3</td>
<td>Room 1 – North Wall</td>
<td>Wall</td>
<td>Plaster</td>
<td>White</td>
<td>0.1 mg/cm²</td>
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<tr>
<td>4</td>
<td>Room 1 – East Wall</td>
<td>Wall</td>
<td>Plaster</td>
<td>White</td>
<td>0.1 mg/cm²</td>
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<tr>
<td>5</td>
<td>Room 1 – North Wall</td>
<td>Window Sill</td>
<td>Wood</td>
<td>Beige</td>
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<td>6</td>
<td>Room 1 – West Wall</td>
<td>Door Jamb</td>
<td>Wood</td>
<td>White</td>
<td>0.3 mg/cm²</td>
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<tr>
<td>7</td>
<td>Room 1 (bathroom) – North Wall</td>
<td>Tile</td>
<td>Concrete</td>
<td>Gray</td>
<td>0.4 mg/cm²</td>
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<tr>
<td>8</td>
<td>Room 1 (bathroom) – North Wall</td>
<td>Tile</td>
<td>Concrete</td>
<td>Blue</td>
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<tr>
<td>9</td>
<td>Room 1 (bathroom) – North Wall</td>
<td>Tile</td>
<td>Concrete</td>
<td>Yellow</td>
<td>0.1 mg/cm²</td>
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</tbody>
</table>

Lead samples results are reported in mg/cm² using a hand held X-ray Florescence Device (XRF). The sample location represents where a particular sample was collected. The sampled material may be present in other areas of the structure.
Laboratory Report
(Five Pages)
Report for:

Mr. George Robinson, MS; BS; CIAQ; CIEC
Western Environmental Services, LLC
4614 Mataro Drive
San Diego, CA  92115

Regarding:  Project: A200372; Monte Vista Elementary
EML ID: 2404958

Approved by:  

Dates of Analysis:
Asbestos PLM: 05-13-2020

Approved Signatory
Michelle Goduti

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimer by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.
**Client:** Western Environmental Services, LLC  
**C/O:** Mr. George Robinson, MS; BS; CIAQ; CIEC  
**Re:** A200372; Monte Vista Elementary  
**Date of Sampling:** 05-12-2020  
**Date of Receipt:** 05-12-2020  
**Date of Report:** 05-13-2020

### ASBESTOS PLM REPORT

<table>
<thead>
<tr>
<th>Location: 1, Room 1 - S Wall - Plaster</th>
<th>Lab ID-Version‡: 11469050-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample Layers</strong></td>
<td><strong>Asbestos Content</strong></td>
</tr>
<tr>
<td>Gray Plaster</td>
<td>ND</td>
</tr>
<tr>
<td>White Skim Coat</td>
<td>ND</td>
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<tr>
<td>Brown Mastic</td>
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<td>White Mastic</td>
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**Sample Composite Homogeneity:** Moderate

<table>
<thead>
<tr>
<th>Location: 2, Room 1 - W Wall - Plaster</th>
<th>Lab ID-Version‡: 11469051-1</th>
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</thead>
<tbody>
<tr>
<td><strong>Sample Layers</strong></td>
<td><strong>Asbestos Content</strong></td>
</tr>
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<td>Gray Plaster</td>
<td>ND</td>
</tr>
<tr>
<td>White Skim Coat</td>
<td>ND</td>
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<td>Brown Mastic</td>
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**Sample Composite Homogeneity:** Moderate

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<tr>
<th>Location: 3, Equipment Room - N Wall - Plaster</th>
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<tr>
<td><strong>Sample Layers</strong></td>
<td><strong>Asbestos Content</strong></td>
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<td>Gray Plaster</td>
<td>ND</td>
</tr>
<tr>
<td>White Skim Coat</td>
<td>ND</td>
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<tr>
<td>Brown Mastic</td>
<td>ND</td>
</tr>
<tr>
<td>White Mastic</td>
<td>ND</td>
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</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

---

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
### ASBESTOS PLM REPORT

**Location:** 4, Room 2 - S Wall - Plaster

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<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
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</thead>
<tbody>
<tr>
<td>Gray Plaster</td>
<td>ND</td>
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<tr>
<td>White Skim Coat</td>
<td>ND</td>
</tr>
<tr>
<td>Brown Mastic</td>
<td>ND</td>
</tr>
<tr>
<td>White Mastic</td>
<td>ND</td>
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</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
# ASBESTOS PLM REPORT

**Location: 5, Room 2 - E Wall - Plaster**

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
<th>Lab ID-Version‡: 11469054-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Plaster</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>White Skim Coat</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>White Mastic</td>
<td>ND</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

**Location: 6, Equipment Room - N Wall - Cove Base and Glue**

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
<th>Lab ID-Version‡: 11469055-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Plaster</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>White Skim Coat</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Brown Mastic</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>White Mastic</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Gray Baseboard</td>
<td>ND</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

**Location: 7, Room 2 Brown Sheet Flooring and Mastic**

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
<th>Lab ID-Version‡: 11469056-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Sheet Flooring with Fibrous Backing</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Black/Yellow Mastic</td>
<td>3% Chrysotile</td>
<td></td>
</tr>
</tbody>
</table>

**Composite Non-Asbestos Content:** 20% Cellulose

**Sample Composite Homogeneity:** Moderate

**Comments:** Some layers in the sample were inseparable without cross contamination.

**Location: 8, Room 1 Gray Sheet Flooring and Mastic**

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
<th>Lab ID-Version‡: 11469057-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Sheet Flooring</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Black/Yellow Mastic</td>
<td>2% Chrysotile</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

**Comments:** Some layers in the sample were inseparable without cross contamination.

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EMLab ID: 2404958, Page 4 of 5
**Client:** Western Environmental Services, LLC  
**C/O:** Mr. George Robinson, MS; BS; CIAQ; CIEC  
**Re:** A200372; Monte Vista Elementary  
**Date of Sampling:** 05-12-2020  
**Date of Receipt:** 05-12-2020  
**Date of Report:** 05-13-2020

### ASBESTOS PLM REPORT

**Location:** 9, Room 1 Black Mastic/Yellow Glue  
**Lab ID-Version‡:** 11469058-1

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/Yellow Mastic</td>
<td>3% Chrysotile</td>
</tr>
</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

**Comments:** Sample layers inseparable without cross contamination.

**Location:** 10, Equipment Room - Beige 12X12 Floor Tile and Glue  
**Lab ID-Version‡:** 11469059-1

<table>
<thead>
<tr>
<th>Sample Layers</th>
<th>Asbestos Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beige Floor Tile</td>
<td>ND</td>
</tr>
<tr>
<td>Black/Yellow Glue</td>
<td>2% Chrysotile</td>
</tr>
</tbody>
</table>

**Sample Composite Homogeneity:** Moderate

**Comments:** Some layers in the sample were inseparable without cross contamination.

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