PART 1 – GENERAL

1.01 SUMMARY

A. This section includes summary of work including:

1. Work covered by Contract Documents
2. Bid items, Allowances and Alternates
3. Work under other contracts
4. Future work
5. Work sequence
6. Cooperation of contractor and coordination with other work
7. Maintenance
8. Occupancy requirements
9. Reference Standards
10. Products ordered in advance
11. CLPCCD furnished products

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. This project comprises of all necessary set up, equipment, labor and materials to complete the roof replacement at Mohr Fry House in accordance with the contract drawings and specifications. The work shall include, but not limited to:

- Removal of the existing roof, flashing, gutters and downspouts
- Installation of new cedar wood shingles at steep-slope roof areas
- Installation of a new thermoplastic roofing system at flat roof areas
- Replacement of existing skylights with new units
- Installation of new gutters and downspouts
- Application of a new coating system at balcony and other cropped-out areas
- Installation of new flashing.

B. The work shall include all work shown and specified except for work indicated “N.I.C” or “Not in Contract”.

D. The Contractor must maintain access to the existing buildings at all times during the project. The contractor is to provide secure fencing and/or barricades to keep the general public from entering exterior work areas. Work hours are in accordance with City of Hayward Noise Ordinance.

E. Unless provided otherwise in the Contract Documents, all risk of loss of Work covered by the Contract Documents shall rest with the Contractor until Final Completion and Acceptance of the Work.

1.03 BID ITEMS

A. Base Bid- Furnish and install all work shown on Drawings and described in Specifications and all other Contract Documents, including connections to existing systems for a complete and operational product. Disposal is also included in the bid though the District would like the option of salvaging any of the removed fixtures or poles if the District chooses to.

B. Allowance- An Owner's non-specified allowance is as noted in Paragraph 1.1 of the Bid Proposal.

1.04 WORK UNDER OTHER CONTRACTS

Not Applicable

1.05 FUTURE WORK

Not Applicable.

1.06 WORK SEQUENCE

A. The contractor shall coordinate their work with the Construction Manager. Work will be performed on an active college campus. Campus buildings are generally in use from 7:30AM to 10:00PM Monday through Friday. Contractor shall presume interior work in classrooms must be performed at times other than when a campus building is in use. Exterior work can occur during normal working hours though there may need to be some scheduling around work that requires the temporary disuse of any parking spaces.

1.07 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WORK.

A. Should construction work, or work of any other nature, be underway by other forces or by other contractors within or adjacent to the limits of the Work at the time the Work was advertised for bids, the Contractor shall cooperate with all such other contractors or forces to the end that any delay or hindrance to their work will be avoided. The cost of such cooperation will be considered as included in the prices bid and no direct or additional payment will be made therefore. Contractor shall coordinate with such other contractors and forces as required by General Conditions.

B. CLPCCD reserves the right to perform other or additional work, within or adjacent to the limits of the work specified, at any time by the use of other forces. Contractor shall coordinate with CLPCCD and any CLPCCD forces, or other forces, engaged by CLPCCD, as required by General Conditions. In the event that the performance of such other or additional work materially increases or decreases Contractor's costs, the work and the amount to be paid therefore will be appropriately adjusted as determined by the Construction Manager.

C. Limit use of the Site for Work and for construction operations to allow for:

   a. CLPCCD operation

   b. Work by other contractors and tenants

D. Coordinate use of the Site and access to site with other contractors, utilities, and CLPCCD forces, as required by General Conditions. Construction Manager has final authority over coordination, use of the Site, and access to site.

E. Cooperate with CLPCCD and others who may occupy and begin work on site and inside building prior to completion of Work of this Contract.

F. Cooperate with contractors for other area work, not included in Contract, but which may take place during construction period.

1.08 MAINTENANCE

A. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices bid and no direct or additional payment will be made therefore.

1.09 OCCUPANCY REQUIREMENTS

A. Whenever, in the opinion of Construction Manager, Work or any part thereof is in a condition suitable for use, and the best interest of CLPCCD requires such use, CLPCCD may take beneficial occupancy of and connect to, open for public use, or use the Work or such part

thereof. In such case, CLPCCD will request Architect/Engineer to inspect the Work or part thereof, and issue a Certificate of Substantial Completion for that part of Work.

B. Prior to date of Final Acceptance of the Work by CLPCCD, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in General Conditions.

C. Use by CLPCCD of Work or part thereof as contemplated by this section shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by CLPCCD of any of the conditions thereof.

D. CLPCCD may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on milestone dates prior to substantial completion of all of the Work. Contractor shall notify Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request Architect/Engineer to issue a Certificate of Substantial Completion for that part of the Work.

PART 2 – PRODUCTS

2.01 REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of standard, except where more rigid requirements are specified or are required by applicable codes.

2.02 PRODUCTS ORDERED IN ADVANCE

Not applicable.

2.03 CLPCCD FURNISHED PRODUCTS

For CLPCCD furnished products as specified, if any, shall be indicated on Construction Documents.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section describes general procedural requirements for alterations, modifications and extras.

B. Related Sections

1. Section 01 11 00: Summary of Work

1.02 GENERAL

A. Any change in scope of work or deviation from Drawings or Specifications shall be accomplished only when authorized in writing by Construction Manager. As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.

B. Changes in scope of Work or deviation from Drawings or Specifications may be initiated only by the Contractor or the Construction Manager.

1. Contractor may initiate changes by submitting Requests for Information (RFI), Requests for Substitution (RFS), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.

a. RFI's shall be submitted to seek clarification of Contract Documents.

b. RFS's shall be submitted in accordance with paragraph 4.8.2 of General Conditions to request substitution of materials or methods of execution.

c. Notices of Changes shall be submitted in accordance with paragraph 9.6 of General Conditions.

d. Notices of Hazardous Waste Conditions shall be submitted in accordance with paragraph 4.17 of General Conditions.

e. Notices of concealed or unknown conditions shall be submitted to make Owner aware of a potential change in scope of the work.

2. Contractor shall be responsible for its costs to implement and administer RFI's and RFS's throughout the Contract duration. Regardless of the number of RFI's submitted, Contractor will not be entitled to additional compensation. Contractor shall be responsible for both CLPCCD's and Architect's administrative costs for answering its RFI's where the answer could reasonably be found by reviewing the Contract Documents, as determined by CLPCCD; such costs will be deducted from progress payments.

3. Architect/Engineer may initiate changes by issuing a Supplemental Instruction (which shall require written approval of the Construction Manager).

4. Construction Manager may initiate changes by issuing Requests for Proposal (RFP) or a Field Change Notice (FCN) to Contractor. Such RFP’s or FCN’s will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Times from

Contractor. A RFP or FCN may require Contractor to expedite the work and proceed on a time and material (force account) basis.

1.03 PROCEDURE

A. Contractor shall submit RFI to Construction manager. Contractor shall reference each RFI to an activity on its Progress Schedule and note the time criticality of the RFI, indicating the time in which the response is required. Architect/Engineer shall respond by issuing a Clarification.

1. If Contractor is satisfied with the Clarification and does not request change in Contract Sum or Contract Times, then the Clarification shall be executed without a change.

2. If Contractor believes that the Clarification results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager who may then deny request for change or issue RFP.

B. Contractor shall submit RFS to Construction Manager who may then deny request or issue RFP.

C. Contractor shall submit Notices of Changes to resolve unanticipated conditions incurred in the execution of the Work. Procedures in Paragraph 9.6 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.

D. Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work. Procedures in Paragraph 4.17 of General Conditions shall be followed. If Construction Manager determines that a change in Contract Sum or contract Times is justified, Construction Manager shall issue RFP.

E. Architect/Engineer shall issue Supplemental Instruction to the Construction Manager who shall forward onto Contractor. Contractor shall not proceed with Supplemental Instruction until Construction Manager approves it in writing.

1. If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Times, then Supplemental Instruction shall be executed without a Change Order.

2. If Contractor believes that Supplemental Instruction results in change in Contract Sum or Contract Times, Contractor shall notify Construction Manager. Construction Manager may then deny request for change, cancel Clarification or issue RFP.

F. Responses by recipients shall be within a reasonable time.

G. Contractor shall respond to Construction Manager's RFP within fifteen (15) working days by furnishing a complete breakdown of costs of both credits and extras; itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated.

H. Upon approval of RFP, Construction Manager will issue a Change Order directing Contractor to proceed with extra work.

I. Payment shall be made as follows:

1. Change Orders which increase Contract Sum or Contract Times shall be included in next Contract Modification Form, signed by Construction Manager, accepted by Contractor.
2. Payment shall be made for Change Order work along with other work in progress payment following completion of Change Order work. Partial completion of Change Order work shall be paid for that part completed during the period covered by the monthly payment request.

1.04 COST DETERMINATION

A. Total cost of extra work shall be the sum of labor costs, material costs, equipment rental costs and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra work, whether calculating Change Orders, RFIs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including misrepresentation, concealment, strict liability or negligence. No other costs arising out of or connected with the performance of extra work, of any nature, may be recovered by Contractor. No special, incidental or consequential damages may be claimed or recovered against CLPCCD, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.

B. Overhead:

1. Overhead shall be as defined in Article 1.08.

C. Taxes:

1. Alameda County Sales Tax should be included.
2. Federal and Excise Tax shall not be included.

D. Owner Operated Equipment

When owner-operated equipment is used to perform extra work, Contractor will be paid for equipment and operator as follows:

1. Payment for equipment will be made in accordance with Paragraph 1.05. C.
2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of work, whether or not owner-operator is actually covered by such an agreement.

1.05 COST BREAKDOWN

A. Labor - Contractor will be paid cost of labor for workers (including fore persons when authorized by Construction Manager) used in actual and direct performance of extra work. Labor rate, whether employer is Contractor, subcontractor or other forces, will be sum of following:

1. **Actual Wages** - Actual wages paid shall be limited to the applicable prevailing wage rate for the classification of labor actually and reasonably necessary to complete a Change. Prevailing wage rates shall be deemed to include all direct payment of wages to workers completing a Change and all employer burdens thereon, including without limitation all employer payments to or on behalf of workers for Workers Compensation, health

and welfare, pension, vacation and other similar labor burdens. Contractors and subcontractors are required to provide their corresponding wage rate breakdown for the classification of labor under which they will complete a Change and on the form provided by the Owner for review and approval by the Owner and Construction Manager prior to processing and approval of payment for any completed Change.

B. **Material** - Only materials furnished by Contractor and necessarily used in performance of extra work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, subcontractor or other forces) from supplier thereof, except, as the following are applicable:

1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to CLPCCD notwithstanding fact that such discount may not have been taken.

2. For materials salvaged upon completion of extra work, salvage value of materials shall be deducted from cost, less discount, of materials.

3. If cost of a material is, in opinion of Construction Manager, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in subparagraph 1 above.

C. Equipment Rental

For Contractor or subcontractor-owned equipment, payment will be made at the lesser of actual rental rates or the rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of five hundred dollars ($500) or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

1. For equipment on Site, rental time to be paid for equipment shall be the time equipment is in operation on extra work being performed. The following shall be used in computing rental time of equipment:

a. When hourly rates are listed, less than thirty (30) minutes of operation shall be considered to be one-half (1/2) hour of operation.

b. When daily rates are listed, less than four (4) hours of operation shall be considered to be one-half (1/2) day of operation. Anything over four (4) hours and not more than eight (8) hours is considered one (1) full

day of operation.

2. For equipment, which must be brought to Site to be used exclusively on extra work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:

   a. CLPCCD will pay for costs of loading and unloading equipment.

   b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.

   c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.

   d. Payment for transporting, and loading and unloading equipment as above provided will not be made if equipment is used on Work in any other way than upon extra work.

3. Rental period shall begin at time equipment is unloaded at Site of extra work and terminate at end of day on which Construction Manager directs Contractor to discontinue use of equipment. Excluding Saturdays, Sundays, and legal holidays, unless equipment is used to perform extra work on such days, rental time to be paid per day shall be four (4) hours for zero (0) hours of operation, six (6) hours for four (4) hours of operation and eight (8) hours for eight (8) hours of operation, time being prorated between these parameters. Hours to be paid for equipment, which is operated less than eight (8) hours due to breakdowns, shall not exceed eight (8) less number of hours equipment is inoperative due to breakdowns.

D. Work Performed by Special Forces or Other Special Services

When Construction Manager and Contractor, by agreement, determine that special service or item of extra work cannot be performed by forces of Contractor or those of any subcontractors, service or extra work item may be performed by specialist. Invoices for service or item of extra work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra work performed in such facility may, by agreement, be accepted as a specialist billing. Construction Manager must be notified in advance of all offsite work. To specialist invoice price, less credit to CLPCCD for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent (15%) in lieu of overhead and profit provided in Paragraph 1.04.B.

1.06 FORCE-ACCOUNT

A. If it is impracticable because of nature of work, or for any other reason, to fix an increase or decrease in price definitely in advance, Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at actual necessary cost as determined by CLPCCD Authority, which cost shall

be determined pursuant to Article 1.04, and shall be known as Force-Account work.

B. Whenever any Force-Account work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to Construction Manager each day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account work on preceding work day, and no claim for compensation for Force-Account work will be allowed unless report shall have been made. Daily report(s) shall be delivered to Construction Manager within one (1) business day of the day the work was performed. No late reports will be accepted. The intent is to have daily agreement on hours expended for labor and equipment on Force-Account work.

C. Above described methods of determining payment for work and materials shall not apply to performance of work or furnishings of material, which, in judgment of Construction Manager, may properly be classified under items for which prices are established in Contract.

1.07 CLPCCD FURNISHED MATERIALS

CLPCCD reserves right to furnish materials, as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.08 OVERHEAD DEFINED

The following constitutes charges that are included in overhead for all contract modifications, including Force-Account work:

1. Drawings: field drawings, shop drawings, etc. including submissions of drawings
2. Routine field inspection of work proposed
3. General Superintendence
4. General administration and preparation of change orders
5. Computer services
6. Reproduction services
7. Salaries of project engineer, Construction Manager, superintendent, timekeeper, storekeeper and secretaries
8. Janitorial services
9. Temporary on-site facilities
    a. Offices
    b. Telephones
    c. Plumbing
    d. Electrical: Power, lighting
    e. Platforms
    f. Fencing, etc.
10. Home office expenses
11. Insurance Premium

12. Procurement and use of vehicles and fuel used coincidentally in base bid work
13. Surveying
14. Estimating
15. Protection of work
16. Final cleanup
17. Other incidental work
18. Record Drawings
19. Warranty
20. Transportation expense to site for labor

1.09 RECORDS AND CERTIFICATION

A. Force-Account (cost reimbursement) charges shall be recorded daily upon Cost Breakdown for Contract Modification Form obtained from Inspector. Contractor or authorized representative shall complete and sign form. Inspector shall sign form for approval. Contract Modification Form shall provide names and classifications of workers and hours worked by each, itemize materials used, and also list size type and identification number of equipment, and hours operated, and shall indicate work done by specialists.

B. No payment for Force-Account work shall be made until Contractor submits original invoices substantiating materials and specialist charges.

C. CLPCCD shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including Force-Account work, as set forth in General Conditions.

D. Further, CLPCCD shall have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, Contract. If Contractor is a joint venture, right of CLPCCD shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

SAMPLE ONLY
COST BREAKDOWN FORM FOR CONTRACT MODIFICATION

One separate form shall be used by Contractor, each first tier subcontractor and each lower tier subcontractor. One form for each shall be used for each change order. One form for each, for each day shall be used for Force-Account work.

COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL

SHEET 1 OF 3

GENERAL CONTRACTOR FORM

PROJECT NUMBER: _____

PROJECT NAME: _____

CONTRACTOR : _____

CHANGE ORDER NUMBER : _____ **DATE:** _____

CHANGE ORDER DESCRIPTION: _____

SUMMARY OF TOTAL COSTS					
1. TOTAL LABOR COSTS		$ -			
2. Fifteen percent (15%) of Line 1		$ -			
3. Sum of Lines 1 & 2			$ -		
4. TOTAL MATERIAL COSTS		$ -			
5. Fifteen percent (15%) of Line 4		$ -			
6. Sum of Lines 4 & 5			$ -		
7. TOTAL EQUIPMENT RENTAL COSTS		$ -			
8. Fifteen percent (15%) of line 7		$ -			
9. Sum of lines 7 & 8			$ -		
10. TOTAL OF SUBCONTRACTED COST		$ -			
11. Five percent (5%) of line 10 (excluding subcontractor markup)		$ -			
12. Sum of Lines 10 & 11			$ -		
SUBTOTAL OF DIRECT COSTS & MARK-UP				$ -	
COST OF BONDS (does not apply to subcontractors)				$ -	
TOTAL OF CONTRACT MODIFICATION				**$ -**	

COST BREAKDOWN FOR CONTRACTOR PRICE PROPOSAL

SHEET 2 OF 3

CONTRACTOR : _____

CHANGE ORDER NUMBER : _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

LABOR				
NAME	**CLASSIFICATION**	**HOURS**	**RATE**	**TOTAL**
				$ -
				$ -
				$ -
				$ -
TOTAL LABOR COSTS (Transfers to Line 1 of Sheet 1)				$ -

MATERIALS	
DESCRIPTION	**COST**
SUBTOTAL MATERIAL COSTS (Without Sales Tax)	$ -
SALES TAX ON MATERIAL AT 9.00%	$ -
TOTAL MATERIAL COSTS (Transfers to Line 4 of Sheet 1)	$ -

EQUIPMENT				
SIZE AND TYPE	**I.D. #**	**HOURS**	**RATE**	**TOTAL**
				$ -
				$ -
				$ -
				$ -
TOTAL EQUIPMENT RENTAL COSTS (Transfers to Line 7 of Sheet 1)				$ -

COST BREAKDOWN FORM FOR CONTRACT MODIFICATION

SHEET 3 OF 3

CHANGE ORDER NUMBER : _____ DATE: _____

CHANGE ORDER DESCRIPTION: _____

SUBCONTRACTED WORK		
SUBCONTRACTOR	**DESCRIPTION OF WORK SUBCONTRACTED**	**COST**
TOTAL COST OF SUBCONTRACTED WORK (Transfers to Line 10 of Sheet 1)		$ -

CONTRACTOR: _____ Date: _____

VERIFIED BY INSPECTOR: _____ Date: _____

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Project coordination.

B. Field engineering.

C. Coordination drawings.

D. Workmanship.

E. Incidental costs.

F. Correspondence and Notices.

G. Miscellaneous provisions.

H. Damage and restoration.

1.02 RELATED SECTIONS

A. Section 011100 - Summary of Work.

B. Section 014500 - Quality Control.

C. Section 015000 – Temporary Facilities.

D. Section 017000 - Contract Closeout.

1.03 PROJECT COORDINATION

A. Coordination scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify that utility requirement characteristics of 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.

C. ~~Coordinate space requirements and installation of mechanical and electrical work, which are indicted diagrammatically on drawings. Follow route shown for pipes, ducts, and conduit, as closely as practicable: place runs parallel with line of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.~~

D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and out
lets with finished elements.

~~E. Submit a copy of site drawing and certificate signed by the Civil Engineer that the elevations and locations of the Work of separate Sections in preparation for Substantial Completion.~~

F. Coordinate completion and cleanup of Work of separate Sections in preparation for Substantial Completion.

G. After Owner occupancy of the Site, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.04 FIELD ENGINEERING

A. Contractor shall locate and protect survey control and reference points.

B. Control datum for survey is that shown on drawings.

C. Contractor shall verify setbacks and easements; confirm drawing dimensions and elevations.

D. Provide field engineering services. Contractor shall establish lines, and levels, utilizing recognized engineering practices

1.05 COORDINATION DRAWINGS

A. Provide information required by Architect for preparation of coordination drawings.

B. Review drawings prior to submission to Architect.

1.06 WORKMANSHIP

A. Work shall be performed by craftsmen well experienced and competent in their particular trade.

B. Workmanship shall be thorough, finished and complete in every detail for finest quality installations as intended under these specifications.

1.07 INCIDENTAL COSTS

A. In addition to cost associated with GC Article 6: Insurance; Indemnity; Bonds:

1. Utilities: Refer to Section 01 50 00.

2. Contractors and Subcontractors shall furnish at their own cost and expense all tools, consumable supplies, appliances, equipment, etc., necessary for execution of their work; and shall be responsible for care and guarding thereof.

3. Contractors and Subcontractors shall be entirely responsible for professional, trade, business or other licenses required by state statute or local government.

1.08 CORRESPONDENCE AND NOTICES

A. Clearly identify correspondence, notices and submittals with project name, subject and detailed references to drawings and specifications.

B. Notify Inspector or the Construction Manager two (2) working days in advance of required inspection.

C. ~~The District's project management system (Project Team) shall be utilized for document controls for RFI, Submittals, Daily Logs, etc…~~

1.09 MISCELLANEOUS PROVISIONS

A. Contractor shall immediately refer to the Construction Manager any requirement shown or specified which Contractor in their experience and background finds or believes:

1. Is not equal to industry standards for achieving a first quality installation as intended;
2. Is excessive in cost or effort to effect the intended results;
3. Is below standard for proper enforcement of the guarantees required;
4. Or, is at variance with governing laws, regulations, codes or standards.

B. Work operations relative to any matter referred to Architect for consideration shall not proceed until receipt of appropriate instructions from Architect.

C. Inspection of Work and Materials: Contractor shall immediately make a close and thorough inspection of all materials as delivered and all work in progress; shall promptly reject and return all defective materials and re-do; and shall check and verify adequate performance or satisfactory results of all tests and inspections before allowing sub-work to proceed.

D. Warranty Period: During warranty periods, supervise investigation and correction of deficiencies found or occurring in the work.

E. Shop Fabricate and pre-assemble interrelated parts where possible.

F. Closing up of walls, partitions or furred spaces, backfilling and other covering up operations shall not proceed until all enclosed or covered work and inspections have been completed. Verify before proceeding.

G. Provide holes, slots, cutouts, blocking, screeds, nailers, chases and similar preparation as the work progresses, as required to receive or pass subsequent work without damage to previously completed work.

H. Exterior Work shall be made tight against direct or indirect entry of water into the concealed or interior spaces of the building. Seal joints or penetrations below grade or behind exterior trim and other conditions where water might enter the structure, as for exposed exterior work.

I. Structural Connections and Fasteners: Include as required for complete fabrication and installation of the work; of materials, types and sizes adequate for the purposes.

1. Place in concealed or obscured locations where possible.
2. Include suitable welding or brazing where required.

J. Powder Activated Fasteners: Limited to uses particularly shown, specified or approved by Architect. Operators shall be certified in accordance with California Industry Safety orders.

K. Ferrous Work permanently exposed to exterior or below grade shall be galvanized; related accessory members and fastening non-ferrous, galvanized or made rustproof by approved methods.

L. Galvanizing, prime painting and related touch-up and repair shall comply with requirements for metal fabricating and painting in Section 13125 - Relocatable Buildings.

M. Isolation: Provide between ferrous and non-ferrous or dissimilar metal components to protect the work against electrolysis, as follows:

1. For architectural work, provide cork fillers, asphaltic coatings, neoprene gaskets or similar separation as necessary; and use stainless steel fastenings only where interconnecting dissimilar parts.

2. For mechanical and electrical work, provide dielectric unions or similar separation. In particular, provide isolation as necessary between exterior underground systems and interior above-grade systems where they meet dissimilar metals.

N. Prior to starting a particular type or kind of work, examine for relevant information, all contract documents and subsequent data issued to the project.

1.10 DAMAGE AND RESTORATION

A. Damage to previously existing or newly placed facilities caused by movement of equipment or other operations, whether accidental or made necessary by reason of Contract requirements, shall be restored or replaced as specified or directed by Architect or Construction Manager.

B. Restoration shall be equal to the structural qualities or performance capacities of the original work, and finishes shall match the appearance of, as nearly as possible, like existing adjacent work. Restorations shall be subject to approval by Architect and shall be made as necessary at no added expense to Owner unless otherwise particularly provided for.

C. Work not properly restored or where not capable of being restored as intended under these Specifications shall be removed and replaced as directed by Architect at no added expense to Owner.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

3.01 CUTTING AND PATCHING

A Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements, which affects:

1. Structural integrity of element.

2. Integrity of weather-exposed or moisture-resistant elements.

3. Efficiency, maintenance, or safety of element.

4. Visual qualities of sight-exposed elements.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:

1. Fit the several parts together, to integrate with other Work.

2. Uncover Work to install or correct ill-timed work.
3. Remove and replace defective and non-conforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut rigid materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Document.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

J. Identify any hazardous substance or condition exposed during the Work to the Construction Manager for decision or remedy.

END OF SECTION

PART1 – GENERAL

1.01 SUMMARY

A. This section describes the required meetings for this work. These meetings include:

1. Pre-construction Conference
2. Scheduling Meetings
3. Progress Meetings
4. Special Meetings

B. Related Sections

1. Section 01 11 00: Summary of Work
3. Section 01 32 00: Progress Schedules and Reports
4. Section 01 33 00: Submittals

1.02 PRECONSTRUCTION CONFERENCE

A. Construction Manager will call for and administer Pre-construction Conference at time and place to be announced. Conference will occur as soon after award as can be reasonably scheduled.

B. Contractor, all subcontractors, and major suppliers shall attend Pre-construction Conference.

C. Agenda will include, but not be limited to, the following items:

1. Schedules
2. Personnel
3. Use of the Site
4. Temporary Utilities
5. Location of Contractor's on-site facilities
6. Project access
7. Employee parking
8. Security/Safety
9. Housekeeping
10. Submittals
11. Inspection and testing procedures, on-site and off-site
12. Utility shutdown procedures
13. Control and reference point survey procedures
14. Injury and Illness Prevention Program
15. Contractor's Initial CPM Schedule
16. Contractor Invoicing, Schedule of Values, Approval Procedures

D. Construction Manager will distribute copies of minutes to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the Pre-construction Conference.

1.03 SCHEDULING MEETINGS

A. Meet with Construction Manager and Architect on Start Date of Contract and conduct initial review of Contractor's draft Shop Drawing and Sample Submittal Schedule, and draft Schedule of Values and Initial Construction Schedule ("Schedule Review Meeting").

B. Authorized representative in Contractor's organization, designated in writing, who will be responsible for working and coordinating with Construction Manager's representative(s) and Architect relative to preparation and maintenance of Progress Schedule shall attend initial Schedule Review Meeting.

C. Contractor shall, within thirty (30) days from the Notice to Proceed date, meet with Construction Manager and Architect to review the Original CPM Schedule submittal.

1. Contractor shall have its manager, superintendent, scheduler, and key subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.

2. CLPCCD's review of Schedule Submittals will be limited to conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:

   a. Clarifications of Contract Requirements

   b. Directions to include activities and information missing from submittal

   c. Requests to Contractor to clarify its schedule

3. Within five (5) days of the initial Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by CLPCCD at the meeting.

D. Construction Manager will administer scheduling meetings and shall distribute minutes of scheduling meetings to attendees. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the scheduling meetings.

1.04 PROGRESS MEETINGS

A. Construction Manager and Architect will schedule and administer Progress Meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Construction Manager.

1. Meetings shall be held at Construction Manager's on-site office unless otherwise directed by Construction Manager.

2. Construction Manager will prepare agenda and distribute to Contractor, Inspector and Architect/Engineer 24 hours in advance of meeting.

3. Construction Manager will preside at meeting.

4. Architect will record and distribute minutes to Contractor, Inspector, Construction Manager, all other participants, and those affected by decisions made at meeting, within three (3) working days after meeting. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of progress meetings.

B. Progress Meetings shall be attended by Contractor's job superintendent, major subcontractors and suppliers, when requested by Construction Manager or as appropriate, Construction Manager, Architect/Engineer, Inspector and others as appropriate to agenda topics for each meeting.

C. Agenda will contain the following items as appropriate:

1. Review of work progress
2. Status of Construction Schedule, adjustments
3. Submittals
4. Delivery schedules
5. Utility shutdowns, traffic disruptions, and interferences with public scheduled during the subsequent 2 weeks
6. Quality control
7. Pending changes
8. Substitutions
9. Review of Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
10. Safety
11. Other items affecting progress of work

D. A separate meeting will be held on approximately the 25th of each month to review the schedule update submittal and progress payment application.

1. At this meeting, at a minimum, the following items will be reviewed:
    a. percent complete of each activity
    b. time impact evaluations for Change Orders and Time Extension Request
    c. actual and anticipated activity sequence changes
    d. actual and anticipated duration changes
    e. actual and anticipated contractor delays
2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
3. Contractor shall plan on progress meetings taking no less than four (4) hours.

1.05 SPECIAL MEETINGS

A. Special meetings may be called by any party by notifying all desired participants, Construction Manager, Architect, and Inspector four (4) working days in

advance, giving reason for meeting. Special Meetings may be held without advance notice in emergency situations.

B. At any time during the progress of the Work, CLPCCD shall have authority to require Contractor to attend conference of any or all of the contractors engaged in the Work or in other work, and notice of such conference shall be duly observed and complied with by Contractor.

C. Contractor shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in the General Conditions. Construction Manager shall be given five (5) days written notice of coordination meetings. Contractors shall maintain minutes of coordination meetings. Attendees shall have five (5) working days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of the meetings.

D. Pre-installation meetings of manufactures' warranty scope of work, i.e., roofing, water-proofing, curtain wall, etc.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.

1. Development of schedule, cost and manpower loading of the schedule and schedule updates, monthly payment requests and project status reporting requirements of the Contract shall employ computerized Critical Path Method (CPM) scheduling.

2. Submit schedules and reports as specified in General Conditions.

B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM schedule submittal requirements.

C. Related Sections:

1. Section 01 11 00: Summary of Work

2. Section 01 33 00: Submittals

D. Definitions: The following definitions apply to this section:

ACTIVITY: A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

BASELINE SCHEDULE: The initial schedule representing the Contractor's work plan on the first day of the project.

CRITICAL PATH: The longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

CRITICAL PATH METHOD (CPM): A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

DATA DATE: The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned".

EARLY COMPLETION TIME: The difference in time between an early scheduled completion date and the contract completion date.

FLOAT: The difference between the earliest and latest start or finish times for an activity.

MILESTONE: An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

NARRATIVE REPORT: A document submitted with each schedule that discusses topics related to project progress and scheduling.

NEAR CRITICAL PATH: A chain of activities with total float exceeding that of the critical path but having no more than 14 calendar days of total float.

SCHEDULED COMPLETION DATE: The planned project finish date shown on the current accepted schedule.

SUBSTANTIAL COMPLETION: The stage in the progress of the work when the work is complete in accordance with the Contract Documents, so that District can occupy or use the work for its intended purpose.

TIME IMPACT ANALYSIS: A schedule and narrative report developed specifically to demonstrate what effect a proposed change or delay has on the current scheduled completion date.

TIME-SCALED NETWORK DIAGRAM: A graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

TOTAL FLOAT: The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

UPDATED SCHEDULE: A current schedule developed from the baseline or subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

1.02 QUALIFICATIONS

A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of Primavera Project Planner or Microsoft Project scheduling software. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose. After bid opening, the apparent successful low bidder shall provide CLPCCD a written verification that Contractor has the required personnel under its employ or that Contractor will employ the required CPM scheduling consultant.

   1. The written statement shall identify individual who will perform CPM scheduling.

   2. Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.

   3. Required level of experience shall include at least two projects of similar nature, scope and value not less than three-fourths the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.

B. CLPCCD reserves right to approve Contractor's scheduler, or consultant, and right to reject them at any time. CLPCCD also reserves right to refuse replacement of Contractor's scheduler or consultant, if it believes such replacement will negatively affect Contract.

1.03 GENERAL

A. Progress Schedule shall be based on and incorporate milestones and completion dates specified in Contract Documents. Submit to the Owner baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Work must be executed in the sequence indicated on the current accepted schedule. Schedules must show the order in which you propose to execute the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling activities. You are responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times as stated in Contract Agreement, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by CLPCCD. Any such agreement shall be formalized by a Change Order.

   1. CLPCCD is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.

   2. Contractor shall not be entitled to extra compensation in the event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever

reason (excepting approved changes with added time components) beyond completion date shown in earlier (advanced) schedule but within the Contract Times.

3. A schedule showing the work completed in less than the Contract Times, which has been accepted by CLPCCD, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and Contract Substantial Completion. Project Float is a resource available to both CLPCCD and the Contractor.

C. Float Ownership: Neither CLPCCD nor Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date.

1. For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion Date.

2. Party A would not be responsible for the time since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected.

D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests associated with the changes. Responsibility for developing Contract CPM schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.

E. The Owner’s review and acceptance of schedules does not waive any contract requirements and does not relieve Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit corrected schedules to the Owner within seven (7) days of notification by the Owner, at which time a new review period of seven (7) days will begin.

Errors or omissions on schedules do not relieve Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Owner, either the Contractor or the Owner discovers that any aspect of the schedule has an error or omission, it must be corrected on the next updated schedule.

F. Use Microsoft Project for Windows or Primavera P6. Such software shall be compatible with Windows operating system. Contractor shall transmit contract schedule files to CLPCCD on CD-ROM or flash drive at times requested by CLPCCD.

G. Transmit each item under form approved by CLPCCD.

1. Identify Project with CLPCCD Contract number and name of Contractor and file by date, project, and update number.

2. Provide space for Contractor's approval stamp and CLPCCD's review stamps.

3. Submittals received from sources other than Contractor will be returned to the Contractor without CLPCCD's review.

1.04 INITIAL CRITICAL PATH METHOD (CPM) SCHEDULE

A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.

B. Indicate detailed plan for the Work to be completed in first sixty (60) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Show Work beyond sixty (60) calendar days in summary form.

C. Initial CPM Schedule shall be time-scaled.

D. Initial CPM Schedule shall be cost and manpower loaded. Accepted cost and manpower-loaded schedule will be used as basis for monthly progress payments until acceptance of the Original

CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed sixty (60) calendar days.

E. CLPCCD and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to CLPCCD.

1. CLPCCD's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements) and accepted CPM principals.

2. Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by CLPCCD. Contractor shall resubmit Initial CPM Schedule if requested by CLPCCD.

F. If, during the first sixty (60) days after Notice-to-Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to CLPCCD a written Time Impact Evaluation (TIE) in accordance with Article 1.09 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.05 ORIGINAL CRITICAL PATH METHOD (CPM) SCHEDULE

A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with requirements as specified herein.

B. The baseline schedule must not extend beyond the number of contract days. The baseline schedule must have a data date of the first working day of the contract and not include any completed work to date. The baseline schedule must not attribute negative float or negative lag to any activity.

C. Progress Schedule shall include or comply with following requirements:

1. Time scaled, cost and manpower loaded CPM schedule.

2. No activity on schedule shall have duration longer than twenty-one (21) calendar days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by CLPCCD.

a. Activity durations shall be total number of actual days required to perform that activity.

b. Activity coding capabilities to sort by responsibility, location, phase and CSI division.

3. The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.

4. CLPCCD-furnished materials and equipment, if any, identified as separate activities.

5. Completion of the last activity in the schedule shall be constrained by the contract completion date. Schedule calculations shall result in a negative float when the calculated early finish date of the last activity is later than the contract completion date. The Contractor shall include as the last activity in the project schedule an activity called “Final Completion”. The “Final Completion” activity shall have an “LF” constraint date equal to the contract completion date for the project, and with a zero day duration or by using the “project must finish by” date in the scheduling software. The schedule shall have no constrained dates other than those specified in the contract. The use of artificial float constraints such as “zero free float” or “zero total float” are typically prohibited. There shall only be two (2) open ended activities: Start Project (or NTP) with no predecessor logic and Final Completion with no successor logic.

6. Processing/approval of submittals and shop drawings for all Contract-required material and equipment. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.

a. Include time for submittals, resubmittals, and reviews by CLPCCD. Coordinate with

accepted schedule for submission of shop drawings, samples and other submittals.

b. Contractor shall be responsible for all impacts resulting from resubmittal of shop drawings and submittals.

7. Procurement of all contract required material and equipment, identified as separate activity.

   a. Include time for fabrication and delivery of manufactured products for the Work.

   b. Show dependencies between procurement and construction.

8. Complete activity description; what Work is to be accomplished and where.

9. The total cost of performing each activity shall be total of labor, material, equipment, excluding overhead and profit of Contractor. Total overhead and profit of the General Contractor shall be shown on a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.

10. Resources required (labor) to perform each activity.

11. Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.

12. Identify the activities, which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to ten (10) days.

13. At least twenty-eight (28) calendar days for developing punch list(s), completion of punch list items and final clean-up for the Work or any designated portion thereof. No other activities shall be scheduled during this period.

14. Interface with the work of other contractors, CLPCCD, and agencies such as, but not limited to, utility companies.

15. Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.

    a. Also furnish for each Subcontractor, as determined by CLPCCD, submitted on Subcontractor letterhead a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.

    b. Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.

    c. In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical and plumbing Subcontractors, and other Subcontractors as required by CLPCCD, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.

    d. Furnish schedule for Contractor/Subcontractor CPM Schedule meetings which shall be held prior to submission of Original CPM Schedule to CLPCCD. CLPCCD shall be permitted to attend scheduled meetings as an observer.

16. Activity durations shall be in calendar days.

17. Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays.

D. Original CPM Schedule Review Meeting: Contractor shall, within thirty (30) calendar days from the Notice to Proceed date, meet with CLPCCD to review the Original CPM Schedule submittal.

1. Contractor shall have its Construction Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by CLPCCD, in attendance. The meeting will take place over a continuous one-day period.
2. CLPCCD's review will be limited to submittal's conformance to Contract requirements, including, but not limited to, coordination requirements. However, review may also include:
   a. Accepted critical path method principles and tenets.
   b. Clarifications of Contract Requirements.
   c. Directions to include activities and information missing from submittal.
   d. Requests to Contractor to clarify its schedule.
3. Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by CLPCCD at the Meeting.

1.06 ADJUSTMENTS TO CRITICAL PATH METHOD (CPM) SCHEDULE

A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for CLPCCD's review.
   1. CLPCCD, within fourteen (14) days from date that Contractor submitted the revised schedule, will either:
      a. accept schedule and cost and resource loaded activities as submitted, or
      b. advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for CLPCCD to monitor Project's progress, resources and status or evaluate monthly payment request by Contractor.
   2. CLPCCD may accept schedule with conditions that the first monthly CPM schedule update be revised to correct deficiencies identified.
   3. When schedule is accepted, it shall be considered as the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
   4. CLPCCD reserves the right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.

B. Acceptance of Contractor's schedule by CLPCCD will be based upon schedule's compliance with Contract requirements and accepted CPM principles.
   1. By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
   2. Upon submittal of schedule update, updated schedule shall be considered "current" CPM schedule.
   3. Submission of Contractor's schedule to CLPCCD shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed work.

C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.

D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterhead to Contractor and transmitted to CLPCCD for the record.

1.07 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any pre-approved changes to planned activities or logic.

1. Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.

2. Each update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.

B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.

1. At this meeting, at a minimum, the following items will be reviewed: Percent complete of each activity; time impact evaluations for Change Orders and Time Extension Request; anticipated activity sequence changes; anticipated duration changes; actual and anticipated contractor delays.

2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.

3. Contractor shall plan on the meeting taking no less than four (4) hours.

C. Within seven (7) calendar days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.

D. Within seven (7) calendar days of receipt of above noted revised submittals, CLPCCD will either accept or reject monthly schedule update submittal.

1. If accepted, percent complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.

2. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.

E. Updating, changing or revising of any report, curve, schedule or narrative submitted to CLPCCD by Contractor under this Contract, nor CLPCCD's review or acceptance of any such report, curve, schedule or narrative shall not have the effect of amending or modifying, in any way, the Contract Substantial Completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract.

F. Final Updated Schedule. Submit final updated, as-built schedule with actual start and finish dates for the activities, within 30 days after completion of contract work. Provide a written certificate with this submittal signed by your Project Manager or an officer of the company stating, “To my knowledge and belief, the enclosed final update schedule reflects that actual start date and finish dates of the actual activities for the project contained herein”. An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

1.08 SCHEDULE REVISIONS

A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.

B. To reflect revisions to the schedule, the Contractor shall provide CLPCCD with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.

C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD. CLPCCD may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide CLPCCD with a complete written narrative response to CLPCCD's request.

D. If the Contractor's revision is still not accepted by CLPCCD, and the Contractor disagrees with CLPCCD's position, the Contractor has seven (7) calendar days from receipt of CLPCCD's letter rejecting the revision, to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of CLPCCD's written rejection of a schedule revision shall be contractually interpreted as acceptance of CLPCCD's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding CLPCCD's position.

E. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications of performance regarding proposed schedule revisions affecting said subcontractors.

1.09 RECOVERY SCHEDULE

A. If the Schedule Update shows a substantial completion date fourteen (14) calendar days beyond the Contract Substantial Completion date, or individual milestone completion dates, the Contractor shall submit to CLPCCD the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.

B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by CLPCCD.

C. If the Contractor's revisions are not accepted by CLPCCD, CLPCCD and the Contractor shall follow the procedures in paragraph 1.08.C, 1.08.D and 1.08.E above.

D. At CLPCCD's discretion, the Contractor can be required to provide subcontractor certifications for revisions affecting said subcontractors.

1.10 TIME IMPACTS EVALUATION (TIE) FOR CHANGE ORDERS, AND OTHER DELAYS

A. Time Impact Analysis (TIA). Submit a written TIA to the Owner with each request for adjustment of contract time, or when the Contractor or the Owner considers that an approved or anticipated change may impact the critical path or contract progress.
The TIA must illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate. The analysis must use the accepted schedule that has a data date closest to and before the event. If the Owner determines that the accepted schedule used does not appropriately represent the conditions before the event, the accepted schedule must be updated to the day before the event being analyzed. The TIA must include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the two schedules must be equal to the adjustment of contract time. The Owner may construct and use an appropriate project schedule or other recognized method to determine adjustments in contract time until the Contractor provide the TIA.

B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.

C. Contractor shall be responsible for all costs associated with the preparation of Time Impact Evaluations, and the process of incorporating them into the current schedule update. The Contractor shall provide CLPCCD with 4 copies of each TIE.

D. Once agreement has been reached on a TIE, the Contract Times will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Times may be extended in an amount CLPCCD allows, and the Contractor may submit a claim for additional time claimed by Contractor.

1.11 TIME EXTENSIONS

A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with the Contract Document.

B. Where an event for which CLPCCD is responsible impacts the projected Substantial Completion date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor; equipment and material the Contractor would expend to mitigate CLPCCD caused time impact. The Contractor shall submit its mitigation plan to CLPCCD within fourteen (14) calendar days from the date of discovery of said impact. The Contractor is responsible for the cost to prepare the mitigation plan.

C. Failure to request time, provides TIE, or provides the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.

D. No time will be granted under this Contract for cumulative effect of changes.

E. CLPCCD will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.

F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.

G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.12 SCHEDULE REPORTS

A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.

B. Required Reports:

1. Two (2) activity-listing reports: one sorted by activity number and one by total float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, float, responsibility code and the logic relationship of activities.

2. Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value to-date, previous payments and amount earned for current update period.

3. Schedule plots presenting time scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.

4. Cash flow report calculated by early start, late start and indicating actual progress. Provide an exhibit depicting this information in graphic form.

C. Furnish CLPCCD with report files in CD ROM and containing all Microsoft Project .mpp or Primavera .xer schedule files along with report files.

1.13 PROJECT STATUS REPORTING

A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.

B. Contractor shall prepare monthly written narrative reports of status of Project for submission to CLPCCD. Written status reports shall include:

1. Transmittal letter
2. Work completed during the period, percent complete of activities
3. Identification of unusual conditions or restrictions regarding labor, equipment or material: including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours
4. Description of the current critical path
5. Changes to the critical path and scheduled completion date since the last schedule submittal
6. Description of problem areas
7. Current and anticipated delays:
   7.1 Cause of delay
   7.2 Impact of delay on other activities, milestones and completion dates
   7.3 Corrective action and schedule adjustments to correct the delay
8. Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by CLPCCD at no additional cost.
9. Status reports, and the information contained therein, shall not be construed by the Contractor as claims, notice of claims, notice of delay, or requests for changes or compensation.

1.14 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time scaled four (4) week schedule one (1) week behind and three (3) week look ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.15 DAILY CONSTRUCTION REPORTS

On a daily basis, Contractor shall submit a daily activity report to CLPCCD for each workday, including weekends and holidays, when worked. Contractor shall develop the daily construction reports on a computer generated database capable of sorting daily Work, manpower and man-hours by Contractor, Subcontractor, area, sub area, and change order work. Upon request of CLPCCD, furnish computer disk of this database. Obtain CLPCCD's written approval of daily construction report database format prior to implementation. Include in report:

A. Project name and Project number.

B. Contractor's name and address.

C. Weather, temperature and any unusual site conditions.

D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.

E. Worker quantities for its own Work force and for Subcontractors of any tier.

F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.16 PERIODIC VERIFIED REPORTS

The Contractor shall complete and submit the Final Verified Report required by DSA. In addition to other conditions precedent to Final Payment, the Contractor's completion and submission of the Final Verified Report is an express condition precedent to the District's obligation to make the Final Payment. In addition to completion and submission of the Final Verified Report, as a material obligation under the Contract Documents, the Contractor shall comply all DSA requests for reports or other data relating to the Work, the status thereof or conformity of the Work to the Contract Documents.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals including:

1. Procedures
2. Schedule of Shop Drawing and Sample Submittals
3. Safety Plan
4. Progress Schedule
5. Product Data
6. Shop Drawings
7. Samples
8. Quality Control Submittals
9. Design Data
10. Test Reports
11. Certificates
12. Manufacturers' Instructions
13. Machine Inventory Sheets Operations and Maintenance Manuals Computer Programs
14. Project Record Documents
15. LEED Submittals

1.3 RELATED SECTIONS

A. Section 01 11 00: Summary of Work.

B. Section 01 26 00: Contract Modification Procedures.

C. Section 01 32 00: "Progress Schedules and Reports" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.

D. Section 01 70 00: Contract Closeout

E. Section 01 78 00: Project Record Documents.

1.4 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.5 SUBMITTAL PROCEDURES

A. General: Electronic copies of CAD Drawings of the Contract Drawings are always through Architect for Contractor's use in preparing submittals. Files are used as background use only.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 work days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
2. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

E. Submit at own expense, a minimum of two (2) printed sets or copies and one (1) electronic PDF set- Schedule of Shop Drawing and Sample Submittals, Safety Plans, Progress Schedule, Product Data, Shop Drawings, Samples, Quality Control Data, Machine Inventory Sheets, Operations and Maintenance Manuals, Computer Programs, and Project Record Documents required by the Contract Documents.

F. Transmit each item with a standard letter of transmittal in form approved by Construction Manager.

G. Identify project, Contractor, subcontractor, major supplier, pertinent drawing sheet and detail number, and specification section number as appropriate. Provide space for Contractor, Construction Manager and Architect/Engineer review stamps.

H. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data, which are applicable to this project.

I. Submit Shop Drawings, Samples and other submittals to Construction Manager for review and approval by Architect/Engineer in accordance with accepted schedule of Shop Drawings and Samples submittals. If no such schedule is agreed upon, then all Shop Drawing, Samples and product data submittals shall be completed within ninety (90) days after receipt of Notice to Proceed from CLPCCD.

J. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show Architect/Engineer the materials and equipment Contractor proposes to provide and to enable Architect/Engineer to review the information for the limited purposes specified below. Samples shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as Architect/Engineer may require enabling Architect/Engineer to review the submittal. The number of each Sample to be submitted will be as specified in the Specifications.

K. At the time of each submission, Contractor shall give Construction Manager, Architect/Engineer, and Inspector specific written notice of all variations, if any; that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication separate from the submittal. In addition, Contractor shall cause a specific notation to be made on each Shop Drawing and Sample submitted to Construction Manager for review and approval of each such variation by Architect/Engineer. The Architect/Engineer may make adjustments to submittals that may result in changes to the contract. The appropriate change order request should be prepared by the Contractor within ten (10) days of receipt of submittals.

L. If CLPCCD accepts deviation, CLPCCD shall issue appropriate Contract Modification.

M. Submittal coordination and verification is responsibility of Contractor; this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work; and
3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

N. Contractor shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

O. Contractor's submission to Construction Manager of a Shop Drawing or Sample submittal will constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above, with respect to Contractor's review and approval of that submittal.

P. Designation of work "by others", if shown in submittals, shall mean that work will be responsibility of Contractor rather than subcontractor or supplier who has prepared submittals.

Q. After review by Architect/Engineer of each of Contractor's submittals, one electronic set will be returned to Contractor with actions defined as follows:

1. NO ACTION TAKEN – Submittal is unreviewed.
2. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown on the submittal.
3. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as 2. above, except that minor corrections as noted shall be made by Contractor.
4. REVISE AND RESUBMIT - Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Architect/Engineer.
5. REJECTED (RESUBMIT) - Submitted material does not conform to Plans and Specifications in major respect, i.e.: wrong size, model, capacity, or material.

R. It is considered reasonable that Contractor shall make a complete and acceptable submittal at least by second submission.

1. CLPCCD reserves the right to deduct monies from payments due Contractor to cover additional costs of Architect's/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to Contractor for resubmission.

S. Favorable review will not constitute acceptance by CLPCCD or Architect/Engineer of any responsibility for the accuracy, coordination and completeness of the submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back check comments, corrections, and modifications from CLPCCD's or

Architect's/Engineer's review before fabrications. Submittals may be prepared by Contractor, subcontractors, or suppliers, but Contractor shall ascertain that submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Architect/Engineer's review will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Favorable review of submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Architect/Engineer or CLPCCD, or any officer or employee thereof, and Contractor shall have no claim under Contract on account of failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Favorable review shall be considered to mean merely that Architect/Engineer or CLPCCD has no objection to Contractor using, upon his own full responsibility, plan or method of work proposed, or furnishing materials and equipment proposed.

T. Architect's/Engineer's review will not extend the means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

U. Submit complete initial submittal for those items where required by individual specification Sections. Complete submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in technical specifications, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named. If Contractor submits incomplete initial submittal, when complete submittal is required, submittal may be returned to Contractor without review.

V. It shall be Contractor's responsibility to copy, conform and distribute reviewed submittals in sufficient numbers for Contractor's files, subcontractors and vendors.

W. After Architect/Engineer review of submittal, revise and resubmit as required. Identify changes made since previous submittal.

1. Begin no fabrication or work, which require submittals until return of submittals not requiring resubmittal.
2. Normally, submittals will be processed and returned to Construction Manager within fifteen (15) working days of receipt by Architect. The processing time spent to review submittals by Construction Manager shall be in addition to the fifteen (15) days.
3. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.6 SCHEDULE OF SHOP DRAWING, DSA DEFERRED APPROVAL SUBMITTALS AND SAMPLE SUBMITTALS

A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by General Conditions. Submit two (2) copies and one (1) electronic PDF of final and accepted schedule of submittals of shop drawings and samples as required by General Conditions, and in no event later than thirty (30) days following Notice of Award.

B. Schedule of Shop Drawing and Sample Submittals will be used by Architect/Engineer to schedule their activities relating to review of submittals. Schedule of submittals shall indicate a spreading out of submittals and early submittals of long lead-time items and of items, which require extensive review.

C. Schedule of Shop Drawing and Sample Submittals shall be reviewed by Construction Manager and shall be revised and resubmitted until accepted by Construction Manager.

D. DSA Deferred Approval Submittals shall be prepared for review by the Architect/Engineer within 30 days of receipt of Notice to Proceed. Contractor shall promptly make corrections to documents for Architect to submit to DSA for approval. Contractor shall have the sole responsibility for obtaining DSA approval via the Architect's office for all deferred approval submittals in a timely manner. There will be no time extensions granted for delay in obtaining such approval.

1.7 SAFETY PLAN

A. Submit one (1) copies and one (1) electronic PDF of Safety Plan specific to this Contract to Construction Manager within fifteen (15) calendar days after Start Date of the Contract Time.

B. No on-site work shall be started until Safety Plan has been reviewed and accepted by CLPCCD. Acceptance of Safety Plan shall not affect Contractor's responsibility for maintaining a safe working place and instituting safety programs in connection with project in full compliance with local, state and federal regulations.

1.8 PROGRESS SCHEDULE

A. Schedule all items requiring Architect action for submission during first 25 percent of construction period.

B. See Section 01 32 00 "Progress Schedules and Reports" for schedule and report requirements.

C. Submit (3) print copies, one (1) electronic report file in PDF format, and either Microsoft Project .mpp or Primavera .xer schedule program files:
   1. Initial CPM Schedule at the Pre-construction Conference.
   2. Original CPM Schedule within thirty (30) days of Notice to Proceed (NTP).
   3. Adjustments to the CPM Schedule as required.
   4. CPM Schedule updates monthly, five (5) days prior to monthly progress meeting.

D. Submit three (3) copies and one (1) electronic PDF copy of the reports listed in Section 01 32 00 "Progress Schedules and Reports" with:
   1. Initial CPM Schedule
   2. Original CPM Schedule
   3. Each monthly Schedule update
   4. Each weekly three (3) week look ahead Schedule

E. Progress Schedules and Reports shall be submitted electronically, in addition to hard copies as specified above.

1.9 QUALITY CONTROL SUBMITTALS

A. Design Data: Not applicable.

B. Test Reports: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
   1. Indicate that material or product conforms to or exceeds specified requirements.
   2. Reports may be from recent or previous tests on material or product, but must be acceptable to Construction Manager. Comply with requirements of each individual specification Section.

C. Certificates: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
   1. Indicate that material or product conforms to or exceeds specified requirements.
   2. Submit supporting reference data, affidavits, and certifications as appropriate.

3. Certificates may be recent or from previous test results on material or product, but must be acceptable to Construction Manager.

D. Manufacturers' Instructions: Three (3) copies minimum. One (1) copy will be marked with Architect's/Engineer's review comments and returned to Contractor.
   1. Include manufacturer's printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
   2. Identify conflicts between manufacturer's instructions and Contract Documents.

1.10 COMPUTER PROGRAMS

A. When any equipment requires operation by computer programs, submit copy of program on CD(s) plus all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Provide required licenses to CLPCCD at no additional cost.
   1. Include at least three (3) years prepaid software license renewals, which includes software upgrades and updates.

1.11 PROJECT RECORD DOCUMENTS

A. Submit one copy of each of the Project Record Documents listed in Section 01 70 00 Contract Closeout.

1.12 DELAY OF SUBMITTALS

A. Delay of submittals by Contractor is considered avoidable delay. Liquidated damages incurred because of late submittals will be assessed to the Contractor.

PART 2 - PRODUCTS

2.1 SUBMITTALS

A. Within fifteen (15) calendar days after Start Date of the Contract Time submit two (2) copies and one (1) electronic PDF of complete list of substitutions of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. Contractor shall be responsible for and make all submissions.
   1. Submit items specified herein to Architect and Construction Manager.
   2. Submit all submittals through the Construction Manager’s Electronic Submittal Program.
   3. Identify each transmittal using the 6-digit specification number, i.e., metal handrails might be numbered 05 5000, along with an individual submittal number for each section number. Submittal numbers shall be sequential. If returning submittal “12” for re-submission, second submission would be identified as “12A”. Should submittal be rejected multiple times (12b, 12c, etc), the Contractor may be required to reimburse the Owner/Architect for labor to review subsequent submissions.
   4. Develop, for maintenance by the Construction Manager, a schedule of all submittals and their status. Refer to Paragraph 1.3 below. The schedule will be reviewed each week at the project meeting.

C. Transmittals, shop drawings, or samples submitted to Architect shall have the Contractor's stamp on it with his signature and be marked "approved." Contractor's stamp on these items indicates that Contractor has performed the following:
   1. Verified field dimensions and quantities.

2. Verified field construction criteria, materials, catalog numbers and similar data.
3. Reviewed and coordinated submittal data with requirements of the Work and the Contract Documents.
4. ITEMS NOT STAMPED BY THE CONTRACTOR WILL BE RETURNED UNREVIEWED.

D. Indicate any item, component, material or portion of Work, which deviates from Contract Documents. Unless such departures are accepted as indicated in paragraph "Review" below, such departures will not be permitted.

E. Make submittals sufficiently in advance of data required to allow Architect reasonable time for review and additional resubmission and review cycles if necessary.
1. Items submitted without Contractor's review stamp will be returned, without action, for resubmission.
2. Items not submitted in accordance with provisions of this Section will be returned, without action, for resubmission.
3. Submissions on items not approved for use by specifications or addenda will be rejected.
4. Drawings transmitted by other than the Prime Contractor will be returned to the Prime Contractor without action of any kind. Drawings will not be returned to subcontractors.

2.2 SUBMITTALS – PRODUCT DATA

A. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

B. Tabulate products by specification section number.

C. Supplemental Data:
1. Submit number of copies, which Contractor requires, plus three (3) copies, which will be retained by Construction Manager.
2. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.

D. Provide copies for Project Record Documents described in Section 01 70 00 Contract Closeout.

2.3 SUBMITTALS - SHOP DRAWINGS

A. Identify drawings with manufacturer, item, use, type, project designation, specification section or drawing detail reference.

B. Minimum Sheet Size: 8-1/2 inches by 11 inches. All others: Multiples of 8-1/2 inches by 11 inches, 34 inches by 44 inches maximum.

C. For 8-1/2 inch by 11 inch and 11 inch by 17-inch sheets, submit number of copies, which contractor requires plus three (3) copies, which will be retained by Construction Manager.

D. For 17 inch by 22 inch through 34 inch by 44-inch sheets, submit one [1] electronic and a minimum of three [3] prints. After review, reproduce and distribute.

E. Original sheet or reproducible transparency will be marked with Architect's/Engineer's review comments and returned to Contractor.

F. Each sheet/copy must include project name and project number and bid number on all sheets.

G. Mark each copy to identify applicable Products, models, options, and other data; supplement manufacturers' standard data to provide information unique to Work.

H. Include manufacturers' installation instructions when required by specification section.

I. Submit a copy of the Shop Drawing Transmittal Form with each submittal and resubmittal.

2.4 SUBMITTALS - SAMPLES

A. Identify samples with manufacturer's name, item, use, type, project designation, specification section or drawing detail reference, color, range, texture, finish and other pertinent data.
   1. Submit samples to illustrate functional and aesthetic characteristics of Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

B. Submit full range of manufacturers' standard colors, textures, and patterns for Construction Manager's selection.

C. Submit a minimum of three (3) samples unless otherwise specified in the construction documents.

D. Sizes: Unless otherwise specified, provide the following:
   1. Paint Chips: Manufacturers' standard
   2. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square
   3. Linear Products: Minimum 6 inches, maximum 12 inches long
   4. Bulk Products: Minimum 1 pint, maximum 1 gallon

E. Full size samples may be used in Work upon approval.

F. Mock-ups:
   1. Erect field samples and mock-ups at Project site in accordance with requirements of Specification sections.
   2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by Construction Manager.
   3. Approved field samples and mock-ups may be used in Work upon approval.

G. Architect may, at his option, retain samples for comparison purposes until completion of Work.
   1. Samples will be returned or may be used in the Work unless the technical section specifically indicates otherwise.
   2. Remove samples when directed.
   3. Pay all costs of furnishing or constructing, and removing samples.

H. Resubmit samples of rejected items.

I. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

J. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
   1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT REVIEW

A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.

C. Reproduce and distribute submittals that the Architect reviews and stamps as follows, to indicate the action taken:

1. Reviewed: Where submittal is marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. Reviewed -- Additional Information Required: Where submittal is marked "Reviewed -- Additional Information Required," the information submitted has been reviewed and approved as noted. However, additional information as noted and/or required by Contract Documents needs to be submitted.
3. Make Corrections As Noted: When submittal is marked "Furnish As Corrected," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
4. Submit Specified Item: When submittal is marked "Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
    a. Do not permit submittals marked "Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
5. Rejected: When submittal is marked "Rejected," information submitted is not in compliance with Contract Documents. Resubmit submittal as required by Contract Documents.

D. Contractor shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal on file at the job site.

E. Architect shall retain 1 copy of each "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittal in the project file.

F. Contractor shall resubmit items stamped "Revise and Resubmit" or "Rejected" by Architect.

1. Provide a print of previous drawing with resubmission for comparison.
2. Add letter suffix to previous transmittal number, to indicate resubmission.

3. It shall be the Contractor's responsibility to assure that previously approved documents are destroyed when they are superseded by a resubmittal.

G. Architect review is general and does not:
   1. Permit departure from Contract Documents.
   2. Relieve Contractor from responsibility for errors in detail, in dimensions or related items.
   3. Approve departure from previous instructions or details.
   4. Relieve Contractor of the responsibility to provide all components, wiring, etc., required to make item operable or usable.
   5. Imply acceptance of items for which no data is submitted.

H. For items constituting a departure from Contract Documents see Section 01 2500.

I. Reviewed samples submitted or constructed and approved by Architect constitute criterion for judging completed work. Finish work or items not equal to samples will be rejected.

J. Start of work which requires submittals, prior to return of submittals with Architect or Owner's stamp indicating review and approval is at Contractor's risk.

3.3 DISTRIBUTION

A. Contractor shall copy and distribute all "Reviewed," "Reviewed -- Additional Information Required" or "Furnish as Corrected" submittals, including one copy to the Owner.

- END OF SECTION -

PART 1 – GENERAL

1.01 SUMMARY

This section includes regulatory requirements applicable to Contract.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these specifications.

B. Conform to referenced codes, laws, ordinances, rules and regulations, which are in effect on date of receipt of bids.

1.03 CODES

Codes, which apply to Contract, include, but are not limited to, the following:

A. 2007 California Building Code (Part 2, Title 24, C.C.R.)

B. 2007 California Electrical Code (Part 3, Title 24, C.C.R.)

C. 2007 California Mechanical Code (Part 4, Title 24, C.C.R.)

D. 2007 California Plumbing Code (Part 5, Title 24, C.C.R),

E. 2007 State Elevator Safety Regulations (Part 7, Title 24, C.C.R.)

F. 2007 California Fire Code (Part 9, Title 24, C.C.R.)

G. 2007 California Energy Code (Part 6, Title 24, C.C.R.)

1.04 LAWS, ORDINANCES, RULES AND REGULATIONS

A. During prosecution of Work to be done under Contract, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:

B. Federal

1. Americans With Disabilities Act
2. 29 CFR, Section 1910.1001, Asbestos
3. 40 CFR, Subpart M, National Emission Standards for Asbestos
4. Executive Order 11246

C. State of California

1. California Code of Regulations, Titles 5, 8, 19, 21, 24
2. California Education Code
3. California Public Contract Code
4. California Health and Safety Code
5. California Government Code
6. California Labor Code
7. California Civil Code
8. California Code of Civil Procedure
9. CPUC General Order 95, Rules for Overhead Electric Line Construction
10. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems

D. State of California Agencies

Bay Area Air Quality Management District (BAAQMD / www.baaqmd.gov)

State and Consumer Services Agency

Department of General Services

Division of the State Architect Office of the State Fire Marshall Office of Public School Construction

E. Local Agencies:

City of Hayward, California (www.ci.hayward.ca.us)

1.06 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Contractor shall provide the services specified in this Agreement in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of this Agreement.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes regulatory requirements applicable to Contract work in connection with hazardous waste abatement and disposal, including, but not limited to, asbestos and asbestos containing materials, lead based paint, polychlorinated biphenyls, petroleum contaminated soils and materials, construction and demolition debris and any other hazardous substance or hazardous waste.

B. This section supplements Section 01 41 00 and the work specific listings of applicable regulatory requirements elsewhere in the specifications.

C. Related Sections.

1. Section 01 41 00: Regulatory Requirements.

1.02 REFERENCES TO REGULATORY REQUIREMENTS

A. Codes, laws, ordinances, rules and regulations applicable to the Work shall have full force and effect as though printed in full in these specifications. Codes, laws, ordinances, rules and regulations are not furnished to Contractor, since Contractor is assumed to be familiar with their requirements. The listing herein of applicable codes, laws and regulations for hazardous waste abatement work is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these specifications exists, the most stringent requirements shall be used.

B. Contractor's work shall conform to all applicable codes, laws, ordinances, rules and regulations that are in effect on date of receipt of bids.

1.03 LAWS, ORDINANCES, RULES AND REGULATIONS

A. During prosecution of Work under Contract, Contractor shall comply with applicable laws, ordinances, rules and regulations, including, but not limited to, those listed below.

B. Federal:

1. Statutory Requirements:

a. Resource Conservation and Recovery Act, 42 U.S.C.. 6901 et seq.

b. Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986,42 U.S. *C″* 9601 et seq.

c. Toxic Substances Control Act of 1976,15 U.S.C.. 2601 et seq.

d. Hazardous Materials Transportation Act of 1975, 49 U.S. *C″* 1801 et seq.

e. Clean Water Act, 33 U.S.C.. 1251 et seq.

f. Safe Drinking Water Act, 42 U.S. C.. 3001 et seq.

g. Clean Air Act, section 112, 42 U.S. C.. 7412

h. Occupational Safety and Health Act of 1970, 29 U.S.C.. 651 et seq.

i. Underground Storage Tank Law, 42 U.S. C.. 6991 et seq.

j. The Emergency Planning and Community Right to Know Act of 1986,42 U.S.C.. 11001 et seq. j.

2. Environmental Protection Agency (EPA):
   a. 40 C.F.R. Parts. 260, 264, 265, 268, 270
   b. 40 C.F.R. Parts 258 et seq.
   c. 40 C.F.R. Part 761
   d. 40 C.F.R. Parts 122-124
3. Occupational Safety and Health Administration (OSHA):
   a. OSHA Worker Protection Standards, Title 29 CFR Part 1926.58, Construction Standards and 29 CFR 1910.1001 General Industry Standard
   b. OSHA, 29 C. F. R. Part 1926.1101, Construction Standards for Asbestos
   c. OSHA, Lead Exposure in Construction: Interim Final Rule, 29 C.F.R. 1926.62
   d. National Emission Standard for Hazardous Air Pollutants, Title 40 CFR Part 61
   e. Asbestos Hazardous Emergency Response Act, Title 40 C.F.R. 763
4. Department of Transportation:
   a. Title 49 C.F.R. 173.1090
   b. Title 49 C.F.R.172
   c. Title 49 C.F.R. 173
   d. DOT, HM 181 and MH126f

C. State of California Requirements:
1. Statutory Law:
   a. The Carpenter-Presley-Tanner Hazardous Substance Account Act, Cal. Health & Saf. Cod~ 25300 et seq.
   b. Health and Safety Cod~ 25359.4
   c. Hazardous Waste Control Law, Health & Safety Code. 25100 § seq.
   d. Porter Cologne Water Quality Control Act, Cal. Water Cod~ 13000 et seq.
   e. Health and Safety Cod~ 25915-25924
   f. Cal. Labor Code Chapter 6, including, without limitation,. 6382, 6501.5-6501.9,6503.5, 9021.5, 9080
   g. Cal. Bus. and Prof. Code, including without limitation,. 7058.5, 7065.01, 7118.5. Underground Storage of Hazardous Substance Act,
   h. Cal. Health & Saf. Cod~ 25280 § seq.
   i. Petroleum Underground Storage Tank Cleanup, Health and Safety Cod~ 25299.10 et seq.
   j. Safe Drinking Water and Toxic Enforcement Act of 1986, Health & Saf. Cod~ 25249.5 et seq. (Proposition 65)

k. Above Ground Petroleum Storage Act, Health and Safety Code. 25270 et seq.

2. Hazardous Materials Release Response Plans and Inventory, California Health and Safety Code Chapter 6.95.

3. Administrative Code and Regulations:

   a. 22 C.C.R.. 6600 et seq.

   b. Title 22 C.C.R.. Standards for Management of Hazardous and Extremely Hazardous Waste

   c. DTSC Treatment Standard for PCB Wastes, Title 22 C.C.R.,. 66268.110

   d. Cal OSHA Worker Protection Standards, Title 8 C.C.R.. 1529, 5208

   e. Title 8 C. C. R.. 1532.1, Lead in Construction

   f. 22 C.C.R.. 66999(b)

   g. Title 23 C.C.R.. 2610 et seq.

4. Local Agency Requirements:

   a. Bay Area Air Quality Management District, Fugitive Dust Rules

   b. Bay Area Air Quality Management District Regulation 11-2-303

   c. State Water Resource Control Board, General Construction Activity Stormwater Permit Requirements (Order 92-0S DWQ)

5. City Requirements:

   a. Hayward Fire Department (www.haywardcal.us/fire_dept/fd.htm)

   b. Ordinances

1.04 PERMITS

A. Contractor shall comply with, implement or acknowledge effectiveness of all CLPCCD held permits, and initiate and cooperate in securing all required notifications or approvals therefore, including but not limited to permits affecting environmental work and the following:

   1. BAAQMD, Permit to Excavate or Treat Contaminated Soil;

   2. State Water Resources Control Board, General Construction Activity Stormwater Permit

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 DSA DEFERRED APPROVALS

A. Refer to Contract Drawings.

1.02 INSPECTION AND SUPERVISION

A. Supervision by DSA shall be in accordance with Section 4-334 of Part 1, Title 24, CCR.

B. District shall employ a full-time Project Inspector approved by DSA. The Project Inspector shall observe construction in accordance with Section 4-333(b) and 4-342 of Part 1, Title 24, CCR.

C. Reports: Project Inspector shall submit the following in accordance with DSA IR A-7.

1. Start of Project Report: Notify DSA of start of construction in accordance with Section 4-331 of Part 1, Title 24, CCR.
2. Semi-Monthly Reports: Comply with Section 4-337 of Part 1, Title 24, CCR.
3. Verified Reports: Comply with Section 4-336 of Part 1, Title 24, CCR.

D. Special Inspection Requirements:

1. Comply with Section 4-333(c) of Part 1, Title 24, CCR.
2. Special inspection costs are to be paid by the Owner.
3. Conduct special inspection as per DSA Structural Tests and Inspections Sheet (SSS 103-1).

1.03 TESTING LABORATORY REQUIREMENTS

A. Comply with Section 4-335 of Part 1, Title 24, CCR.

B. The Owner shall select the testing Laboratory approved by DSA, Architect, and Structural Engineer.

C. Sampling and testing shall be performed by properly qualified persons in accordance with American Society for Testing and Materials (ASTM) standards.

D. Conduct tests as per DSA Structural Tests and Inspections Sheet (SSS 103-1).

E. Submit one copy of test reports to DSA.

1.04 ADDENDA AND CHANGE ORDERS

A. Comply with Section 4-338 of Part 1, Title 24, CCR.

B. Comply with DSA IR A-6.

C. Obtain DSA approval for changes to code-regulated construction and inspection/testing functions prior to start of that work. Code-regulated construction refers to work that is regulated by code provisions applicable to public school construction, including those adopted by DSA Structural Safety (DSA/SS), DSA Access Compliance (DSA/AC) and State Fire Marshal (SFM).

D. Changes can be approved through either the change order *(CO)* process or preliminary change order (PCO) process. Comply with DSA IR A-6, Sub-paragraph 2.2 - Change Order Process and DSA IR A-6, Sub-paragraph 2.1 - Preliminary Change Order Process.

E. Do not begin any work under addendum or change order until required DSA written approval is obtained.

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

Not Applicable.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes reference standards, abbreviations, symbols and definitions used in Contract Documents.

B. Full titles and edition dates are given in this section for standards cited in other sections of Specifications.

C. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.

D. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor, since manufacturers and trades involved are assumed to be familiar with their requirements.

1.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES:

A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

B. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any supplier, Contractor shall report it in writing at once to Inspector, with copies to Construction Manager and Architect, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by the Construction Manager.

C. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, or supplemental instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the Contract Documents and:

1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

2. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of CLPCCD, Contractor, Construction Manager, or Architect/Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to CLPCCD, Architect/Engineer, Construction Manager, or any of their consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

1.03 STANDARDS

A. ACI (American Concrete Institute)

Standard 318, Building Code Requirements for Reinforced Concrete

B. AISC (American Institute of Steel Construction
   Specifications and Code of Standard Practice for Steel Buildings and Bridges
C. ANSI (American National Standards Institute, formerly American Standards Association)
   Standard *C2,* NESC (National Electrical Safety Code)
D. ASTM (American Society for Testing and Materials)
   1. *C31,* Making and Curing Concrete Test Specimens in the Field
   2. *C42,* Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
   3. *C143,* Test Method for Slump of Portland Cement Concrete
E. IAPMO (International Association of Plumbing and Mechanical Officials)
F. ICC (International Code Council)
   1. Refer to Section 01 41 00 – Regulatory Requirements
G. NEMA (National Electric Manufacturer's Association)
H. NFPA (National Fire Protection Association)
   1. Pamphlet 1, Fire Prevention Code
   2. Pamphlet 13, Sprinkler Systems, Installation
   3. Pamphlet 24, Private Fire Service Mains
   4. Pamphlet 70, NEC (National Electric Code)
   5. Pamphlet 71, Signaling Systems, Central Station
   6. Pamphlet 80, Fire Doors and Windows
   7. Pamphlet 101, Life Safety Code
I. UL (Underwriters' Laboratories, Inc.)

1.04 ABBREVIATIONS

A. Following abbreviations may be used in Contract Documents:

AAP	Affirmative Action Program
ACI	American Concrete Institute
ADA	American Disabled Act
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute (formerly American Standards Association)
ASI	Architect's Supplemental Instructions
ASTM	American Society for Testing and Materials
BIL	Basic Insulation Level
Cal/OSHA	California Occupational Safety and Health Administration
CCD	Construction Change Directive
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CO	Change Order
CPUC	California Public Utilities Commission
CPM	Critical Path Method
DSA	Division of State Architect
HVAC	Heating, Ventilating and Air Conditioning

IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
I.D.	Identification
JATC	Joint Apprenticeship Training Committee
JV	Joint Venture
Kw	Kilowatt
LBE	Local Business Enterprise
MBE	Minority Business Enterprise
M/WBE	Minority and Woman-Owned Business Enterprise
ml	milliliter
mm	millimeter
NEC	National Electric Code
NEMA	National Electric Manufacturer's Association National Electrical Safety Code
NFPA	National Fire Protection Association
PM	Preventive Maintenance
PR	Proposal Request
RFI	Request for Information
RFS	Request for Substitution
SFM	State of California, Office of State Fire Marshal
CBC	California Building Code
CFC	California Fire Code
UL	Underwriters' Laboratories, Inc.
CMC	California Mechanical Code
CPC	California Plumbing Code
WOBE	Woman-Owned Business Enterprise
WMBE	Woman/Minority Business Enterprise

B. Additional abbreviations, used only on drawings, are listed thereon.

1.05 SYMBOLS

Symbols, used only on Drawings, are shown thereon.

1.06 DEFINITIONS

A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth:

ADDENDA: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-bid Conference and Site Visit.

ADDITIVE BID: The sum to be added to the Base Bid if the change in scope of work as described in Additive Bid is accepted by CLPCCD.

AGREEMENT: Agreement is the basic contract document that binds the parties to construction Work. Agreement defines relationships and obligations between CLPCCD and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract.

ALTERNATE: Work added to or deducted from the Base Bid, if accepted by CLPCCD.

APPROVED EQUAL: Approved in writing by CLPCCD as being of equivalent quality, utility and appearance.

ARCHITECT or ARCHITECT/ENGINEER: The person holding a valid California State Architect's license, whose firm has been designated within the Contract Documents as the

Architect to provide architectural services on the project. Refer to Section 341, Part 1, Title 24, C. C. R.

When the Architect is referred to within the Contract Documents and no Architect has in fact been designated, then the matter shall be referred to CLPCCD. The term Architect shall be construed to include all its consultants retained for the project, as well as employees of the Architect. When the designated Architect is an employee of CLPCCD, his authorized representations on the project within the district will be included under the term Architect.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: One who submits a Bid.

CLPCCD: Chabot-Las Positas Community College District. Unless otherwise expressly indicated or required by the context of usage, the terms "District" and "Owner" as used in the Contract Documents shall be deemed references to CLPCCD.

CLPCCD-FURNISHED, **CONTRACTOR-INSTALLED**: Items furnished by CLPCCD at its cost for installation by Contractor at its cost under this Contract.

CLPCCD REPRESENTATIVE(S): The person or persons assigned by CLPCCD to be CLPCCD's representatives or, if so designated, agent(s) at the site.

BY CLPCCD: Work that will be performed by CLPCCD or its agents at the CLPCCD's expense.

BY OTHERS: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by CLPCCD, other contractors, or other means.

CHANGE ORDER: A written instrument prepared by CLPCCD and signed by CLPCCD and Contractor, stating their agreement upon all of the following:

a. a change in the Work,

b. the amount of the adjustment in the Contract Sum, if any, and

c. the amount of the adjustment in the Contract Time, if any.

As appropriate, change orders are subject to approval by the Division of the State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations.

CONCEALED: Work not exposed to view in the finished Work, including within or behind various construction elements.

CONTRACT CONDITIONS: Conditions of Contract define basic rights, responsibilities and relationships of Contractor and CLPCCD and consists of two parts: General Conditions and Supplementary Conditions.

a. General Conditions are general clauses, which are common to the CLPCCD Contracts.

b. Supplementary conditions modify or supplement General Conditions to meet specific requirements for this Contract.

CONSTRUCTION MANAGER: CLPCCD's authorized representative, who shall represent CLPCCD in all matters relative to this Contract. Construction Manager may authorize agents and representatives to act in carrying out Construction Manager's duties, including a "Project Manager", to act under the authority of the Construction Manager. As CLPCCD's agent, the Construction Manager is the beneficiary of all contract obligations of Contractor to CLPCCD,

including without limitation, all releases and indemnities. Construction Manager shall not have any personal liability arising from this Contract or any activity there under and Contractor releases Construction Manager fully from all loss, cost, damage, expense or liability arising out of or connected with this Project, whether arising from contract, negligence or tort claims of all kinds.

CONTRACT DOCUMENTS: Contract Documents shall consist of the documents identified as the Contract Documents in Contract Agreement, plus all changes, addenda and modifications thereto.

CONTRACT MODIFICATION: Either:

a. a written amendment to Contract signed by Contractor and CLPCCD; or
b. a Change Order; or
c. a written directive for a minor change in the Work issued by CLPCCD.

CONTRACT SUM: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by CLPCCD to Contractor for performance of the Work and the Contract Documents. (Also referred to as the CONTRACT PRICE.)

CONTRACT TIMES: The number or numbers of days or the dates stated in the Agreement (i) to achieve substantial completion of the Work or designated milestones and/or (ii) to complete the Work so that it is ready for final payment and is accepted.

CONTRACTOR: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neuter in gender. The term "Contractor" means the Contractor or its authorized representative.

CONTRACTOR'S EMPLOYEES: Persons engaged in execution of Work under Contract as direct employees of Contractor, as subcontractors, or as employees of subcontractors.

DATE OF SUBSTANTIAL COMPLETION: Date of Substantial Completion of Work or designated portion thereof is date certified by Construction Manager when construction is sufficiently complete in accordance with Contract Documents for CLPCCD to occupy Work or designated portion thereof for its use for which it is intended.

DAY: One calendar day, unless the word "day" is specifically modified to the contrary.

DEDUCTIVE BID: The sum to be subtracting to the Base Bid if the change in scope of work as described in Deductive Bid is accepted by CLPCCD.

DEFECTIVE: An adjective which, when modifying the word "Work", refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by CLPCCD). Construction Manager is the judge of whether Work is defective.

DRAWINGS: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

ENGINEER: Where referenced in the Contract Documents, the person holding a valid California State Engineer's license, whose firm has been designated (if any designated) within the Contract Documents as the Engineer to provide engineering services on the project. Refer to section 4-341, Part 1, Title 24, C.C.R.

EQUAL: Equal in opinion of Architect. Burden of proof of equality is responsibility of Contractor.

EXPOSED: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.

FINAL ACCEPTANCE or FINAL COMPLETION: All Work satisfactorily completed in accordance with Contract Documents. It includes, but is not limited to:

a. All Systems having been tested and accepted as having met requirements of Contract Documents.

b. All required instructions and training sessions having been given by Contractor.

c. All as-built drawings and operations and maintenance manuals and Machine Inventory Sheets having been submitted by Contractor, reviewed by Architect/Engineer and accepted by CLPCCD.

d. All punch list work, as directed by CLPCCD, having been completed by Contractor.

e. Generally all work, except Contractor maintenance after Final Acceptance, having been completed to satisfaction of CLPCCD.

FORCE-ACCOUNT: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.

FURNISH: Supply only, do not install.

INDICATED: Shown or noted on the Drawings.

INSPECTOR: The person engaged by CLPCCD to inspect the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes. The inspector is subject to approval by the Architect, CLPCCD and, as appropriate, Division of the State Architect, and he will report to CLPCCD. Refer to section 4-333 and section 4-342, Part 1, Title 24, California Code of Regulations. The terms "Inspector" and "Project Inspector" are used interchangeably in the Contract Documents.

INSTALL: Install or apply only, do not furnish.

LATENT: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under the General Conditions.

MATERIAL OR MATERIALS: These words shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.

MILESTONE: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.

MODIFICATION: Same as Contract Modification.

NOT IN CONTRACT: Work that is outside the scope of work to be performed by Contractor under this Contract.

NOTICE OF AWARD: A written notice given by CLPCCD to lowest responsive, responsible bidder advising that Bidder's bid and other qualifying information is acceptable to CLPCCD, requiring Bidder to fulfill the requirements of Article 1.03 of Document 00600 General Conditions.

NOTICE TO PROCEED: A written notice given by CLPCCD to Contractor fixing the date on which the Contract Time will commence to run and on which contractor shall start to perform Contractor's obligations under the Contract Documents.

OFF SITE: Outside geographical location of the Project.

OWNER: Chabot Las Positas Community College District (CLPCCD).

PROGRESS REPORT: a periodic report submitted by Contractor to CLPCCD with progress payment invoices accompanying actual work accomplished to the Project Schedule. See Section 01310 Progress Schedules and Reports, Document 00600 General Conditions.

PROJECT: Total construction of which Work performed under this Contract may be whole or part.

PROJECT MANUAL: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, and Specifications. The Project Manual is deemed to include and incorporate all matters noted in any Addenda issued by or on behalf of the District during the bidding for the Work.

PROJECT STABILIZATION AGREEMENT: The Contractor or Subcontractor (CONTRACTOR) on this project accepts and agrees to be bound by the terms and conditions of the “Chabot-Las Positas Project Stabilization Agreement”, together with any and all amendments and supplements now existing or which are later made by executing the Letter of Assent.

PROVIDE: Furnish and install.

REQUEST FOR INFORMATION (RFI): A document prepared by Contractor, CLPCCD or Architect/Engineer requesting information from one of the parties regarding the Project or Contract Documents. The RFI system is also a means for CLPCCD and Architect to submit Contract Document clarifications or supplements to Contractor.

RFI-REPLY: A document consisting of supplementary details, instructions or information issued by the Architect/Engineer, which clarifies or supplements Contract Documents and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Times except as otherwise agreed in writing by CLPCCD. RFI-Replies will be issued through the RFI administrative system.

SAMPLES: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

SHOP DRAWINGS: All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the work.

SHOWN: As indicated on Drawings.

SITE: The particular geographical location of Work performed pursuant to Contract, including staging areas, work areas, storage and lay down areas, access and parking.

SPECIFICATIONS: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services; and are contained in Divisions 1 through 32.

SPECIFIED: As written in Specifications.

SUBCONTRACTOR: A person or entity who has a direct contract with Contractor to perform a portion of the Work at the site. The term "subcontractor" is referred to throughout the Contract Documents as if singular in number and neuter in gender and means a subcontractor or an authorized representative of the subcontractor. The term "subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

SUBSTANTIAL COMPLETION: The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Construction Manager and the Architect/Engineer as evidenced by a Certificate of Substantial Completion, it is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment is evidenced by written recommendation of the Construction Manager and the Architect/Engineer for final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

SUPPLEMENTAL INSTRUCTION: A written work change directive to Contractor from Architect/Engineer, approved by Construction Manager, ordering alterations or modifications which do not result in change in Contract Sum or Contract Times, and do not substantially change Drawings or Specifications.

UNDERGROUND FACILITIES: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: Electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

VERIFIED REPORT: A periodic verified report submitted to DSA. Refer to sections 4-336, 4-337 and 4-343, Part 1, Title 24, California Code of Regulations.

WORK: The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all is required by the Contract Documents. Wherever the word "work" is used, rather than the word "Work", it shall be understood to have its ordinary and customary meaning.

A. Wherever words "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that direction, requirements, or permission of CLPCCD or Construction Manager is intended. Words "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in judgment of CLPCCD or Construction Manager. Words "approved", "acceptable", "satisfactory", "favorably reviewed" or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by CLPCCD or Construction Manager.

B. Wherever the word "may" is used, the action to which it refers is discretionary. Wherever the word "shall" is used, the action to which it refers is mandatory.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Quality assurance and control of installation.

B. References.

C. Mock-Up.

D. Inspection and testing laboratory services.

E. Manufacturer's field services.

1.02 RELATED SECTIONS

A. Submission of manufacturers' instructions and

B. Sections requiring Laboratory Testing:

1. Section 01 33 00 - Submittals: certificates
2. Section 31 00 00 - Earthwork
3. Section 32 12 16 - Asphalt Concrete Paving
4. Section 32 13 13 - Portland Cement Concrete Paving Section xx xx - Concrete Reinforcement
5. Section 03 30 00 - Cast-in-Place Concrete
6. Section 04 22 00 - Concrete Unit Masonry
7. Section 05 12 00 - Structural Steel
8. Section 05 50 10 - Metal Fabrications

1.03 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply fully with manufacturers' instructions, including each step in sequence.

C. If manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.04 REFERENCES

A. Conform to reference standard by date of issue current on date specified in product sections.

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

C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 MOCK-UP

A. Mock-up and sample panels will be performed under various sections and identified as sample panels or mock-ups.

B. Assemble and erect specified items with specified attachments, anchorage, flashing, seals and finishes.

C. Where mock-up has been accepted by Architect/Engineer and is specified in product specification section to be removed, remove mock-up and clear area as directed.

D. Whereas, mock-up submittals will be submitted until the acceptance by Architect/Engineer and Construction Manager.

1.06 INSPECTION AND TESTING LABORATORY SERVICES

A. CLPCCD will appoint, employ and pay for services of an independent firm to perform inspection and testing.

B. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Architect/Engineer. Promptly notify Construction Manager, Architect/Engineer, DSA, Project Inspector, and Contractor of observed irregularities or deficiencies of work or products.

C. Reports will be submitted by the independent firm, one copy each, to the Construction Manager, Architect, Engineer, Division of the State Architect, Contractor and Project Inspector. Indicate observations and results of tests and indicate compliance or non-compliance with Contract Documents and Title 24, C.C.R. specifically, each report will include the following:

1. Date issued; date and time of sampling or inspection; date of test.
2. Project title and number; testing laboratory name, address and telephone number; name and signature of laboratory inspector.
3. Location of sampling or test; temperature and weather condition.
4. Type of inspection or test; identification of product and specification section; results of test and compliance with Contract Documents and Title 24, C.C.R.
5. Perform additional tests as required by Architect/Engineer and/or Project Inspector; interpret test results, when requested by Architect/Engineer.
6. Special Inspections: as shown on attached Tests & Inspections (T&I) list for each section.

D. Contractor shall cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.

1. Notify Architect/Engineer 72 hours in advance and/or independent firm 24 hours prior to expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
3. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the contract.

E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect/Engineer and/or Project Inspector. Payment for retesting will be paid by the Contractor by deducting inspection or testing charges from the Contract Sum on the next scheduled payment.

1.07 MANUFACTURER'S 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, startup of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Construction Manager thirty (30) calendar days in advance of required observations. Observer shall be subject to approval of Construction Manager and Architect/Engineer.

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

D. Refer to Section 01 33 00 - Submittals: Manufacturers' Instructions.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

This section describes the temporary facilities required for the Project site. The Project site shall be maintained by Contractor as set forth in this section.

1.02 TEMPORARY FACILITIES

A Contractor shall obtain permits for, install and maintain in safe condition, whatever scaffolds, hoisting equipment, barricades, walkways, or other temporary structures, which may be required to accomplish the work on the Project. Contractor shall enclose and secure Project Site, including lay down area with a temporary chain link fence. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable State and local codes and regulations.

B. Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the Work it may become necessary for curing and drying of materials or to warm spaces as may be required for the installation of materials or finishes.

C. Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, Contractor shall have on hand whatever spare parts or equipment that may be required to prevent interruption of dewatering.

D. Contractor shall provide and maintain all utility services necessary to perform the work under this Contract. These may include, but are not limited to, temporary electricity, water, gas, sewer and telephone, including charges and installation fees. Contractor shall furnish and maintain all means of distribution of utility services required within the site to properly complete the Project.

E. Materials, tools, accessories, etc., shall be stored only where directed by CLPCCD. Storage area shall be kept neat and clean. Security of stored items shall be Contractor's responsibility.

F. When flammable materials are stored on site, extra precautions, including clear identification, shall be the responsibility of Contractor.

G. Contractor shall provide and maintain temporary toilets in quantities and locations as required by CAL/OSHA and other local codes and regulations. They shall be maintained and supplied in a usable and sanitary condition at all times.

H. If water at construction site is determined to be non-potable by Inspector, Contractor shall provide and maintain adequate potable water stations at site until final completion of the Project.

I. Contractor shall maintain an office at the Project site, which will be his headquarters for the Project. Any communications delivered to this office shall be considered as delivered to Contractor. Location and size of office shall be such that it will adequately serve the needs of Contractor's superintendent and assistants in the performance of their duties.

J. Contractor shall also provide and maintain the following temporary facilities for the duration of the project. Contractor shall obtain approval of the plans and specifications for all the following temporary facilities from Construction Manager prior to delivery to job site. Construction Manager shall have the option to reject said facilities if they do not meet Construction Manager's needs.

K. Contractor shall promptly remove all such Temporary Facilities when they are no longer needed for the work or for completion of the Project, mutually agreed upon by Contractor and CLPCCD.

L. Contractor shall provide and maintain in the Temporary Facilities a copy of the California Code of Regulations Title 24 (latest edition) Parts I & II.

1.03 SIGNS

No signs may be displayed on or about CLPCCD's property (except those required by law) without CLPCCD's specific approval; the size, content, and location to be as specified by CLPCCD.

1.04 USE OF ROADWAYS AND WALKWAYS

Contractor shall never block or interfere with use of any existing roadway, walkway or other facility for vehicular or pedestrian traffic, from any party entitled to use it. Wherever and whenever such interference becomes necessary for the proper and convenient performance of the Work, and no satisfactory detour route exists, Contractor shall, before beginning the interference, provide a satisfactory detour, including temporary bridge if necessary, or other proper facility for traffic to pass around or over the interference. Contractor shall maintain the detour in a safe and satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Specifications.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Products

B. Transportation and handling.

C. Storage and protection.

1.02 RELATED SECTIONS

A. Section 01 11 00 - Summary of Work.

B. Section 01 45 00 - Quality Control: Product Quality Monitoring.

1.03 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.

B. Provide interchangeable components of the same manufacturer, for similar components.

1.04 TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with manufacturer's instructions and construction schedules. Coordinate to avoid conflict with work and conditions at the site.

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

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

1.05 STORAGE AND PROTECTION

A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.

B. For exterior storage of fabricated products, place on sloped supports, above ground, to prevent soiling and staining.

C. Provide off-site storage and protection when site does not permit on-site storage or protection.

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

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

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
H. Provide substantial covering and protection after installation of products from damage due to traffic and subsequent construction operations. Remove when no longer needed.

PART 2–PRODUCTS

Not applicable to this section.

PART 3–EXECUTION

Not applicable to this section.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. Procedures are described for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the specifications or approved for use in addenda.

B. Related Sections

1. Section 01 26 00: Contract Modification Procedures
2. Section 01 33 00: Submittals

1.02 CONTRACTOR'S OPTIONS

A. For products specified only by reference standard: Select any product meeting that standard.

B. For products specified by naming one or more products or manufacturers:

1. Select products of any named manufacturer meeting specifications.
2. For any product or manufacturer, which is not specifically named, submit Request for Substitution (RFS).

C. For products indicated or specified by naming only one product and manufacturer, followed by the words “no substitution allowed”, there is no option.

1.03 SUBSTITUTIONS

A. No substitutions shall be allowed for District standard systems, products, and/or materials unless approved in writing from the Architect’s office five (5) days prior to bid. The entire District Standard systems, products, and/or materials can be found on the District’s website at:

https://districtazure.clpccd.org/facilities/design-standards.php

B. Within a period of thirty-five (35) days after Award of Contract, Construction Manager and Architect/Engineer will consider RFS from Contractor. After that period, requests will be considered only when product becomes unavailable due to no fault of Contractor. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with CLPCCD for work on the Project).

C. Submit separate RFS for each product and support each request with:

1. Product identification
2. Manufacturer's literature
3. Samples, as applicable

4. Name and address of similar projects on which product has been used, and date of installation
5. Name, address and telephone number of manufacturer's representative or sales engineer
6. Where DSA approval is required, product shall be reviewed and approved by DSA

D. Itemize a comparison of the proposed substitution with product specified and list significant variations. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed.

E. State whether the substitute will require a change in any of the Contract documents (or provisions of any other direct contract with CLPCCD for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.

F. All variations of the proposed substitute from that specified will be identified in the RFS and available maintenance, repair and replacement service will be indicated.

G. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract price, including but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors effected by the resulting change, all of which will be considered by Construction Manager and Architect/Engineer in evaluating the proposed substitute. Construction Manager and Architect/Engineer may require Contractor to furnish additional data about the proposed substitute.

H. Substitutions will not be considered for acceptance when:

1. They will result in delay meeting construction milestones or completion dates.
2. They are indicated or implied on submittals without formal request from Contractor.
3. They are requested directly by subcontractor or supplier.
4. Acceptance will require substantial revision of Contract Documents.
5. They disrupt Contractor's job rhythm or ability to perform efficiently.

I. Substitute products shall not be ordered without written acceptance of Construction Manager and Architect/Engineer.

J. Construction Manager and Architect/Engineer will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.

K. Accepted substitutions will be evidenced by a change order or Supplemental Instruction. All Contract requirements apply to Work involving substitutions.

1.04 CONTRACTOR'S REPRESENTATION AND WARRANTY

A. Requests constitute a representation and warranty that Contractor:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product
2. Will provide the same warranty for substitution as for specified product
3. Will coordinate installation and make other changes, which may be required for Work to be complete in all respects
4. Waives claims for additional costs, which may subsequently become apparent
5. Will compensate CLPCCD for additional redesign costs associated with substitution, if required
6. Will be responsible for Construction Schedule slippage due to substitution
7. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution, which is subsequently rejected by Construction Manager
8. Will compensate CLPCCD for all costs; including extra costs of Contract, extra cost to other contractors, and any claims brought against CLPCCD, caused by late requests for substitutions or late ordering of products.

1.05 CONSTRUCTION MANAGER'S AND ARCHITECT/ENGINEER'S DUTIES

A. Review Contractor's RFS within seven (7) working days.

B. Notify Contractor in writing of decision to accept or reject requested substitution within seven (7) working days.

1.06 COST OF REVIEW

A. Construction Manager and Engineer will record time required in evaluating substitutes proposed or submitted by Contractor. Whether or not Construction Manager or Architect/Engineer accepts the substitute item so proposed or submitted by Contractor, Contractor shall reimburse CLPCCD for the charges of Architect/Engineer and Construction Manager for evaluating each such proposed substitute item.

B. The CLPCCD reserves the right to waive the requirement of paragraph A above.

PART 2–PRODUCTS

Not used.

PART 3–EXECUTION

Not used.

.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

This section describes contract closeout procedures including:

1. Removal of temporary construction facilities
2. Substantial completion
3. Final completion
4. Final cleaning
5. Project record documents
6. Material, equipment and finish data
7. Project guarantee
8. Warranties
9. Turn-in
10. Release of claims
11. Guaranty and Maintenance Bonds

1.02 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Restore permanent facilities used during construction to specified condition.

1.03 SUBSTANTIAL COMPLETION

A. When Contractor considers Work or designated portion thereof as substantially complete, submit written notice, with list of items to be completed or corrected to Construction Manager.

B. Within reasonable time, Construction Manager and Architect/Engineer will inspect to determine status of completion.

C. Should Construction Manager or Architect/Engineer determine that Work is not substantially complete; Construction Manager will promptly notify Contractor in writing, listing all defects and omissions.

D. Remedy deficiencies and send a second written notice of substantial completion. Architect/Engineer will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay the cost of the reinspection.

E. When Architect/Engineer determines that Work is substantially complete, Construction Manager will issue a Certificate of Substantial Completion.

F. Manufactured units, equipment and systems, which require startup, must have been started up and run for periods prescribed by Construction Manager, Architect/Engineer, or Owner before a Certificate of Substantial Completion will be issued.

1.04 FINAL COMPLETION

A. When Contractor considers Work is complete, submit written certification that:

1. Contractor has inspected Work for compliance with Contract Documents.

2. Work, except for Contractor maintenance after Final Acceptance, has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected.
3. Work is complete and ready for final inspection.
4. Contractor has achieved all requirements for Final Acceptance as that term is defined in Section 01 41 00 – Regulatory Requirements.

B. In addition to submittals required by conditions of Contract, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.

C. When Architect/Engineer finds Work is acceptable and final submittal is complete, Construction Manager will issue final change order reflecting approved adjustments to Contract Sum not previously made by Change Order.

1.05 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

1. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
2. Employ skilled workers for final cleaning.

C. Clean Site; mechanically sweep-paved areas.

D. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.06 PROJECT RECORD DOCUMENTS

A. General

1. Project Record Documents required include:
   a. Marked-up copies of Contract Drawings
   b. Marked-up copies of Shop Drawings
   c. Newly prepared Drawings
   d. Marked-up copies of Specifications, Addenda and Change Orders
   e. Marked-up Project Data submittals
   f. Record Samples
   g. Field records for variable and concealed conditions
   h. Record information on Work that is recorded only schematically
   i. Comments to all required DSA documentation
   j. All approved change orders
2. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
3. Maintenance of Documents and Samples:
   a. Store Project Record Documents and samples in the field office apart from Contract Documents used for construction.

b. Do not permit Project Record Documents to be used for construction purposes.

c. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.

d. Make documents and samples available at all times for inspection by Architect/Engineer.

4. CLPCCD will provide one set of sepias and one blueline set of the construction drawings and one-project manuals for the Contractor's use and copying during construction.

B. Project Record Drawings

1. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Document purposes.

2. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements, which would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to:

a. Dimensional changes to the building

b. Drawings Revisions to details shown on the Contract Drawings

c. Drawings Depths of foundations below the first floor

d. Locations and depths of underground utilities

e. Revisions to routing of piping and conduits

f. Revisions to electrical circuitry

g. Actual equipment locations

h. Duct size and routing

i. Locations of concealed internal utilities

j. Changes made by Change Order

k. Details not on original Contract Drawings

3. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.

4. Mark Project Record Drawing sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.

5. Mark important additional information, which was either shown schematically or omitted from original Drawings.

6. Note construction change directive numbers; alternate numbers; Change Order numbers and similar identification.

7. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.

a. Accurately record information in an understandable and legible drawing technique.

b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.

8. At time of Substantial Completion, submit Project Record Drawings to Construction Manager for CLPCCD's records. Organize into sets, bind and label sets for CLPCCD's continued use.

9. All record documents shall be submitted in an electronic format and hard copy.

C. Preparation of Documents: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with the Architect/Engineer. When authorized, prepare a full set of correct Contract Drawings and Shop Drawings.

1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each Drawing.

2. Refer instances of uncertainty to the Architect/Engineer for resolution.

3. Review of Documents: Before copying and distributing, submit corrected drawings and the original marked-up prints to the Architect/Engineer for review. When acceptable, the Architect/Engineer will initial and date each document, indicating acceptance of general scope of changes and additional information recorded, and of the quality of drafting.

    a. Documents and the original marked-up prints will be returned to the Contractor for organizing into sets, printing, binding, and final submittal.

D. Copies and Distribution: After completing the preparation of Project Record Drawings, print three (3) blue-line or black-line prints of each Drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.

1. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.

2. Organize Project Record Drawings into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps. Mark the end cap of each container with suitable identification.

3. Submit the marked-up Project Record Drawings set and three (3) copy sets to the Construction Manager for CLPCCD's records; the Architect/Engineer will retain one copy set.

E. PROJECT RECORD SPECIFICATIONS

During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.

1. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installation that would be difficult to identify or measure and record later.

    a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.

    b. Record the name of the manufacturer, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.

    c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.

2. Upon completion of mark-up, submit Project Record Specifications to the Construction Manager for CLPCCD's records.

F. PROJECT RECORD PRODUCT DATA. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.

1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant

changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.

2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
4. Upon completion of mark-up, submit a complete set of Project Record Product Data to the Construction Manager for CLPCCD's records.
5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
6. Each prime Contractor is responsible for mark-up and submittal of record Project Record Product Data for its own Work.

G. MATERIAL, EQUIPMENT AND FINISH DATA.

1. Provide data for primary materials, equipment and finishes as required under each specification section.
2. Submit two (2) sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
3. Arrange by Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
   a. Trade names
   b. Model or type numbers
   c. Assembly diagrams
   d. Operating instructions
   e. Cleaning instructions
   f. Maintenance instructions
   g. Recommended spare parts
   h. Product data

H. FINAL AS-BUILT DRAWINGS, SPECIFICATIONS.

1. As-Built Drawings and Specifications are the official record drawing that documents what was constructed
2. These drawings shall be available to the Architect and shall be provided to the District upon completion of the of the work.
3. Requirements:
   a. One hard copy set of full size (24x36) or (36x48) As-Built Plans, with DSA App #, and “AS BUILT” stamped on each sheet in red.
   b. One hard copy set of half size As-Built Plans, with DSA App #, and “AS BUILT” stamped on each sheet in red.
   c. One hard copy set of specifications with “AS BUILT” stamped on the cover page in red.
   d. A CD/DVD in PDF and CAD formats (CAD format to be compatible with AutoCAD 2016) with the following naming convention for the CD/DVD cover:
      i. College Name

ii. Project Name

iii. DSA Application #

iv. Do not check the “read only” option

v. Do not password protect any files

1.08 MISCELLANEOUS PROJECT RECORD SUBMITTALS

Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Construction Manager for CLPCCD's records.

Categories of requirements resulting in miscellaneous records include, but are not limited to the following:

a. Field records on excavations and foundations

b. Field records on underground construction and similar work

c. Survey showing locations and elevations of underground lines

d. Invert elevations of drainage piping

e. Surveys establishing building lines and levels

f. Authorized measurements utilizing unit prices or allowances

g. Records of plant treatment

h. Ambient and substrate condition tests

i. Certifications received in lieu of labels on bulk products

j. Batch mixing and bulk delivery records

k. Testing and qualification of tradespersons

l. Documented qualification of installation firms

m. load and performance testing

n. Inspections and certifications by governing authorities leakage and water-penetration tests

o. Fire resistance and flame spread test results

p. Final inspection and correction procedures

1.09 PROJECT GUARANTEE

A. Neither recordation of final acceptance nor final certificate for neither payment nor provision of the Contract nor partial or entire use or occupancy of the Site by CLPCCD shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.

B. Requirements for Contractor's guarantee of completed Work are included in General Conditions, Article 1.09. Contractor shall guarantee Work done under Contract against failures, leaks or breaks or other unsatisfactory conditions due to defective equipment, materials or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of 2 years from date of Final Acceptance, as required by paragraph 13.2 of General Conditions.

C. CLPCCD may make repairs to defective Work as set forth in paragraph 12.6 of General Conditions, if, within 5 working days after mailing of written notice of defective work to Contractor or authorized agent, Contractor shall neglect to make or undertake with due diligence repairs; provided, however, that in case of leak or

emergency where, in opinion of CLPCCD, delay would cause hazard to health or serious loss or damage, repairs may be made without notice being sent to Contractor, and Contractor shall pay cost thereof.

D. If, after installation, operation or use of materials or equipment to be furnished under Contract proves to be unsatisfactory to Construction Manager, CLPCCD shall have right to operate and use materials or equipment until it can, without damage to CLPCCD, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

E. Nothing in this Section shall be construed to limit, relieve or release Contractor's, subcontractors' and equipment suppliers' liability to CLPCCD for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees or subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by CLPCCD of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.10 WARRANTIES AND BONDS

A. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.

1. Provide table of contents and assemble in 8-1/2 inches by 11 inches three-ring binder with durable plastic cover.

2. Assemble in Specification Section order.

3. Provide an electronic copy of all warranties on thumb drive in PDF format

B. Submit material prior to final application for payment.

1. For equipment put into use with CLPCCD's permission during construction, submit within ten (10) working days after first operation.

2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) working days after acceptance, listing date of acceptance as start of warranty period.

C. Warranties are intended to protect CLPCCD against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.

D. Limitations: Warranties are not intended to cover failures, which result from the following:

1. Unusual or abnormal phenomena of the elements

2. Vandalism after substantial completion

3. Insurrection or acts of aggression including war

E. Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.

F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than 365 days after corrected Work was done, whichever is later.

G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.

H. Warranty Forms: Submit drafts to Construction Manager for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.

1. Warranty shall be countersigned by manufacturers.

2. Where specified, warranty shall be countersigned by subcontractors and installers.

I. Rejection of Warranties: CLPCCD reserves right to reject unsolicited and coincidental product warranties, which detract from or confuse requirements or interpretations of Contract Documents.

J. Term of Warranties: For materials, equipment, systems and workmanship warranty period shall be two (2) years minimum from date of substantial completion of entire Work except where:

1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.

2. Materials, equipment or systems are put into beneficial use of CLPCCD prior to Substantial Completion as agreed to in writing by Construction Manager.

K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all work to deliver the Site, together with improvements and appurtenances constructed or placed thereon by Contractor, to CLPCCD free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon the Site or improvement or appurtenances thereon. Nothing contained in this Paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of CLPCCD.

1.11 TURN-IN

Contract will not be closed out and final payment will not be made until all personnel Identification Media, vehicle permits and keys issued to Contractor during prosecution of Work are turned in to CLPCCD.

1.12 RELEASE OF CLAIMS

Contract will not be closed out and final payment will not be made until Contract Agreement and Release of Any and All Claims, is completed and executed by Contractor and CLPCCD.

1.13 FIRE INSPECTION COORDINATION

Contractor shall coordinate fire inspection and secure sufficient notice to CLPCCD to permit convenient scheduling.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

Not applicable to this section.

END OF SECTION

CUTTING AND PATCHING SECTION 01 73 29

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

A. Work Included: This Section establishes general requirements pertaining to cutting, fitting, and patching of the work required to:

1. Make the several parts fit properly.
2. Uncover work to provide for installation, inspection, or both of ill-timed work.
3. Remove and replace work not conforming to requirements of the Contract Documents.
4. Remove and replace defective work.

1.3 QUALITY ASSURANCE

A. Perform all cutting and patching in accordance with pertinent requirements of the specifications and in the event no such requirements are determined, in conformance with the Architect's written direction. In the absence of either of the previous, the work shall be completed as a minimum to industry standards for the given scope and project.

B. In all cases, exercise extreme care in cutting operations and perform such operations under adequate supervision by competent mechanics skilled in the applicable trade. Openings shall be neatly cut and shall be kept as small as possible to avoid unnecessary damage. Careless and/or avoidable cutting damage, etc., will not be tolerated, and the Contractor will be held responsible for such avoidable or willful damage.

C. All replacing, patching, and repairing of materials and surfaces cut or damaged in the execution of the work shall be performed by experienced mechanics of the several trades involved. Such replacing, repairing, and/or patching shall be done with the applicable materials, in such a manner that all surfaces so replaced, etc., will upon completion of the work, match the surrounding similar surfaces.

1.4 SUBMITTALS

A. Request for the Architect's Consent:

1. Prior to cutting which affects structural safety, submit a written request to the Architect for permission to proceed with cutting.
2. Should conditions of the work, or schedule, indicate a required change of materials or methods for cutting and patching, notify the Architect and secure his written permission prior to proceeding.

B. Notices to the Architect:
   1. Submit written notice to the Architect and Construction Manager designating the time the work will be uncovered, therefore providing a time for the Architect's observation.

PART 2 - PRODUCTS

2.1 MATERIALS

A. For replacement of work removed, use materials which comply with the pertinent Section of these specifications. If materials are not covered within these documents, products and methods shall be provided and installed to match existing conditions.

2.2 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements, which affects:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight-exposed elements.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods, which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut rigid materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Document.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

J. Identify any hazardous substance or condition exposed during the Work to the Architect for decision or remedy.

PART 3 - EXECUTION

3.1 CONDITIONS

A. Inspect existing conditions, including elements subject to movement or damage during cutting and patching.

B. After uncovering the work, inspect conditions affecting installation of new work.

3.2 DISCREPANCIES

A. If uncovered conditions are not as anticipated, immediately notify the Architect through the Construction Manager and secure needed directions.

B. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

3.3 PREPARATION PRIOR TO CUTTING

A. Provide all required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the work.

3.4 PERFORMANCE

A. Perform cutting and demolition by methods which will prevent damage to other portions of the work and will provide a proper surface to receive new installation or repair and new work. Perform fitting and adjustment of products to provide finished installation complying with the specified tolerance and finishes.

- END OF SECTION -

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Administrative and procedural requirements for Project Record Documents.
B. Project Record Documents required include:
   1. Marked-up copies of Drawings
   2. Marked-up copies of Shop Drawings
   3. Newly prepared Drawings
   4. Marked-up copies of Specifications, Addenda, Change Orders and CCDs
   5. Marked-up Product Data submittals
   6. Record Samples
   7. Field records for variable and concealed conditions
   8. Record information on Work that is recorded only schematically
   9. Maintenance forms for major equipment
C. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 33.
D. General Project closeout requirements are included in Section 01 70 00 (Contract Closeout).
E. Maintenance of Documents and Samples:
   1. Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
   2. Do not permit Project Record Documents to be used for construction purposes.
   3. Maintain Project Record Documents in good order and in a clean, dry, legible condition.
   4. Make Documents and Samples available at all times for inspection by District.
F. District will provide one full size blueline set of the Drawings and one Project Manual for Contractor's use for recording as-built conditions.

1.02 PROJECT RECORD DRAWINGS

A. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Documents purposes. Label each document (on first sheet or format page) "PROJECT RECORD" in 2-inch high printed letters. Keep record documents current. Note: A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
   1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
      a. Dimensional changes to the Drawings
      b. Revisions to details shown on the Drawings
      c. Depths of various elements of foundation in relation to main floor level or survey datum
      d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
      e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure
      f. Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
      g. Actual numbering of each electrical circuit
      h. Field changes of dimension and detail
      i. Revisions to routing of piping and conduits
      j. Revisions to electrical circuitry
      k. Actual equipment locations
      l. Duct size and routing
      m. Changes made by Change Order or CCD

n. Details not on original Contract Drawings

2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
3. Mark Project Record Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
4. Mark important additional information that was either shown schematically or omitted from original Drawings.
5. Note CCD numbers; alternate numbers, Change Order numbers, and similar identification.
6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
   a. Accurately record information in an understandable and legible drawing technique.
   b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.

B. Preparation of Record Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with District. When authorized, prepare a full set of correct transparencies of Contract Drawings and Shop Drawings.
   1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation “PROJECT RECORD DRAWING” in a prominent location on each Drawing.
   2. Refer instances of uncertainty to District for resolution.
   3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates, and other information on cover sheets.

C. Distribution of Marked-Up Drawings: Submit three full, bound sets and one digital set in AutoCAD 2000 format, the marked-up Project Record Drawings set to District for District’s records.

D. Shop Drawings and Samples: Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes made after review.

E. In addition to requirements of this Section, comply with supplemental requirements of Divisions 15 and 16.
   1. Divisions 15 and 16 of the Specifications require the preparation of large scale, detailed layout drawings of the Work of those Divisions. These layout drawings are not Shop Drawings as defined by General Conditions, but together with Shop Drawings or layout drawings of all other affected Sections are used to check, coordinate, and integrate the work of the various Sections.
   2. Include these layout drawings as part of the Project Record Documents.

1.03 PROJECT RECORD SPECIFICATIONS

A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Documents purposes.

B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive work, and information on concealed installation that would be difficult to identify or measure and record later.
   1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
   2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
   3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
   4. Upon completion of mark-up, submit Project Record Specifications to District for District’s records.

1.04 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT RECORD DOCUMENTS

A. Prior to Substantial Completion of the Work, District will make available to Contractor originals of the Drawings and Specifications, as Microsoft® Word 2000 for Windows, and AutoCAD 2000 Land Development Desktop for Windows in drawing format (.DWG) files. Note all changes thereon for the final Project Record Documents and provide one set of mylar reproducibles, one set of revised Specifications and one set of disks or CDs to be submitted to District.
B. After Substantial Completion and before Final Completion, carefully transfer all data shown on the job set of Record Drawings to the corresponding computer files, coordinating the information as required.
C. Clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.
D. "Cloud" all affected areas.
E. Stamp each Record Drawing with the following information:
   1. Project Record Document.
   2. Prepared by: Contractor's name, permanent address.
   3. Date prepared.
   4. Contractor's signature.
   5. District Contract Number.

1.05 PROJECT RECORD PRODUCT DATA

A. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.
   1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer's instructions and recommendations for installation.
   2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
   4. Upon completion of mark-up, submit a complete set of Project Record Product Data to District for District's records.
   5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
   6. Contractor is responsible for mark-up and submittal of Project Record Product Data for its own Work.
B. Material, Equipment, and Finish Data:
   1. Provide data for primary materials, equipment and finishes as required under each Specification Section.
   2. Submit three (3) hard copy sets and one (1) digital copy, on compact disc (CD) prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume.
   3. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
      a. Trade names.
      b. Model or type numbers.
      c. Assembly diagrams.
      d. Operating instructions.
      e. Cleaning instructions.
      f. Maintenance instructions.
      g. Recommended spare parts.
      h. Product data.

1.06 MISCELLANEOUS PROJECT RECORD SUBMITTALS

A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready

for use and reference. Submit to the District for District's records. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:

1. Field records on excavations and foundations
2. Field records on underground construction and similar work
3. Survey showing locations and elevations of underground lines
4. Invert elevations of drainage piping
5. Surveys establishing building lines and levels
6. Authorized measurements utilizing unit prices or allowances
7. Records of plant treatment
8. Ambient and substrate condition tests
9. Certifications received in lieu of labels on bulk products
10. Batch mixing and bulk delivery records
11. Testing and qualification of tradespersons
12. Documented qualification of installation firms
13. Load and performance testing
14. Inspections and certifications by governing authorities
15. Leakage and water-penetration tests
16. Fire resistance and flame spread test results
17. Final inspection and correction procedures
18. Final As-Built Construction Schedule

PART 2 PRODUCTS

NOT APPLICABLE TO THIS SECTION.

PART 3 EXECUTION

3.01 RECORDING

Post changes and modifications to the Contract Documents as they occur. Do not wait until the end of the Project. District may periodically review Project Record Documents to assure compliance with this requirement.

3.02 SUBMITTAL

A. At completion of Project, deliver Project Record Documents to District.
B. Accompany submittal with transmittal letter containing:
   1. Date
   2. Project title and number
   3. Contractor's name and address
   4. Number and title of each Project Record Document
   5. Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor's authorized representative.

END OF SECTION

CHABOT COLLEGE

September 18, 2025

ROOF REPLACEMENT SPECIFICATIONS

Mohr-Fry House
25555 Hesperian
Hayward CA

SKYLINE ENGINEERING
ENGINEERING SERVICES FOR THE BUILDING ENVELOPE

8100 Wild Horse Road
Salinas CA 93907
P 831.663.6188
F 831.663.6187

SECTION 00 24 00
Procurement Scope of Work

1.0 SCOPE OF WORK:

A. Provide all setup, equipment, labor and materials in order to provide roof replacement at the Mohr House.

B. Remove existing roofing, associated flashings, gutters and downspouts in accordance with section 024119.13 Selective Building Demolition.

C. Unit price #1: Cost to remove and replace 10' of either 1"X6" skip sheathing in accordance with section 061000 Rough Carpentry.

D. Add alternate #1: Install new ½" plywood exterior grade sheathing over existing skip sheathing in accordance with section 061000 Rough Carpentry.

E. At steep roofing areas, install new ceder wood shingle roofing system in accordance with section 073129.13 Wood Shingle Roofing.

F. At flat roof area install new roofing system in accordance with section 075400 Thermoplastic Membrane Roofing.

G. At flat roof area, install new skylights in accordance with section 086300 Metal Framed Skylights.

H. Install new gutters/downspout in accordance with section 071500 Sheet Metal Waterproofing.

I. Provide coating system at balcony and designated out-croppings in accordance with section 071813 Pedestrian Traffic Coating.

J. Provide all flashings as specified and shown on detail drawings.

K. Provide five (5) year contractor warranty for ALL work associated with this project.

L. Provide manufacturer warranties as specified in each section.

2.0 TABLE OF CONTENTS FOR TECHNICAL SPECIFICATIONS:

A. SECTION 02 41 19.13 – SELECTIVE BUILDING DEMOLITION

B. SECTION 02 82 00 – ASBESTOS REMEDIATION

C. SECTION 02 83 00 – LEAD REMEDIATION

D. SECTION 06 10 00 – ROUGH CARPENTRY

E. SECTION 07 15 00 – SHEET METAL WATERPROOFING

F. SECTION 07 18 13 – PEDESTRIAN TRAFFIC COATING

G. SECTION 07 31 29.13 – WOOD SHINGLE ROOFING

H. SECTION 07 54 00 – THERMOPLASTIC MEMBRANE ROOFING

I. SECTION 08 63 00 – METAL FRAMED SKYLIGHTS

END OF SECTION

SECTION 024119.13
SELECTIVE BUILDING DEMOLITION

PART I – GENERAL

1.01 SCOPE OF WORK:

A. Remove and dispose of the following:

1. Existing roofing and all associated flashings and metal projection and perimeter flashings.
2. Existing gutters and downspouts.
3. Existing siding that will need to be removed in order to properly install flashings.

B. Provide disposal of materials to be removed as specified.

C. Provide clean up as specified.

D. Haz mat removal is not part of this section. Refer to sections 028200 and 028300.

1.02 GENERAL:

A. During all phases of work, contractor shall comply with all applicable sections of the State of California Code of Regulation (CCR), Industrial Safety Orders (Title 8), as well as Federal and State of California Occupational Safety and Health Administration (OSHA) regulations, including the Hazardous Waste Operations and Emergency Response Regulation (Title 8, Section 5192 and 29 CFR 1910.120).

B. Safe access and emergency exits must be maintained to the buildings during all phases of the project. Safe passage shall be 4' wide x 8' high x 10’ long covered walkway or an approved equal structure. Multiple entrance to a common area can share one safe access point. See additional staging requirements in section 01500.

C. All project staging shall have the approval of the College’s Representative. Provide building access plan for all buildings to College Representative for review and approval.

PART 2 – PRODUCTS

NONE

PART 3 – EXECUTION

3.01 EXAMINATION:

A. Survey existing conditions to determine extent of demolition required.

B. Arrange operations to reveal concealed structural conditions for examination and verification before removal or demolition.

C. Verify actual conditions to determine whether removal or demolition will result in structural deficiency, overloading, failure or unplanned collapse.

D. Items to remain shall be protected against damage during the demolition operations.

E. Demolish and remove existing construction only to the extent required by the new construction and as indicated.

F. Perform selective demolition using methods which are least likely to damage work to remain and which provide proper surfaces for patching.

G. Promptly remove all debris to avoid excessive loads on supporting walls, floors, and framing.

H. Remove debris from College property on a daily basis to a legal disposal site. Document all materials removed from the College on a weekly basis using the College provided form.

3.02 UNIDENTIFIED MATERIALS:

A. If the contractor in the course of normal inspections identifies any unidentified items, including materials that may contain asbestos or any other potentially hazardous substances that will (or may) require additional demolition and removal other than as required by the this contract, the contractor shall immediately report to the project College Representative.

B. The College will arrange for necessary testing and analysis of unidentified materials and will provide instructions to the contractor regarding the removal, handling, storage, transport and disposal of the materials.

3.03 DUST CONTROL:

A. Accomplish demolition and removal with the minimum accumulation of dust and debris.

B. Work shall proceed in such a manner as to minimize the spread of dust and flying debris.

3.04 PROTECTION:

A. Provide for the protection of persons passing around and through the area of demolition. This shall include wood tunnels at the main entrances.

B. Provide protective measures to ensure free and safe passage of persons to and from occupied areas.

C. Execute demolition work in a manner that will ensure the safety of adjacent property and persons occupying such property against any damages or injuries which might occur from falling debris, unprotected excavations, holes, voids, etc. Airborne residue or other causes; and so as not to interfere with the use of adjacent public and private property of the free and safe passage to and from the same.

D. Take all necessary precautions to prevent damage to any existing construction scheduled to remain, whether located on the site of on adjacent property.

E. Protect existing walls, floors and other new or existing work including finishes from damage during the demolition process.

F. Any item damaged or disturbed which was required to remain in place shall be replaced, repaired, or reset to the satisfaction of the College's Representative at no cost to the College.

G. Contractor shall monitor weather predictions and cease work when rain or heavy fog is forecast.

H. Provide adequate protection of the building from water intrusion, fog or rain, etc. during demo and pre roofing process. All areas should be protected when work is not in progress as needed to keep building interiors dry.

3.05 **DISPOSAL:**

A. Disposal facilitates shall be in compliance with all federal and state regulations. Applicable regional and local laws, rules and regulations shall be those of the government or quasi-governmental agencies, or other entities having jurisdiction at the disposal facility.

B. Disposal of any material as non-hazardous waste shall not relieve the contractor from complying with the requirements of the contract documents and the requirements of all federal, state, regional and local laws, rules, and regulations regarding the removal and transport of materials as specified.

3.06 **CLEANUP:**

A. Inspect existing surfaces or structures adjacent to demolition and removal operations, including surfaces or structures on adjacent public or private property for damage and stains. Repair or clean existing surfaces or

structures not indicated to be removed including surfaces or structures on adjacent public or private property prior to the completion of the work at no additional cost.

B. Keep the project site clear of all debris resulting from demolition and removals operations and remove all debris from the site on a daily basis during the progress of the work. The cost of removal, hauling, and dumping shall be borne by the contractor.

3.07 UTILITY SERVICES:

A. Maintain existing utilities, keep in service and protect against damage during demolition operations.

B. Do not interrupt existing utilities servicing occupied or used facilities, except when authorized in writing by College's Representative. Provide temporary services during interruptions to existing utilities as acceptable to owner.

END OF SECTION

SECTION 028200
ASBESTOS REMEDIATION

PART 1 – GENERAL

1.01 SECTION CONTENTS

A. This section specifies the methods, procedures, and requirements related to the removal and disposal of the Asbestos-Containing Materials (ACM) including, but not limited to:

1. Regulatory requirements
2. Submittals
3. Personal protective measures
4. Execution
5. Inspections
6. Waste handling and disposal

1.02 SCOPE OF WORK

A. This section applies to the 25555 Hesperian Boulevard building roof in which an asbestos-containing material will be disturbed. Skyline Engineering conducted limited bulk sampling of various roofing materials suspected to be Asbestos-Containing Materials. Refer to the test results at the end of this section. If additional materials are to be disturbed or if suspect asbestos-containing materials that were not tested will be disturbed, the Contractor will be responsible for treating those materials as asbestos-containing unless testing by the Contractor proves otherwise. The Contractor will be responsible for complying with this section in the handling and disposal of this ACM. The building components that were found to be asbestos containing are listed below:

1. ACM Roof material:

    a. Black Tar – Roof, associated with gray mastic at skylight and roof hatch and antenna

B. In accordance with all drawings, specifications and instructions, the Contractor shall furnish all labor, transportation, materials, supervision, equipment, insurance, taxes, overhead and all other items of expense or services necessary for the removal and disposal of the subject ACM.

C. Briefly, and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:

1. Remove the impacted sections identified as necessary for completing the reroofing construction activities.

2. Removal of ACM shall follow the requirements as indicated in these specifications, including and not limited to submittals, training, work practice, and air monitoring.

D. Before submitting a proposal, bidding contractors should carefully examine the drawing(s) and specifications, visit the site(s), fully inform themselves as to all existing conditions, and limitations and shall include in the proposal a sum to cover the cost of all items included in the Contract. It shall be the responsibility of the Contractor to examine the sites, to measure asbestos-containing materials, to be familiar with these plans and specifications for the work contemplated, and to thoroughly acquaint himself with the physical conditions to be encountered. Should the bidding contractor find

discrepancies in or omissions from the drawings or Contract documents, or should clarification be needed, the bidding contractor shall notify the Owner who may send written instructions to all bidders.

1.03 REGULATIONS

A. General Applicability of Codes, Regulations, and Standards:
Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

B. Federal Regulations: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

Code of Federal Regulations (CFR)

29 CFR Part 1910, Section 1001

29 CFR Part 1910, Section 134, Respiratory Protection

29 CFR Part 1926.1101, Asbestos Construction Standard

29 CFR Part 1910, Section 20, Access to Employee Exposure & Medical Records

29 CFR Part 1910, Section 1200, Hazard Communication

29 CFR Part 1910, Section 145, Specifications for Accident Prevention Signs and Tags

40 CFR Part 763, Subpart G, CPTS 62044, FLR 2843-9

Federal Register, Vol. 50, No. 134, 7/12/85, Worker Protection Rule

40 CFR Part 61, Sub-part A, Regulation for Asbestos

40 CFR Part 61, Appendix A to Subpart M (Revised Subpart B) National Emission Standard for Asbestos

40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA)

49 CFR Parts 171 and 172, Hazardous Substances: Final Rule

C. State and Local Regulations: Abide by all state and local regulations which govern asbestos abatement work or hauling and disposal of asbestos waste materials including but not limited to:

Bay Area Air Quality Management District (Bay Area AQMD) Regulations.

California Department of Occupational Safety and Health (Cal/OSHA) – Asbestos Standard For The Construction Industry, Title 8, California Code of Regulations section 1529, et. seq. (8 CCR 1529).

California Health and Safety Code sections 24914 (Hazardous Substance Removal Contracts); 25915, et. seq. (Asbestos Notification Act); and 19827.5 (Demolition Permits).

California Labor Code sections 6501.5 (Employer Registration); and 6501.9 (Determining the Presence of Asbestos Prior to Contracting for Work).

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65).

Applicability: The most current version of the above regulations shall apply. Where conflict among requirements or with these specifications exits, the more strict or stringent requirement or interpretation shall apply.

D. This work shall be "classified" as described in 8 CCR Section 1529, as follows.

1. Removal of asbestos-containing tar shall be classified as Class II work.

2. Any other asbestos-containing materials shall be classified in accordance with 8 CCR 1529.

1.04 DEFINITIONS

A. General: Definitions contained in this Section are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

1. **ABATEMENT**: Procedure to control fiber release from asbestos-containing building materials.

a. Removal - All herein specified procedures necessary to remove asbestos-containing materials from building surfaces and structures.

b. Clean-up - All herein specified procedures necessary to clean asbestos-containing material or asbestos-contaminated debris from building surfaces or structures.

c. Post-Removal Surface Encapsulation - All herein specified procedures necessary to coat building surfaces and structures from which asbestos-containing materials have been removed to control any residual fiber release.

d. Abatement Activities - Any activity which disturbs or has the potential to disturb any asbestos-containing material. This includes, but is not limited to, the following activities: pre-cleaning, installing polyethylene, ACM removal, encapsulation, and enclosure.

2. **ACBM OR ACM**: Asbestos-containing building materials or asbestos containing materials.

3. **AIR LOCK**: A system for permitting ingress or egress without permitting air movement from a contaminated area into an uncontaminated area.

4. **AIR MONITORING/AIR SAMPLING**: The process of measuring the fiber content of a specific volume of air in a stated period of time. When "aggressive" air sampling is specified, blowers and fans are used to disperse settled fibers into the air during sampling.

5. **AMENDED WATER**: Water to which a surfactant has been added to reduce water surface tension and thereby provide a more rapid penetration.

6. **AUTHORIZED VISITOR**: Environmental Consultant, Owner's personnel or a representative of any regulatory or other agency having jurisdiction over the project.

7. **BARRIER**: Any surface which inhibits air and fiber movement from the work areas. This can be comprised of one or a combination of several materials, including but not limited to plywood, polyethylene sheeting, duct tape and spray-poly. A critical barrier is one which seals any opening (such as doorways, vents, window, penetrations) between the work area and non-work area.

8. **EQUIPMENT DECONTAMINATION UNIT**: Decontamination enclosure system for materials and equipment, typically consisting of a designated area of the work area (wash-down station), a washroom, a holding room, a container room, and an

uncontaminated area.

9. **FIXED OBJECT**: A unit of equipment or furniture in the work area which cannot be removed from the work area without dismantling.

10. **HEPA FILTER**: A high efficiency particulate air (HEPA) filter capable of trapping and retraining 99.97% of particles greater than 0.3 microns in diameter.

11. **HEPA VACUUM EQUIPMENT**: Vacuuming equipment with a HEPA filter capable of collecting and retaining asbestos materials/fibers.

12. **NEGATIVE EXPOSURE ASSESSMENT:** As stated in 29 CFR 1926.1101, "means a demonstration by the employer which complies with the criteria in paragraph (f) (2) (iii) of this section, that employee exposure during an operation is expected to be consistently below PEL's.

13. **NIOSH**: National Institute for Occupational Safety and Health.

14. **OWNER:** Mohr Fry House and/or Mohr Fry House-authorized representative.

15. **OWNERS REPRESENTATIVE or ENVIRONMENTAL CONSULTANT:** The Environmental Consultant is Skyline Engineering, Inc. The Environmental Consultant will represent the Owner on issues relating to the project design and the scope of work as defined by this specification.

16. **PERSONNEL DECONTAMINATION UNIT**: A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock. A three-stage decontamination unit consists of an equipment room, a shower, and a clean room.

    a. Equipment Room: A contaminated area or room within the personnel decontamination unit with provisions for storage of contaminated clothing and equipment.

    b. Shower Room: A room between the equipment room and the clean room with hot and cold running water suitably arranged for complete showering during decontamination.

    c. Clean Room: An uncontaminated area or room that is part of the personnel decontamination unit with provisions for storage

of workers' street clothes and protective equipment.

17. **PLASTICIZING**: Procedures necessary using polyethylene sheeting, adhesives, and/or taping to create an airtight work area.

18. **POST REMOVAL ENCAPSULANT**: A liquid substance which can be applied to surfaces from which asbestos-containing materials have been removed to control the possible release of residual asbestos fibers, either by creating a membrane over the surface (bridging encapsulant) or by penetrating into and binding the material (penetrating encapsulant).

19. **SURFACTANT**: A chemical wetting agent added to water to decrease the surface tension, thus improving the water's penetration into porous materials and in effect reducing the quantity of water required for wetting operations.

20. **WET CLEANING/WIPING**: The process of eliminating contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water. Cleaning materials and non-reusable tools are disposed of as asbestos contaminated waste.

1.05 SUBMITTALS AND NOTICES

A. Pre-Job Submittals and Notices

1. Contractor shall make all required notifications to the appropriate Government Regulatory Agencies prior to beginning work. At least three days prior to commencing work, submit two copies of all notifications to the Owner.

2. At least three days prior to commencing work the Contractor shall submit to the Owner two (2) copies of the training, medical, and respiratory fit-testing documentation, described below, for each supervisor and worker who will be on-site for this project.

3. Contractor shall use only workers medically qualified and trained for asbestos work and respirator usage. Contractor shall submit statement from examining physician that each employee is fit to wear a respirator in accordance with 8 CCR Section 1529 within the last twelve months.

4. The asbestos training shall comply with 8 CCR Section 1529.

5. The Contractor shall provide the procedure he will employ for handling, packaging, transporting, and disposing of asbestos waste. These procedures must meet the requirements of 40 CFR, Part 61 subparts A and M.

6. Three days prior to commencing work the Contractor shall submit to Owner names and qualifications of each party responsible for transporting, storing, treating and disposing of asbestos waste. Include the facility location and a twenty-four hour point of contact. Furnish two (2) copies of federal, state and local permit applications, permits and corresponding identification numbers.

7. The Contractor shall provide an abatement plan with methods and procedures covering each of the identifiable materials and abatement areas, including waste handling/disposal procedures.

B. Post-Job Submittals and Notices

Upon completion of the work, and prior to final payment, the Contractor will prepare a report and submit it to the Owner. The report shall contain:

1. A copy of all notifications to or permits received from Federal, State, and local agencies for this project.

2. Waste Disposal Records, including signed manifests and receipts with certified weight.

3. A copy of the log maintained at the job site throughout the work.

4. Copies of all personal air monitoring results performed by the Contractor, including the location and credentials of the laboratory performing the analysis.

5. The name, title and signature of the person who prepared the report.

6. The report shall contain a statement certifying that the work has been completed in accordance with the project specifications.

1.06 ENVIRONMENTAL CONSULTANT

A. The Owner has authorized Skyline Engineering (Skyline) to be the Environmental Consultant for the project. Skyline will advise the Owner on all matters relating to the work performed involving the asbestos removal in accordance with these specifications. Skyline will provide the following

services including, but not limited to:

1. Visual observations to verify Contractor's compliance with the specifications, as well as applicable regulations, regarding hazard control measures, and related decontamination procedures. The Environmental Consultant will have complete access to all asbestos work areas during the project in order to perform these site visits.

2. Visual inspections for asbestos contamination to determine whether Contractor has successfully completed cleanup and met the project decontamination criteria. The Contractor will notify the Environmental Consultant one day prior to the need for final inspection.

3. Interpretation of technical sections of the contract documents, and coordination with the Owner and Contractor for enforcement of regulatory and contractual conformance, including stop work issues.

4. Stop work orders will be made jointly by the Environmental Consultant and the Owner under the following instances including but not limited to:

   a. Nonconformance with these specifications.
   b. A health hazard or safety risk exists to the workers, Owner's employees, Environmental Consultant, or the public.

B. The cost of the Environmental Consultant will generally be the responsibility of the Owner except under special circumstances. The Contractor shall be responsible for the cost of the Environmental Consultant for services performed when: a) The Contractor's Work Area fails final clearance inspection and/or testing; or b) additional workdays or workday hours (overtime) are required by the Contractor; or c) The Contractor exceeds the allowable time frame for completion; or d) additional services associated with response to an uncontrolled, unauthorized release to the environment as a result of the Contractor's performance of the work.

1.07 CONTRACTOR QUALIFICATIONS

A. General Superintendent: Provide a General Superintendent whenever Contractor's personnel are on site who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing materials.

Experience and Training: The General Superintendent and all workers must have completed a course at an AHERA accredited Asbestos Abatement training provider and have had on-the-job training in asbestos abatement procedures. Submit documentation for each worker per section 1.05. Each supervisor and worker shall have in his/her possession at all times a current Cal/OSHA certification.

B. Contractor shall use only workers medically qualified and trained for asbestos work and respirator usage.

C. The asbestos training shall comply with 8 CCR Section 1529.

PART 2 - PRODUCTS

2.01 PROTECTIVE COVERING

A. Polyethylene sheets, of 6-mil thickness, in dimensions of adequate width to minimize frequency of joints. Polyethylene sheeting shall be flame retardant.

2.02 TAPE

A. Duct tape, two inches or wider, capable of sealing joints of adjacent sheets of plastic sheeting or for attachment of plastic sheeting to finished or unfinished surfaces.

2.03 DISPOSAL CONTAINERS

A. Provide non-opaque 6-mil thick polyethylene sheeting, non-opaque 6 mil leak-tight polyethylene bags and other impervious containers as required by applicable regulations. All waste shall be labeled as potentially hazardous waste unless proven otherwise by appropriate sampling and laboratory analysis.

B. All hazardous waste shipping containers shall meet applicable DOT requirements.

C. Spray adhesive used to seal the polyethylene bags shall not contain methylene chloride compounds.

2.04 PERSONAL PROTECTIVE EQUIPMENT

A. Workers shall wear full body disposable suits with hoods and separate booties, tape around ankles, wrists, under arms and neck. Suits will be

worn inside the work area after the area passes pre-abatement inspection and shall remain in use until the area passes final clearance inspection.

B. Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Safety Data Sheets (SDS) for that product.

C. Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the SDS and obtain the proper filters as necessary. Contractor shall wear appropriate respiratory protection as outlined in 8 CCR Section 1529.

D. In addition, all Cal/OSHA requirements, such as hard hats, hearing protection, etc. are required.

2.05 TOOLS AND EQUIPMENT

A. Provide suitable tools for the decontamination and removal of asbestos-containing materials including required HEPA vacuums and exhaust units, airless sprayers, ground fault interrupters, hand tools, wipes, ladders, and scaffolds. Mechanical abrasion tools shall be equipped with local HEPA exhaust and subject to approval by the Environmental Consultant. All tools and equipment brought on site shall be clean and free of contamination from asbestos and other hazardous materials. HEPA filtered equipment shall be labeled with a warning label and dedicated to asbestos work to prevent combining hazardous wastes of differing characteristics.

B. Provide adequate support equipment, including, but not limited to lumber, hardware, hand washing facilities, sprayers, hoses, miscellaneous collection devices, and secured holding facilities.

PART 3 - EXECUTION

3.01 GENERAL

A. The purpose of the Asbestos Construction Standard is to provide a level of protection to workers exposed to asbestos fibers. As a result, all activities, which will entail disturbing asbestos-containing materials, will be performed in accordance with the following work practices.

3.02 WORKER SAFETY/DECONTAMINATION PROCEDURES

The intent of the work is to reroof the 25555 Hesperian Boulevard building. Due to the presence of asbestos in the building materials, the ACM must be removed

prior to performing the reroofing work. Based on the type of ACM that will need to be removed, ACM abatement work shall be performed as Class I work in accordance with 8 CCR Section 1529.

A. Prior to commencement of work, the workers shall be instructed and shall be knowledgeable on the hazards of asbestos exposure, use and fitting of respirators, protective clothing, decontamination procedures and all aspects of asbestos work procedures; workers shall have medical examinations.

B. The Contractor acknowledges that he alone is responsible for enforcing personnel protection requirements and that these specifications provide only a minimum acceptable standard for each phase of operation.

C. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and accepted by OSHA. All removal work to be performed in accordance to 8 CCR Section 1529.

D. If the Contractor uses Type "C" air supplied respirators, they shall be pressure demand full-face respirators.

1. Air supply for Type "C" shall be, at minimum, grade "D" in compliance with OSHA 1910.134. The Contractor shall provide sampling and testing of air in the presence of Owner if requested to do so.

2. Air supply for Type "C" removal operations shall be a positive pressure, externally supplied, compressed air system, incorporating enough high-pressure automatic air storage within an ASME certified air "bank" to provide each individual on line in the work area with sufficient air supply for decontamination in the event of a system failure.

3. The compressed air system for removal workers shall incorporate a calibration of CO alarm, compressor failure alarm, high temperature alarm, a continuous carbon monoxide monitoring device, and in-line purifying sorbent beds and filters to deliver air free of water, oil, odors, vapors, and particulates. Contractor shall comply with all applicable codes and regulations that apply to the operation of such system. Contractor shall submit documentation to the Owner which certifies that CO monitor and alarm devices have been calibrated and tested.

E. <u>WHERE NOT IN CONFLICT WITH NIOSH AND OSHA REQUIREMENTS, THE CONTRACTOR SHALL PROVIDE AT A MINIMUM, THE FOLLOWING RESPIRATOR PROTECTION FOR EACH PHASE OF OPERATION, UNLESS OTHERWISE APPROVED BY OWNER:</u>

1. Pre-cleaning/Wet-Wiping of Area: NIOSH certified half-face air purifying respirators equipped with HEPA cartridges.

2. Plastic Sheet Installation: NIOSH certified half-face air purifying respirators equipped with HEPA cartridges.

3. Asbestos Removal and Clean-up: In accordance with those requirements stated in 8 CCR Section 1529.

4. Loading Waste Material on Truck: (outside work area): NIOSH certified half-face air-purifying respirators equipped with HEPA cartridges.

F. No visitors shall be allowed in the work area, except as authorized by Owner. Provide authorized visitors with suitable respirators with fresh cartridges, depending on phase of operation, whenever they are required to enter the work area, to a maximum of two per day.

G. If the Contractor uses Type "C" air supplied respirators, one open airline shall be maintained as an emergency reserve at all times. Removal of a worker to provide this line will not be acceptable.

H. Provide workers with sufficient sets of disposable Tyvek protective full body clothing or equivalent. Such clothing shall consist of full body coveralls, footwear and headgear or one-piece coveralls. Provide eye protection and hard hats as required by applicable safety regulations. Reusable type protective clothing and footwear intended for reuse shall be left in the Contaminated Equipment Room until the end of the asbestos abatement work at which time such items shall be disposed of as asbestos-contaminated waste. Disposable clothing shall not be allowed to accumulate and shall be disposed of as asbestos-contaminated waste.

I. Provide authorized visitors with suitable protective clothing, headgear, footwear, and gloves as described above whenever they are required to enter the work area.

3.03 GENERAL REMOVAL PROCEDURES

A. SIGNAGE

1. Post signs in and around the project area as required to comply with OSHA regulation 8 CCR Section 1529 and all other Federal, State, and local regulations.

2. Place caution tape and construction signs around the perimeter or at access to the project area as appropriate to keep out unauthorized

personnel.

B. WORK AREA PREPARATION

1. Removal of asbestos-containing black tar associated with gray mastic at skylight and roof hatch and antenna as Class II work.

    a. Before commencing with setup, contractor shall have specifications and project plans on-site, area will be secured with asbestos warning signs per OSHA regulation 29 CFR 1926.1101, and barrier tape to the Owner's satisfaction.

    b. Define the work area using caution tape or other physical barriers.

    c. Remove from the work area all movable items such as tools, equipment, and miscellaneous items and store in area designated by the Environmental Consultant.

    d. Seal with a minimum of 6-mil plastic sheeting and tape all vents, HVAC ports, windows, and other penetrations within the work area or downwind of the work area.

    e. Employees shall don appropriate personal protective equipment as stated in Section 3.02.

    f. Install poly-sheeting drop cloth below or adjacent to the area to be abated.

C. REMOVAL OPERATIONS

1. Removal of asbestos-containing black tar associated with gray mastic at skylight and roof hatch and antenna as Class II work.

    a. Use manual tools to cut through the black tar associated with gray mastic at skylight and roof hatch and antenna until all asbestos-containing tar is removed from the roof.

    b. Do not use power saws or other high-speed power tools to cut or remove ACM.

    c. Before removal, apply sufficient amended water to the surface to minimize release of fibers.

    d. Continually wet material with amended water throughout the

removal.

e. Bag all asbestos waste promptly as they are being generated. Asbestos waste must be bagged at roof level.

f. Debris not wrapped or bagged shall immediately be placed in dust-tight containers or impervious waste bags at roof level.

g. Bagged or wrapped debris will not be thrown to ground level – it must be hoisted or lowered by hand.

h. Clean area using HEPA vacuum and wet wiping.

i. Dispose of ACM debris and all plastic sheeting (critical barriers, asbestos signage, etc.) as non-friable asbestos waste or if ACM is rendered friable, hazardous asbestos waste.

3.04 INSPECTION PROCEDURE/WORK AREA CLEARANCE

A. A visual inspection may be performed by the Environmental Consultant following abatement in order to determine the presence of any remaining asbestos-containing material debris.

B. Air clearance samples may be collected from the work area(s). If air samples are collected by the Environmental Consultant, the clearance level is 0.01f/cc, which is based on the AHERA PCM clearance level.

C. If the work area is not visibly clean or if air sample results indicate work area is not adequately clean, the Contractor will re-clean using HEPA vacuums and wet wiping. Additional air samples will be collected after re-cleaning and subject to same clearance levels stated in Section 3.04(B). Contractor shall bear all additional costs due to failure of visual and/or air clearance testing.

D. The contractor shall be released only after all work areas have been cleared according to the above criteria and accepted by the Owner.

3.05 WASTE DISPOSAL/STORAGE

A. All disposal of asbestos containing, asbestos contaminated, and/or non-hazardous waste will be coordinated and paid for by Contractor.

B. All ACM roofing materials shall be disposed of as non-friable ACM waste if these ACM are not rendered friable during the abatement.

C. Separate waste bins/containers shall be provided by Contractor for the different waste categories (friable ACM and non-friable ACM waste). The Contractor shall line the bin with a minimum of 6-mil plastic sheeting on the floor and sides of the bin sealed so as to provide a watertight membrane.

D. Affix proper labels per EPA and OSHA requirements. Contractor shall provide appropriate generator waste labels. Contractor shall maintain a running and final count of containers deposited into each waste bin.

E. Each waste load must be accompanied by an Asbestos Waste Manifest and any other certificate required by state or local agencies. Copies of all Asbestos Waste Manifests shall be provided to the Owner.

F. The Contractor shall be responsible for the safe handling and transportation of all waste generated by this contract to the designated waste disposal sites. The Contractor shall bear all costs for all claims, damages, losses and expenses against the Owner or the Environmental Consultants, including but not limited to attorney's fees arising out of or resulting from spills en route to the waste disposal site.

3.06 STOP WORK ORDERS

A. The Owner and/or the Environmental Consultant has the authority to stop work if it is determined that conditions or procedures are not in compliance with the Specification and/or applicable regulations; the Contractor is deficient in providing required submittals; the waste is not securely stored; or a potential release of asbestos fibers to outside the Work Area is imminent based on the Owner's and/or the Environmental Consultant’s judgment.

B. The work stoppage shall remain in effect until conditions have been corrected and corrective measures have been taken to the satisfaction of the Owner's and/or the Environmental Consultant.

END OF SECTION

SECTION 02 83 00
LEAD REMEDIATION

PART 1 – GENERAL

1.01 SECTION CONTENTS

A. This section specifies the methods, procedures, and requirements related to the removal and disposal of lead-based paint and solid lead flashing including, but not limited to:

1. Regulatory requirements
2. Submittals
3. Personal protective measures
4. Execution
5. Inspections
6. Waste handling and disposal

1.02 SCOPE OF WORK

A. Skyline Engineering (Skyline) conducted limited paint chip sampling from a painted building component on the roof at Mohr Fry House 25555 Hesperian Boulevard in Hayward. A total of one paint chip sample was collected was identified as having detectable concentrations of lead and assumed lead flashings. If additional materials are to be disturbed or if suspect lead-containing materials that were not tested will be disturbed, the Contractor will be responsible for treating those materials as lead-containing unless testing by the Contractor proves otherwise. The Contractor will be responsible for complying with this section in the handling and disposal of this lead containing paint. The painted building component that was found to be lead-containing is listed below:

1. Paint coating found on metal downspout and gutter – surface color white

2. Assumed solid lead flashing on pipes and at drain sump areas

B. In accordance with all drawings, specifications and instructions, Contractor shall furnish all labor, transportation, materials, supervision, equipment, insurance, taxes, overhead and all other items of expense, or services necessary for the removal and disposal, or encapsulating, of building components coated with lead-containing paint necessary for completing the Sutter Castro Valley Re-roof project. These components will be either removed and disposed of or encapsulated as directed in this contract document or on the contract drawings.

C. Briefly, and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:

1. The removal and disposal, or encapsulating, of all or portions of the metal downspout and gutter and lead flashings - refer to Plan Drawings or the Procurement Scope of Work.

1.03 POTENTIAL LEAD HAZARD

A. Significant lead exposure may result from activities such as demolition of components, scraping, sanding, or grinding lead-based paint, abrasive blasting of surface coatings, welding, torch cutting, or related procedures. Where in performance of the work specified herein, a lead exposure is potential, strict adherence to the measures and procedures of these specifications shall be mandatory.

1.04 REGULATIONS

A. The Contractor shall comply with the requirements of the following regulations and guidelines governing lead removal and disposal, as well as other applicable federal, state, and local government regulations. The regulations and/or guidelines listed herein are incorporated by reference.

Code of Federal Regulations (CFR)
29 CFR 1910.1025
29 CFR 1926, Construction Standards
29 CFR 1926.62, Lead in Construction Standard
40 CFR Part 50.12, Ambient Air Quality Standard for Lead
40 CFR Parts 261, 265, and 268, Hazardous Waste Management
49 CFR Parts 172, 173, 178, 179, Hazardous Material Transportation

California Code of Regulations (CCR)
8 CCR Division 1, Chapter 4, Subchapter 4, Construction Safety Orders
8 CCR 1532.1, Lead in Construction Standard
8 CCR 5144, Respiratory Protection
22 CCR Divisions 4 and 4.5, Hazardous Waste

1.05 DEFINITIONS

A. General: Definitions contained in this Section are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

1. **Abatement**: means the removal or covering of paint, plaster or other material containing lead-based paint from interior or exterior surfaces.

2. **Action Level**: An airborne concentration of 2 micrograms per cubic meter ($2\mu g/m^3$) of air as an eight (8) hour time weighted average (TWA) as covered by OSHA regulations 29 CFR 1926.62 and Cal-OSHA Title 8, Section 1532.1.

3. **Air Monitoring**: The process of measuring the lead levels of a specific volume of air.

4. **Authorized Visitor**: The Owner, testing lab personnel, or a representative of any federal, state and local regulatory or other agency having authority over the project.

5. **Breathing Zone**: A hemisphere forward of the shoulders with a radius of approximately 6 inches to 9 inches.

6. **Certified Industrial Hygienist (C.I.H.)**: A person certified by the American Board of Industrial Hygiene and qualified by training and/or experience to specify measures for the recognition, evaluation, and control of occupational health hazards.

7. **Construction Barrier**: Demarcation of the work area limiting access by unauthorized personnel.

8. **Disposal Bag**: A 6mil thick leak-tight plastic bag used for transporting lead waste from work area to disposal site.

9. **Elevated Blood Lead Level**: Means a blood lead concentration equal to or greater than ten (10) micrograms per deciliter (ug/dl).

10. **Encapsulation**: Involves resurfacing or covering surfaces, and sealing or caulking with durable materials, so as to prevent or control chalking, flaking lead-containing substances from entering the environment.

11. **Enclosure**: The construction of an air-tight, impermeable, permanent barrier around lead-containing material to control the release of lead dust into the air.

12. **Environmental Consultant**: The Environmental Consultant is Skyline Engineering, Inc. The Environmental Consultant will represent the Owner on issues relating to the project design and the scope of work as defined by this specification.

13. **Filter**: A media component used in respirators to remove solid or liquid particles from the inspired air.

14. **Final Inspection**: Inspection by a qualified inspector, industrial hygienist, or local public health official to determine whether removal and cleanup are complete.

15. **Hazardous Waste**: As defined in Resource Conservation Recovery Act (RCRA) the term "hazardous waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. In addition, Hazardous Waste also refers to waste as described by the California Department of Toxics and Substance Control (Title 22).

16. **HEPA Filter**: A High Efficiency Particulate Air filter capable of trapping and retaining 99.97% of particles greater than 0.3 microns in diameter.

17. **HEPA Filter Vacuum Collection Equipment** (or vacuum cleaner): High Efficiency Particulate Air (absolute) filtered vacuum collection equipment with a filter system capable of collecting and retaining 99.97% of particles of 0.3 microns in diameter or larger.

18. **High Phosphate Detergent**: Detergent which contains at least 5% tri-sodium phosphate (TSP).

19. **Lead-Based Paint**: Surface coatings containing greater than the Consumer Product Safety Commission maximum concentration of 5,000 ppm (0.5% by weight).

20. **Lead-Containing Paint**: Surface coatings containing detectable levels of lead as regulated under the Cal/OSHA Lead in Construction Standard, 8 CCR 1532.1.

21. **Lead Permissible Exposure Limit (PEL)**: The employer shall ensure that no employee is exposed to an airborne concentration of lead in excess of 10 micrograms per cubic meter ($10ug/m^3$) of air as an eight (8) hour time weighted average (TWA) as covered by OSHA regulations 29 CFR 1926.62 and Cal-OSHA Title 8, Section 1532.1.

22. **Negative Pressure:** Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).

23. **Negative Pressure Respirator**: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the

outside atmosphere. Negative pressure respirators include all powered-air purifying respirators (PAPRs)

24. **Negative Pressure Ventilation System**: A local exhaust system utilizing HEPA filtration capable of maintaining a negative pressure inside the work area and a constant air flow from adjacent areas into the work area and exhausting that air outside the work area.

25. **Owner:** Mohr Fry House.

26. **Personal Monitoring**: Sampling of lead concentrations within the breathing zone of an employee.

27. **Replacement**: Means removing components that have lead-painted surfaces, or are considered lead-contaminated and installing new components free of lead-containing paint.

28. **Respirator**: A device designed to protect the wearer from the inhalation of harmful atmospheres.

28. **RCRA**: Resource Conservation and Recovery Act of 1976. RCRA is an amendment to the Solid Waste Disposal Act of 1965. RCRA was amended in 1980 and most recently on November 8, 1984 by Hazardous and Solid Waste Amendments.

30. **Testing Laboratories**: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

31. **Time Weighted Average (TWA)**: The average concentration of a contaminant in air during a specific time period.

32. **Visible Emissions**: Any emissions containing particulate lead material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

33. **Wet Cleaning**: The process of eliminating lead contamination from building surfaces and objects by using cloth, mops, or other cleaning utensils which have been dampened with high phosphate detergent and afterwards thoroughly decontaminated or disposed of as lead contaminated waste.

34. **Work Area**: The area where lead related work or removal operations are performed which is defined and/or isolated to prevent the spread of lead dust, or debris, and entry by unauthorized personnel.

1.06 SUBMITTALS AND NOTICES

A. Training: Submit three (3) days prior to commencing work two (2) copies of the training documentation for each supervisor and worker who will be on-site for this project. This training shall be in accordance with 8 CCR 1532.1 (CAL/OSHA Lead in Construction Standard).

B. Medical Monitoring: Submit Five (5) days prior to commencing work two (2) copies of the medical documentation for each supervisor and worker who will be on-site for this project. Contractor shall submit documentation that all employees engaged in removal activities have had the appropriate medical examinations within the prescribed time periods immediately preceding project start-up. Documentation shall include, but is not limited to, baseline blood lead levels performed in accordance with 8 CCR 1532.1 (CAL/OSHA Lead in Construction Standard).

C. Respiratory Protection: Submit three (3) days before starting work copy of Respiratory Protection Program which is in compliance with ANSI Z88.2-1980, OSHA 29 CFR 1910 and 1926, Cal/OSHA Title 8 Section 1532.1. Contractor shall submit statement from examining physician that each employee is fit to wear a respirator in accordance with 8 CCR 5144 within the last twelve months. Contractor shall also provide documentation showing that all employees have passed respiratory fit tests within the past twelve months. Contractor shall use only workers medically qualified and trained for lead work and respirator usage.

D. OSHA Lead Compliance Plan: Submit a detailed plan of the procedures proposed in order to comply with the requirements of 29 CFR 1926.62 and Cal/OSHA Title 8 Section 1532.1. Include in the plan all components required under the standard.

E. OSHA Lead-Work Pre-Job Notification: The contractor shall provide written notification to the nearest Cal/OSHA Division District Office one day before the start of the project. Provide a copy of this notification to the Environmental Consultant.

F. Hazard Communication Program: Submit three (3) days before starting work a copy of the Hazard Communication Program which is in compliance with 29 CFR 1910.1200.

G. Hazardous Waste Management Plan: Submit three (3) days before starting work copy of Hazardous Waste Management plan which is in compliance with federal, state, and local hazardous waste regulations and addresses:

1. Identification of hazardous wastes associated with the work.

2. Estimated quantities of wastes to be generated and disposed of.

3. Names and qualifications of each contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location and a 24-hour point of contact. Furnish two (2) copies of EPA, state, and local permit applications, permits, and EPA Identification numbers.

4. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.

5. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

6. Spill prevention, containment, and cleanup contingency measures to be implemented.

7. The Contractor shall submit name, address, and telephone number of landfill or landfills and transporter to the Owner for approval, prior to disposal. This includes those landfills used for waste categories determined to be non-hazardous.

I. Waste Recycling Records:

1. A written record of receipts with certified weight for recycling of the solid lead items shall be furnished to the Owner within forty-eight (48) hours after recycling has taken place.

2. Provide a schedule showing date, amount, type of material and location recycled within five (5) working days of recycling.

J. Waste Disposal Records:

1. A written record of receipts with certified weight for disposal of materials containing lead and lead based paint contaminated items shall be furnished to the Owner within forty-eight (48) hours after disposal has taken place.

2. Provide a schedule showing date, amount, type of material and location disposed of within five (5) working days of disposal.

1.07 ENVIRONMENTAL CONSULTANT

A. The Owner has authorized Skyline Engineering (Skyline) to be the Environmental Consultant for the project. Skyline will advise the Owner on all matters relating to the work performed involving the lead removal in accordance with these specifications. Skyline will provide the following inspections, testing, and monitoring services including, but not limited to:

1. Visual inspections to verify Contractor's compliance with the specifications, as well as applicable regulations, regarding hazard control measures, and related decontamination procedures. The Environmental Consultant will have complete access to all lead work areas during the project in order to perform these inspections.

2. Interpretation of technical sections of the contract documents, and coordination with the Owner and Contractor for enforcement of regulatory and contractual conformance, including stop work issues.

3. Stop work orders will be made jointly by the Environmental Consultant and the Owner under the following instances including but not limited to:

   a. Nonconformance with these specifications.
   b. A health hazard or safety risk exists to the workers, Owner’s employees, Environmental Consultant, or the public.

B. The cost of the Environmental Consultant will generally be the responsibility of the Owner except under special circumstances. The Contractor shall be responsible for the cost of the Environmental Consultant for services performed when: a) The Contractor's Work Area fails final clearance inspection; or b) additional workdays or workday hours (overtime) are required by the Contractor; or c) The Contractor exceeds the allowable time frame for completion; or d) additional services associated with response to an uncontrolled, unauthorized release to the environment as a result of the Contractor's performance of the work.

1.08 CONTRACTOR QUALIFICATIONS

A. General Superintendent: Provide a General Superintendent whenever Contractor's personnel are on site who is experienced in administration and supervision of lead removal projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to

lead-containing materials.

Experience and Training: The General Superintendent and all workers must have completed lead training in accordance with 8 CCR 1532.1 and have had on-the-job training in lead removal procedures. Submit documentation for each worker per section 1.06.

B. Contractor shall use only workers medically qualified and trained for lead work and respirator usage.

1. The minimum acceptable training course duration is basic lead awareness training in accordance with 8 CCR 1532.1. Should the initial exposure assessment determine lead exposures exceeding the Action Level limit of 2µg/m^3, the lead training must consist of eight (8) hours for each worker. Should the initial exposure assessment determine lead exposures exceeding the permissible exposure limit of 10µg/m^3, the lead training must consist of thirty-two (32) hours for each worker, as specified by the California Department of Public Health (CDPH). All training shall comply with 8 CCR 1532.1 (Cal/OSHA Lead in Construction Standard).

2. Contractor shall submit documentation that all employees engaged in removal activities have had the appropriate medical examinations within the prescribed time periods immediately preceding project start-up. Documentation shall include, but is not limited to, baseline blood lead levels performed in accordance with 8 CCR 1532.1 (Cal/OSHA Lead in Construction Standard).

3. Contractor shall submit statement from examining physician that each employee is fit to wear a respirator in accordance with 8 CCR 5144 within the last twelve months.

4. Documentation that all employees have passed respiratory fit tests within the past twelve months.

5. The Contractor will provide a copy of their lead compliance program specific for this project, as specified in 8 CCR 1532.1 and indicated in Section 1.05 -- Submittals, above.

PART 2 - PRODUCTS

2.01 PROTECTIVE COVERING

A. Polyethylene sheets, of 6-mil thickness, in dimensions of adequate width to minimize frequency of joints. Polyethylene sheeting shall be flame

retardant.

2.02 TAPE

A. Duct tape, two inches or wider, capable of sealing joints of adjacent sheets of plastic sheeting or for attachment of plastic sheeting to finished or unfinished surfaces.

2.03 DISPOSAL CONTAINERS

A. Provide non-opaque 6-mil thick polyethylene sheeting, non-opaque 6 mil leak-tight polyethylene bags and other impervious containers as required by applicable regulations. All waste shall be labeled as potentially hazardous waste unless proven otherwise by appropriate sampling and laboratory analysis.

B. All hazardous waste shipping containers shall meet applicable DOT requirements.

C. Spray adhesive used to seal the polyethylene bags shall not contain methylene chloride compounds.

2.04 WARNING SIGNS AND LABELS

A. Caution signs, in accordance with 8 CCR 1532.2, are to be a minimum of 14 x 20 inches and include phrase "CAUTION - LEAD HAZARD - KEEP OUT UNLESS AUTHORIZED" in lettering at least 2" in height. These signs shall be posted at each approach to the work area.

B. Cal/OSHA Lead Warning Posters: "WARNING -- LEAD WORK AREA-- NO SMOKING OR EATING" shall be posted at the entrance to each work area.

D. Hazardous waste labels in accordance with federal, state and local regulations, including, but not limited to the California Code of Regulations, Title 22 Chapter 30 and the U.S. Department of Transportation 49 CFR Parts 172, 173, 178 and 179.

2.05 PERSONAL PROTECTIVE EQUIPMENT

A. Workers shall wear full body disposable suits with hoods and separate booties, tape around ankles, wrists, under arms and neck. Suits will be worn inside the work area after the area passes pre-removal inspection and shall remain in use until the area passes final clearance inspection.

B. Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Safety Data Sheets (SDS) for that product.

C. Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the SDS and obtain the proper filters as necessary. The following guideline indicates types of respirators appropriate for adequate protection against varying lead exposures:

RESPIRATORY PROTECTION FACTORS
ASSOCIATED WITH LEAD EXPOSURE OPERATIONS

Respirator Type	**Protection Factor**	**Airborne Concentration of Lead**
Air purifying, negative pressure respirator, half-face, HEPA filter	10	Not in excess of 100 ug/m^3
Air purifying, negative Pressure respirator, full-face, HEPA filter	50	Not in excess of 500 ug/m^3
Powered-air purifying Positive pressure respirator full or half-face, HEPA	1,000	Not in excess of 10,000 ug/m^3
Type C supplied air Positive pressure respirator Continuous flow mode half-face	50	Not in excess of 500 ug/m^3
Type C supplied air Positive pressure respirator Pressure demand mode full facepiece	1,000	Not in excess of 10,000 ug/m^3

D. In addition, all Cal-OSHA requirements, such as hard hats, hearing protection, etc. are required.

2.06 TOOLS AND EQUIPMENT

A. Provide suitable tools for the decontamination and removal of lead containing paint and flashing, including required HEPA vacuums and exhaust units, airless sprayers, ground fault interrupters, hand tools, wipes, ladders, and scaffolds. Mechanical abrasion tools shall be equipped with local HEPA exhaust and subject to approval by the Environmental Consultant. All tools and equipment brought on site shall be clean and free of contamination from lead and other hazardous materials. HEPA filtered equipment shall be labeled with a warning label and dedicated to lead-based paintwork to prevent combining hazardous wastes of differing characteristics.

B. Provide adequate support equipment, including, but not limited to lumber, hardware, hand washing facilities, sprayers, hoses, miscellaneous collection devices, and secured holding facilities.

PART 3 - EXECUTION

3.01 GENERAL

A. The purpose of the Lead in Construction Standard is to provide a level of protection to workers exposed to lead in construction equivalent to that afforded other lead workers under OSHA's general industry standard 29 CFR 1910.1025. The interim final lead standard for the construction industry applies to all occupational exposure to lead in all construction work in which lead, in any amount, is present in an occupationally related context. All of the components subject to replacement have been determined to be coated with paint containing some amount of lead. As a result, all component replacement will be performed in accordance with the following work practices.

3.02 WORKER SAFETY/DECONTAMINATION PROCEDURES

A. The contractor shall employ only workers medically qualified and trained for lead work and respirator usage.

1. Medically qualified shall mean that the worker has had an occupational medical exam for lead exposure and respirator use

within the last 12 months, in accordance with 29 CFR 1926.62, and shall have had a blood lead test within the last 6 months.

3. Each lead worker shall have completed documented training in lead hazards and lead removal, in accordance with 1532.1.

3. The Contractor shall assure that no worker is permitted to perform lead removal work until the Environmental Consultant has received and approved all of that worker's medical, training, and respirator fit test certifications.

B. The Contractor shall perform an initial exposure assessment in accordance with 8 CCR 1532.1. This includes, but is not limited to, collecting personal air samples to determine the employee's actual exposure to lead dust during construction activities. The contractor pursuant to OSHA regulations will collect personal samples. Each task performed will be monitored at a flow rate of 1-4 liters per minute on MCE 37mm 0.8 µm pore size cassettes. A minimum of one lab blank will be submitted with each set of samples.

C. Each worker, upon entering the job location, shall proceed to the designated clean room/area and don, at a minimum, a half-mask, negative pressure respirator equipped with HEPA filters, and disposable, full-body, tyvek suit, before entering the Work Area. The above PPE must be worn during all phases of the component removal process. **Personal protective equipment (PPE) must be worn for the duration of this project, or until the initial exposure assessment indicates that exposure to lead dust during these activities will not exceed the action level (2µg/m^3).**

D. Prior to component removal, Contractor shall post lead warning signs at all entrances to the work area. These lead warning signs will be in compliance with the Cal/OSHA Lead in Construction Standard (8 CCR 1532.1).

E. All disposable clothing worn in each work shift shall be removed prior to exiting the Work Area and shall be properly segregated and placed in containers for non-hazardous disposal.

F. All tools and equipment shall be decontaminated by HEPA vacuuming and/or wet wiping prior to being taken out of the Work Area.

G. Workers shall not eat, drink, smoke, or chew gum or tobacco at the work site.

H. Each worker shall have a final medical blood lead laboratory test within one week of job completion and before engaging in other lead related work.

3.03 GENERAL REMOVAL PROCEDURES

A. Removal of metal downspout and gutter: This procedure describes the removal of identified metal downspout and gutter with lead-based white paint located at 25555 Hesperian Boulevard. Refer to the contract specifications and drawings for which roofing details fall under this removal category. Various roofing details are coated with lead-based paint. The removal procedure for accomplishing this is outlined below:

1. Post warning signs as stated in Section 3.02. In addition, cordon off Work Area a minimum of 20 feet from the area of removal.
2. Ventilation, heating or air conditioning air intake sources must be disabled prior to material disruption.
3. The wrapping and bagging of the hazardous material must be done at roof level. The secured material must then be lowered by hand down to ground level – not dropped or thrown.
4. Do not use power saws or other high-speed power tools to cut or remove the lead details.
5. Don appropriate PPE as stated in Section 3.02.
6. If necessary, if dust or paint chips may be generated by the metal downspout and gutter removal, constantly mist the material with amended water so as to minimize the dust levels. Have a HEPA vacuum readily accessible to clean up loose debris.
7. Carefully wrap removed metal downspout and gutter in poly sheeting and seal with tape. All other removed metal windscreen poles on 6-mil waste bags. Store this material in a secure area until waste characterization is performed.
8. If paint chips/dust, etc. have been created, clean area using HEPA vacuum and place poly sheeting in 6-mil waste bags for waste characterization.

3.04 WASTE STORAGE AND CHARACTERIZATION

A. The Contractor shall provide for secure on-site storage of LBP related waste. Waste storage location, equipment, containers and methods shall

be in compliance with the requirements of 40 CFR 262 and 265 and California Code of Regulations Title 22, and are subject to prior approval by the Owner and/or the Environmental Consultant.

B. Construction materials removed from each Work Area must be evaluated to determine waste characteristics prior to disposal.

C. Removed intact lead coated components shall be properly segregated, wrapped in 6-mil polyethylene sheeting, labeled and securely sealed with duct tape.

D. Each lead containing paint-related waste (chips, dust, etc.) produced shall be placed in properly segregated, labeled and sealed containers.

E. All waste containers and packaged waste shall be stored in a designated, secure waste storage area and labeled "PENDING ANALYSIS" with the following information:

1. Waste Category (Chip/Dust and Removed Components)
2. Date Accumulated
3. Name and Address of associated Building
4. Origin of Waste

F. All waste shall be considered hazardous until waste characterization has been performed under the California Code of Regulations, Title 22, including using one or more of the following testing procedures:

1. Total Threshold Limit Concentration (TTLC)
2. Waste Extraction Test (WET)
3. Toxicity Characteristic Leaching Procedure (TCLP)

G. All waste shall remain stored in secured waste storage areas until results of waste characterization are available. Due to analytical methods of these tests, this may require storage for up to seven working days. Based on the testing protocols, any waste containing greater than or equal to 5ppm lead using WET of TCLP tests or any waste containing greater than or equal to 1000ppm using the TTLC test shall be considered a hazardous waste.

H. A minimum of four (4) representative samples will be collected from each category of waste generated.

I. The Contractor is responsible for conducting and all costs associated with waste characterization testing.

3.06 WASTE DISPOSAL

A. The Contractor is responsible for all costs associated with transportation and disposal of all waste, hazardous and non-hazardous. Contractor will submit a base bid which will include disposal of all waste as non-hazardous and an alternate bid for the disposal of any waste determined to be hazardous.

B. The Contractor shall submit name, address, and telephone number of landfill or landfills and transporter to the Owner for approval prior to disposal. This includes those landfills used for waste categories determined to be non-hazardous.

C. The Contractor shall arrange for all hazardous waste to be transported from the site in accordance with the requirements of 40 CFR 263 and 264, and disposed of properly in accordance with 40 CFR 268, 49 CFR Parts 172, 173, 178, and 179 and California Code of Regulations Title 22.

D. The Contractor shall prepare hazardous waste shipping manifests for review by the Owner. The manifests shall be signed by the Owner and copies retained by the Owner.

E. Copies of the landfill weight tickets shall be provided to the Owner immediately upon receipt in order to verify the amount of waste disposed of at the site.

3.07 LEAD RECYCLING

A. The Contractor is responsible for all costs associated with transportation and disposal of the solid lead roof details. Contractor will submit a base bid which will include the recycling of all solid lead roof details.

B. The Contractor shall submit name, address, and telephone number of landfill or landfills and transporter to Owner for approval prior to disposal.

C. The Contractor shall arrange for all hazardous waste to be transported from the site in accordance with the requirements of 40 CFR 263 and 264, and

disposed of properly in accordance with 40 CFR 268, 49 CFR Parts 172, 173, 178, and 179 and California Code of Regulations Title 22.

D. The Contractor shall prepare hazardous waste shipping manifests for review by the Owner. The manifests shall be signed by the Owner and copies retained by the Owner.

E. Copies of the landfill weight tickets shall be provided to the Owner immediately upon receipt in order to verify the amount of waste disposed of at the site.

3.08 STOP WORK ORDERS

A. The Owner and/or the Environmental Consultant has the authority to stop work if it is determined that conditions or procedures are not in compliance with the Specification and/or applicable regulations; the Contractor is deficient in providing required submittals; the waste is not securely stored; or a potential release of lead dust to outside the Work Area is imminent based on the Owner's and/or the Environmental Consultant’s judgment.

B. The work stoppage shall remain in effect until conditions have been corrected and corrective measures have been taken to the satisfaction of the Owner's and/or the Environmental Consultant.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 – GENERAL

1.01 DESCRIPTION:

A. Work Included:

1. Supply and install all lumber and plywood as specified herein and as required.

2. All miscellaneous carpentry and lumber called for in the Specifications.

3. Unit price #1: Cost to remove and replace 8’ of 1”X6” skip sheathing in accordance with this section.

4. Add alternate #1: Install new ½” plywood sheathing over skip sheathing.

1.02 DELIVERY AND STORAGE:

Deliver and store materials in dry areas as directed by the College Representative. Keep free of stain or other damage. Replace any damaged material at no cost to the College. When ready to install, plywood shall be placed on the roof in small stacks over column locations until applied.

PART 2 - MATERIALS

2.01 LUMBER:

A. Lumber shall be dry and well seasoned. The moisture content shall not exceed 19% in boards 8" or less in depth, 15% in lumber more than 8" in depth and plywood.

B. Lumber herein referred to shall be graded and grade marked and shall conform to the following specifications, as applicable. All material shall be new.

1. Wood Stripping for unit cost #1: California Redwood milled to match existing dimensions of stripping (1” X 6” true dimension).
2. Plywood for add alternate #1: Replacement sheathing, Structural I, CD (exterior glue) shall conform to the requirements designed in

American Plywood Association, US Production Standard for soft plywood. Each Standard PS 1-74 size panel shall be stamped with appropriate grade marking, visibly shown.

3. All nails for fastening plywood to supports shall be **common nails**: flat head, diamond point, hot-dipped galvanized. All nails shall be hot-dip galvanized. Screw fasteners may be used with permission of the engineer and College.

PART 3 - EXECUTION

3.01 WOOD MATERIALS:

All materials shall be new when incorporated into the Work.

3.02 WOOD STRIPPING REPLACEMENT – UNIT COST #1:

A. Install wood stripping in like kind and dimension.

B. Secure to substrate with 8d nails 2 per rafter. Take care not to damage or split rafters.

3.04 PLYWOOD SHEATHING INSTALLATION – ADD ALTERNATE #1:

A. Nail perimeter to substrate 5” O.C. using 8d nails.

B. Interior nailing shall be 8” O.C. using 8d nails.

END OF SECTION

SECTION 07 15 00
SHEET METAL WATERPROOFING

PART 1 — GENERAL

1.01 COPE OF WORK

A. New edge metal flashings. Stainless steel or Kynar coated.

B. New counter flashings and/or step flashings. Stainless steel or Kynar coated.

C. New sheet metal sleeves and storm collars. Stainless steel or Kynar coated.

D. New gutters and downspouts. Kynar coated color to match exterior.

E. New screens over downspouts to prevent debris from getting into the drainage system. Stainless steel.

F. New valley flashings. Stainless steel or Kynar coated.

G. All other sheet metal necessary to complete the roofing system in a watertight manner. Stainless steel or Kynar coated.

H. Note: GSM is not specified for this project.

1.02 REFERENCES:

A. American Society for Testing and Materials (ASTM) Standards.

B. Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Architectural Sheet Metal Manual.

C. Architectural Sheet Metal quality Assurance Guide (latest version).

1.03 QUALITY ASSURANCE:

A. Installer: All work of this Section must be performed by a licensed sheet metal contractor with five years of successful experience with installation of sheet metal flashing and trim similar in type and scope to project requirements.

B. Quality Standard: Fabricate and install sheet metal work in accordance with Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA) "Architectural Sheet Metal Manual", unless specifically indicated otherwise.

1.04 TECHNICAL SUBMITTALS

A. Submittal requirements: Contractor shall highlight anything in the submittal package that conflicts with or changes specifications or drawings. Include a reason for the change. Any submittals that alter existing specifications or drawings shall be approved by the engineer and College prior to implementation.

B. The following submittals are to be made in conjunction with any other submittal requirements set forth in the bid documents.

C. The contractor shall submit the following upon request of the College or engineer:

1. Manufacturer specification data sheets. Submit for the following products:

   a. Specified sheet metal.

2. Shop drawings of any details that may be different than the NRCA or SMACNA standard details included in these specifications. This includes manufacturer detail drawings that may be different than NRCA or SMACNA drawings. All flashing detail designs shall be approved by the College.

3. Material safety data sheets for all products used under this section.

1.05 WARRANTY & GUARANTEE

A. For all work performed under this section, the Roofing Contractor shall furnish to the College a five (5) year guarantee against labor and/or material leaks AND defects for all labor and materials installed under this contract. This guarantee shall also cover any and all labor and materials necessary to repair or replace any materials that are damaged or deteriorated as a result of material and/or improper or inadequate workmanship.

B. Kynar coated new gutter systems: The Kynar Materials Manufacturer shall provide a standard warranty covering material deficiencies for at least a period of ten (10) years from the date of acceptance by the College. This written warranty will be provided by the material manufacturer and will cover material for at least ten (10) years without a cost to the College.

PART 2 — PRODUCTS

2.01 KYNAR COATED SHEET METAL

A. Kynar coated metal: 70% Kynar Coated Galvalume. Color approved by College. 24 gage (0.0239 inch), unless otherwise shown on the drawings or specified herein.

2.02 STAINLESS STEEL

A. Stainless steel shall be type 304, ASTM A167, fully annealed 0.025” (24 gage) min. Finish shall be 2D mill rolled matte.

B. For areas where stainless steel sheet metal acts as perimeter fascia and is visible from the ground, steel shall be primed and painted in the field. College’s Representative shall approve all colors.

2.03 FASTENERS:

A. Nails: Shall be stainless steel. All nails shall be approved type and selected for their intended use.

B. Screws: Minimum No. 8 size screw with watertight neoprene washers under screw head where exposed shall be used for the fastening of sheet metal into wood nailers. Self-tapping, #3 sheet metal screws of ½" length shall be used for the fastening of sheet metal to sheet metal. All screws shall be corrosion coated or stainless steel. All exposed fasteners shall have 5/8" steel/neoprene washers under head.

2.04 ACCESSORY MATERIALS:

A. Sealant: Elastomeric sealant shall be a low modulus, high performance, one part polyurethane type conforming to Federal Specifications No. TT-S-00230C, Type II, Class A, such as Sonolastic NP-1 by Sonneborn Building Products, Sikaflex-15LM or approved equal.

PART 3 — EXECUTION

3.01 SHEET METAL INSTALLATION:

A. Sheet metal work shall be executed in a first-class, workmanlike manner in accordance with standard shop practices. Comply with sheet metal manufacturer's installation methods and recommendations in the SMACNA "Architectural Sheet Metal Manual".

B. The sheet metal work shall be accurately formed to dimensions and shapes detailed or required. Broken shapes shall finish with true, straight, sharp lines, and angles; and where intersecting, shall be coped to a precise fit and be securely soldered and scraped smooth. Lock seam work shall be made flat and true to line, sweated full of solder.

C. All sheet work shall be so formed and installed as to provide suitable allowance for expansion and contraction without causing undue stresses in any part of the completed work and shall finish water and weather tight throughout. Provide movement joints at maximum spacing of ten feet. No joints within 2 feet of corner or intersection.

D. Mechanically fasten and solder all joints, splices and transitions that are not designed for expansion. Fasten metal by solid riveting or forming double lock seams. Seal by continuous soldering.

E. Galvanic Action Protection: Isolate different metal types from each other to prevent galvanic action.

F. Use elastomeric sealant where necessary to make a watertight installation.

G. Form a ½ - inch hem on the underside of all exposed edges.

3.02 CLEANING AND PROTECTION

A. Clean exposed surfaces, removing substances that might cause discoloration of metal.

B. Protection: Advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION

SECTION 07 18 13
PEDESTRIAN TRAFFIC COATING

PART I - GENERAL

1.01 SCOPE OF WORK

A. Provide liquid applied pedestrian deck coating system to balcony area as specified.

B. If the proposed manufacturer allows for installation of the system over an existing system, prepare existing coating to receive new system. Prepare surface in accordance with manufacturer providing warranty for this project.

C. If the proposed manufacturer does NOT allow for installation of the system over the existing system, remove existing coating/paint down to the wood substrate. Notify the College and Engineer if any deteriorated wood is found.

D. Install approved primer to prepared surface if required.

E. Install specified deck coating system in accordance with manufacturer specifications.

F. Provide all necessary flashings.

1.02 QUALITY ASSURANCE

A. Applicator Qualifications: Applicators shall be approved by Manufacturer as licensed applicators.

B. Project inspections: Contractor shall notify College in order to provide a deck inspection prior to installation of the first layer of coating or primer.

C. Requirements of Regulatory Agencies:

1. The deck coating system shall be rated Class "A" by Underwriters Laboratories (ASTM E 108/UL 790). Containers to bear Underwriters Laboratories labels.

2. Materials used in the deck coating system shall meet Federal, State and local VOC regulations.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.

B. Storage and Handling: Recommended material storage temperature is 75 º F. Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

1.05 JOB CONDITIONS

A. Environmental Conditions:

1. Do not proceed with application of materials when deck temperature is less than 40 º F.
2. Do not apply materials unless surface to receive coating is clean and dry, or if precipitation is imminent.

B. Safety and Health Conditions:

1. During coating application, it is **essential** that maximum effort is made to protect the coating mechanic and others near the workplace from breathing vapors and coming in contact of material with skin or eyes.
2. In confined areas, the best form of protection against organic solvents or other potentially sensitizing vapors is a **fresh air suppl**y. For maximum protection, it is recommended to use a NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode.
3. In unrestricted (open outdoor) areas, it is recommended to wear a suitable mask or respirator of a type approved by NIOSH/MSHA.
4. To prevent excessive skin contact with the material, it is recommended to use fabric coveralls and neoprene or other resistant gloves. To prevent eye contact, wear a full-face mask or OSHA-approved protective goggles.

C. Protection:

1. Keep products away from heat, sparks, and flames. Do not allow use of spark producing equipment during application and until vapors are gone. Post “No Smoking” signs.
2. The overspray and/or solvents from coatings can carry considerable distances and care should be taken to do the following:
    a. Mask off or cover all air intakes near the work area to prevent odors from entering occupied areas of the building or structure.
    b. Minimize or exclude all personnel not directly involved with the coating application.
    c. Have CO 2 or other dry chemical fire extinguishers available at the jobsite.
    d. Provide adequate ventilation.

3. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75 º F. and 50% R.H., or until completely cured.
4. Protect plants, vegetation and animals that might be affected by coating. Use drop cloths or masking as required.

1.06 TECHNICAL SUBMITTALS

A. Submittal requirements: Contractor shall highlight anything in the submittal package that conflicts with or changes specifications or drawings. Include a reason for the change. Any submittals that alter existing specifications or drawings shall be approved by the engineer and College prior to implementation.

B. Specific installation requirements are outlined in these specifications to conform with application guidelines as set forth by NeoGard. If Polydeck or another material manufacturer is used, complete installation instructions will need to be submitted by the contractor and approved by the College. These submittals will then take precedence over the following application guidelines.

C. The contractor shall submit the following upon request of the College or engineer:

1. Manufacturer specification data and MSDS. Submit for the following products:
   a. Coating, primer, sealants and any other product used on this project.
2. Manufacturer literature describing the installation procedure of the specified system.

1.06 WARRANTY/GUARANTEE

A. The Manufacturer shall provide a standard system warranty c for a minimum period of five (10) years from the date of acceptance by the College.

B. Upon project completion and College acceptance, effective upon complete payment, Contractor shall issue College a guarantee against defective workmanship and materials for a period of five (5) years.

PART II - PRODUCTS

2.01 MATERIALS

A. Pedestrian Traffic Coating Pre-approved Manufacturers:
    1. Neogard
    2. Polycoat
    3. Metacrylics
    4. Sika

B. Related Materials:
    1. Primer: as approved by Manufacturer.
    2. Liquid Flashing: coating approved by the manufacturer.
    3. Sealants: All sealants shall be approved by the manufacturer for application within this specified system.

PART III - EXECUTION

3.01 GENERAL

A. It is the responsibility of the contractor to ensure that all requirements for the specified warranty are accomplished and included in the bid for this project. No change orders will be approved for non-specified details, techniques, materials or procedures in order to obtain this warranty. If major problems or challenges are noted with regards to these requirements, the contractor shall notify the College prior to the bid opening.

B. Specific installation requirements are outlined in these specifications to conform with application guidelines as set forth by NeoGard. If Polydeck or another material manufacturer is used, complete installation instructions will need to be submitted by the contractor and approved by the College. These submittals will then take precedence over the following application guidelines.

3.02 PREPARATION

A. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a power broom and a strong non-sudsing detergent. Thoroughly wash, clean, and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods.

B. Primer over existing coating: Install approved primer in accordance with manufacturer guidelines.

C. Increase drainage scupper to enhance drainage. Increase as much as possible but not more than the size of the scupper drain screens or the box outlet on the other side of the wall.

D. Sheet Flashing: Install sheet flashing where required by the manufacturer prior to the application of base coats.

E. Surface Condition: Surface shall be clean and dry prior to coating.

3.03 APPLICATION

A. Follow manufacturer installation guidelines if different that described below.

1. Primer: Where required, apply 1/3 gallon per 100 square feet (300 sf/gal) to all surfaces in strict accordance with procedures outlined by the manufacturer. Within 24 hours of application of primer, base coat must be applied. If base coat cannot be applied within 24 hours, reprime.
2. Base Coat: Apply 1-1/2 gallons per 100 square feet (66 sf/gal) of elastomeric base coat to deck surfaces in strict accordance with procedures outlined by the manufacturer. Extend base coat over cracks and control joints which have received treatment.
3. Wearing Surface Coat: Apply 1/2 gallon per 100 square feet (200 sf/gal) of elastomeric topcoat in strict accordance with procedures outlined by the manufacturer.
4. Finish Coat: When dry, remove excess aggregate and recoat surface with 2/3 gallon per 100 square feet (150 sf/gal) of elastomeric topcoat in strict accordance with procedures outlined by the manufacturer. Total system coating thickness averages 32 dry mils exclusive of aggregate.

3.04 FLASHINGS: Install flashings in accordance with manufacturer guidelines.

3.05 CLEANING

A. After completion of application, do not allow traffic on coated surfaces for a period of at least 24 hours at 75F and 50% RH or until completely cured.

B. Remove debris resulting from completion of coating operation from the project site.

END OF SECTION

SECTION 07 31 29.13

Wood Shingle Roofing

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. Provide a wood cedar shingle roofing system as specified. System shall obtain a UL Class A fire rating.

B. Work specified under this section:

1. Add alternate: Install ½" plywood over existing spaced sheeting. Refer to section 061000 Rough Carpentry.
2. Install a class A fire rated 72 lb. mineral surfaced fiberglass cap sheet over the entire deck.
3. Install specified wood shingle system.
4. Install specified flashings and accessories.

C. Contractor shall coordinate all work with the College in a manner that will provide the least amount of disturbance to the building occupants and operations.

1.02 QUALITY ASSURANCE

A. Contractor shall:

1. Be experienced in the installation of cedar shingle roofing for a period of no less than five (5) years.
2. Be certified or approved for the installation of proposed manufacturer's warranted roofing systems.
3. Contracting firm performing the roofing installation shall have been in business under the same company name AND contractor's license (C-39) for a minimum of five (5) years. An entity many not satisfy these qualifications by relying upon the experience of individual persons employed by or affiliated with the entity.

B. Manufacturer shall:

1. Qualifications of Manufacturer: Manufacturer of cedar shingles shall have at least five (5) years of successful installations.
2. All cedar shingles shall be manufactured by members of the Cedar Shake & Shingle Bureau and shall be graded in accordance with UBC Standards No. 32-8 and 32-11 and/or CSA 0118.1.
3. UL: Manufacturer must have approvals from Underwriters Laboratories that indicate that the specified fire ratings will be obtained.

1.03 SITE CONDITIONS

A. Field measurements and material quantities: Applicator shall have SOLE responsibility for accuracy of all measurements, estimates of material quantities and sizes, and site conditions that will affect work.

B. Existing Conditions:

1. Building space directly under roof area covered by this specification will be utilized by on-going operations.
2. Do not interrupt College operations unless prior written approval is received from College.
3. Access to roof shall be from exterior only

C. Environmental requirements:

1. Do not work in rain, or in presence of water.
2. Install materials in strict accordance with all published safety, weather, and temperature precautions given by the manufacturer.
3. Do not install materials marked “keep from freezing” when daily temperatures are scheduled to fall below 40 F.
4. Provide temporary weather protection as required by Division 01510 "TEMPOARY FACILITIES".

1.04 SUBMITTALS

A. Submittals shall be made per General Requirements.

B. The Contractor shall submit five sets of the following submittals to be approved by the College Representative within 7 days of commencement specified in the Notice to Proceed.

1. Manufacturer specification data sheets. Submit for the following products:
    a. Shingle roofing.
    b. Plywood sheathing.
    c. Shingle underlayment.
    d. Adhesives, sealants and accessories.
    e. Sheet metal.
2. New Roof Construction Manual from the Cedar Shake & Shingle Bureau describing the installation procedure of the specified system.
3. Shop Drawings: For any details that differ from those published in the detail drawing section of this specification. Indicate metal flashing profiles, joint locations, fastening locations, and installation details. Indicate tile

layout with location of cut and special shaped tiles identified.

4. Test reports: Written verification from shingle material supplier that siding system meets or exceeds regulatory agency/s requirements and the requirements of these specifications.
5. Contractor information as required from section 1.02 (A) of these specifications.
6. Material safety data sheets.
7. Samples of wood shingles.
8. Sample warranty as specified in 1.07 of these specifications.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original sealed containers, clearly marked with the manufacturer's name, brand name, type of material, batch number, and date of manufacture.

B. Store materials in an area where temperatures will not be less than 50 degrees F (10 degrees C) or more than 100 degrees F (38 degrees C).

1.06 REGULATORY REQUIREMENTS AND REFERENCES

ASTM	American Society for Testing and Materials
	Philadelphia, PA (215) 299-5585
NRCA	National Roofing Contractors Association
	Rosemont, IL (847) 299-9070
OSHA	Occupational Safety and Health Administration
	Washington, DC (202) 523-1452
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
	Chantilly, VA (703) 803-2980
UL 790	Underwriters Laboratories 790 Fire Rating Class A
	Northbrook, IL (708) 272-8800

1.07 WARRANTY/GUARANTEE

A. The Contractor shall furnish to the College a five (5) year guarantee against labor and/or material defects for all labor and materials installed under this contract. This guarantee shall also cover any and all labor and materials necessary to repair or replace any materials that are damaged, deteriorated, or otherwise altered as a result of leaks attributed to material and/or improper or inadequate workmanship. At a period of 60 days prior to the end of the warranty period, the

Contractor shall contact the College to arrange for a full inspection of the system, giving two weeks notice to all parties. The Contractor and College's Representative shall inspect the entire system at a mutually agreed upon time.

B. The Materials Manufacturer shall provide a warranty covering material deficiencies for at least a period of twenty (20) years from the date of acceptance by the College.

C. Submit all items to the College within ten (10) days of final acceptance of the project.

D. A Final Inspection will be performed with the College, Engineer and Contractor present. Any corrections in the work that need to be made will be done prior to the project is accepted, the warranty dated and called into force.

PART 2 – MATERIALS

2.01 General Specification Data

All cedar shingles shall be manufactured by members of the Cedar Shake & Shingle Bureau and shall be graded in accordance with UBC Standards No. 32-8 and 32-11 and/or CSA 0118.1.

2.02 Roofing Materials

A. Wood shingles:

1. No. 1 Blue Label Certigrade shingles bearing the Cedar Shake & Shingle Bureau's official grade marked label.
2. Shingles shall be grade 1 and 16” in length.
3. Shingles shall be treated in order to obtain a UL Class A Fire Rating.
4. Roof shingles shall be laid with a weather exposure of 5 inches.

B. Roofing Underlayment: 36” wide, 76 lb. minimum mineral surfaced Class “A” fiberglass cap sheet (complying with standard UL 55-A).

C. Asphalt mastic: ASTM D 4586-86 fibrated asphalt mastic.

D. General purpose sealant: one part polyurethane sealant.

2.04 Cedar Treatment

A. Cedar shingles may be chemically treated in order to obtain the specified class A fire rating. **Fire treatment:** Fire Smart Roofing or approved equal. www.firesmartroofing.com

B. Contractor shall submit to College's Representative information on the type of treatment used for the proposed shingle.

2.05 Manufacturing Information and Requirements

A. Code approved cedar shingles must be manufactured to strict quality standards. These standards have been developed by the International Conference of Building Officials and have been published in the Uniform Building Code. (The Uniform Building Code states that its standards are based on the standards of the Cedar Shake & Shingle Bureau.)

B. The Building Code also requires that all approved cedar shakes and shingles be inspected by an accredited, independent third party agency.

C. Mills using the Cedar Shake & Shingle Bureau's CERTI-LABELS produce to the UBC standard and have random, unannounced quality inspections by approved inspection agencies.

2.06 Acceptable Manufacturers: Manufacturer shall be a member of the Cedar Shake & Shingle Bureau. Shingles shall bear the Cedar Shake & Shingle Bureau's official grade marked label.

A. FTX Chemco treated western red cedar shingles distributed by Wesco Cedar, Inc. wescocedar.com

B. Certi-Guard Certigrade red cedar shingles.

C. or Approved Equal.

2.07 MECHANICAL FASTENERS TO ATTACH WOOD SHINGLES

A. Stainless steel type 316.

B. 3d nails for 18" or less shingles.

C. Fasteners should be long enough to penetrate into sheathing at least ¾" or all the way through the sheathing.

D. Fasteners cannot be electro-galvanized as they will cause staining.

PART 3 – EXECUTION

3.01 Existing Conditions

A. Existing sheathing may be of varying thicknesses, widths and spacing. We measured in one area spaced sheathing consisting of 1" x 6" softwood boards (true dimensions) with a 3” space. However, these dimensions may be inconsistent.

B. Existing shingles are 15.5” in length and have an exposure of 5”.

3.02 General Design for Shingles

A. Contractor shall install wood shingles in accordance with Cedar Shake and Shingle Bureau guidelines in accordance with existing sheathing construction.

B. The wood shingles shall be installed in a single straight-line course pattern as depicted in the NRCA Roofing and Waterproofing Manual.

C. Wood shingles for this project shall be 16 or more inches in length and the exposure shall be 5 inches.

3.03 General Application Details

A. Shingle Application: Regardless of style, the following basic application details must be observed.

B. Shingles must be tripled at all eaves.

C. Butts of first course shingles shall project 1-1/2" beyond the fascia.

D. An 18” wide strip of ice and water shield shall be laid over the top portion of the shingles and extend on to the sheathing. The bottom edge of the felt shall be positioned above the butt of the shingle at a distance equal to twice the weather exposure.

E. Install specified underlayment in accordance with manufacturer requirements.

F. Spacing between adjacent shingles (joints) shall be a minimum of 1/4" and a maximum of 3/8."

G. Joints in any one course shall be separated not less than 1-1/2" from joints in adjacent courses; and in any three courses, no two joints shall be in direct alignment.

H. Flat grain shingles wider than 8" shall be split in two before nailing. Knots and similar defects shall be treated as the edge of the shingle and the joint in the course above placed 1-1/2" from the edge of the defect.

3.04 ROOF FASTENER GUIDELINES

A. Nails

1. Each shingle shall be applied with two fasteners.
2. Fasteners shall be stainless steel type 316
3. Minimum length shall be 1-1/4 inch.
4. If preservative treated shingles are installed the treating company's recommendations regarding the compatibility of the preservative chemicals with the fastener shall be followed.
5. Nails shall be driven flush but not so that the nail head crushes the wood. They shall be placed approximately ¾" to 1" from the side edges of the shingles and 1 ½" to 2" above the butt line of the following course.
6. Use 3d "box" nails for new roof with 16" or 18" shingles.
7. Nails shall be long enough to penetrate sheathing at least 3/4” per UBC.

3.05 PERIMETER FLASHINGS AT GUTTERS

A. The following perimeter flashings shall be installed at all areas where gutters exist. Metal flashing shall have a formed drip-edge to allow water to drip off the edge into the gutter without affecting the underlying construction. The following procedures shall be used to install perimeter drip-edge flashing for use with wood shingle roofs:

1. Drip-edge metal may be applied directly to the roof deck.
2. The roof flange of the metal flashing shall extend on to the roof deck 3 inches. Secure the flashing with round head roofing nails spaced approximately 8 to 10 inches on center. Stagger nail the metal to prevent splitting of the underlying wood construction.
3. At the downslope roof edges, a 36 inch wide No. 30 asphalt-saturated roofing felt shall then be applied to overlap the upslope flange of the perimeter metal flashing. The underlayment protection membrane shall terminate 1/8 inch upslope from the outside edge of the metal flashing.

3.06 STARTER COURSE

A. In order for the shingle roof to be three layers thick at all locations, including the downslope portion of the roof, a double layer starter course shall be used. If the length of the shingles and the exposure specified will provide for a three layer thick wood roof, then the starter course shall contain two layers. The starter course is applied directly over the underlayment or ice dam protection membrane along the downslope portion of the roof. In addition to providing longevity to the finished roof, the primary purpose of the starter course is to shed water that may

migrate through the gaps or joints between the shingles in the overlying first course.

B. After the down slope underlayment or ice dam protection membrane has been installed, the starter course of wood roofing may be applied. Generally, the starter course may consist of 15 to 18 inch wood shingles as the exposure specified for the project allows.

C. The shingles in the starter course shall be laid so that the butt ends extend a minimum of 1-1/2 inches beyond the finished fascia board or outer sheathing board edge (if there is no fascia). When gutters or eaves troughs are used, the overhang may be reduced to approximately 1 inch. Wood shingles shall be laid to extend approximately 1 inch beyond the rake edge.

D. Space the individual starter units approximately ¼ to 3/8 inch apart, and fasten each unit with two fasteners. Place the nails approximately ¾ to 1 inch from the sides.

E. The starter course consists of two layers, offset the joints between neighboring shingles in the adjacent courses a minimum of 1-1/2 inches.

3.07 FIRST COURSE

A. After the starter course has been installed along the downslope portion of the roof, the first course of shingles is applied. The first course is installed directly over the starter course. The joints between courses shall be offset by a minimum of 1-1/2 inches.

B. The butt ends of the shingles in the first course shall extend to the same point as the butt ends of the starter course units, so that the downslope end of the first course is flush with the downslope end of the starter course.

C. Space the shingles in the first course approximately ¼ to 3/8 inch apart, and fasten each shingle with two nails (the type and size specified). Place the fasteners ¾ to 1 inch from the sides, and 1-1/2 to 2 inches above the butt line of the overlying course.

3.08 SECOND AND SUCCEEDING COURSES

A. After the felt underlayment and the first course of shingles have been applied, the second and succeeding courses of shingles are applied.

B. Set the second course of shingles at the specified exposure.

C. Space the individual shingles 1/4 to 3/8 inch apart, and offset the shingles from the joints in the underlying course by a minimum of 1-1/2 inches.

D. Fasten each shingle with two fasteners. Place the fasteners ¾ to 1 inch from the sides, and approximately 1-1/2 to 2 inches above the butt line that will be created by the next overlapping course of shingles.

E. The fasteners shall be driven flush to the surface of the shingle.

3.09 HIP AND RIDGES

A. To weatherproof the roof at hips and ridges, wood shingles shall be used as hip and ridge coverings.

B. Mills assemble bundles of pre-made hip and ridge units, or contractors may make their own. However, both types of hip and ridge units must have alternate overlaps, and the units must be blind nailed during application.

C. The exposure for hip and ridge units shall be the same as is specified for the field of the roof.

D. After both roof areas have been roofed with shingles up to the adjoining hip or ridge intersection, and the shingles in each intersecting course have been cut to the apex of the hip or ridge, then the hip or ridge coverings may be applied. The following procedures may be used to apply shingles at hip and ridge locations.

1. Field felt plies of underlayment shall be wrapped and nailed over the hip or ridge centerline. Wrapping the hips and ridges with the field felts provides an additional layer of protection from wind-driven rain and snow. Note: If ventilating ridges are present, felt is not wrapped over, as the ridge would be closed-off to ventilation.

2. For additional weather protection of the hip or ridge, a strip of asphalt-saturated felt shall be fastened over the exposed juncture along the hip or ridge. This layer of felt shall overlap the shingles on either side of the centerline by a minimum of 4 inches. Note: At ventilating ridges, this extra strip of felt is not used.

3. Beginning at the downslope end of a hip or at the leeward end of a ridge, the shingle hip or ridge units are applied in shingle fashion with each unit lapping over the previous unit. Note: Beginning the ridge covering application at the leeward end of the ridge orients each ridge shingle's overlap away from the prevailing wind and weather. Establishing the application of ridge shingles with their laps facing away from the prevailing wind helps to keep wind-driven rain and snow from entering the roof. Prevailing wind comes from the west, northwest, and north. The shingle overlap shall face away from these directions whenever possible.

4. Typically, hip and ridge shingles are made to provide a relatively uniform overlap of the hip or ridge center-line, covering the adjacent trimmed field shingle by approximately 3-1/2 to 4 inches. However, it is a good idea to chalk a straight line on one side of the hip or ridge, so that hip or ridge shingles can be set for proper alignment.

5. Select and lay the hip or ridge units so the overlap along the top of each unit is alternated. One unit's overlap faces the roof area on one side of the hip or ridge, then the next hip or ridge unit that is laid must face the opposite roof area.

6. Fasten each hip or ridge covering unit with two fasteners. Because hip and ridge fasteners must penetrate through more layers of roofing in order to securely attach the hip and ridge coverings to the underlying roof deck, the fasteners for hip and ridge units are recommended to be longer than those fasteners specified for the shingles covering the field of the roof. Place the fasteners ¾ to 1 inch up from the sides, and approximately 1-1/2 to 2 inches above the butt line that will be created by the next overlapping hip or ridge unit. The fasteners shall be driven flush to the surface of the wood.
7. When reaching the upslope end of the hip or windward end of the ridge, the last unit is placed and fastened. These fasteners in the last hip or ridge unit will be exposed to the weather.
8. Weather exposures shall be the same as the field of the roof.
9. Nails must be longer than those used on the field of the roof and of sufficient length to penetrate 3/4" into or completely through the sheathing.
10. All shingle hips and ridges shall be of alternate overlap type applied at the same exposure as field of roof and with nails long enough to penetrate into sheathing at least 3/4" per U BC.

3.10 ROOF VALLEYS

A. Open Valleys—Open valleys are lined with sheet metal valley material. Note: The wood roofing units are held back from center of the valley so the valley is exposed or open. Open valleys permit clear, unobstructed drainage, and are advantageous in locations where foliage can settle on the roof and accumulate in the valley. Open valleys constructed with stainless steel or Kynar coated sheet metal.

B. All valleys are constructed only after the necessary layers of underlayment, and any valley lining material specified, have been applied to the deck.

C. Typical valley underlayment construction consists of a full width (i.e., 36 inch) sheet of ice and water shield, laid with the sheet centered in the valley. This valley underlayment sheet is secured with only enough roofing nails to hold the sheet in place until the shingles are applied. The courses of underlayment from the field of the two adjoining roof areas are cut so that each course overlaps the valley felt underlayment by at least 6 inches. The valley is then lined with the balance of the valley flashing and roofing material.

D. Open valleys shall be constructed with sheet metal valley material. The metal valley is constructed by laying lengths (typically 8 or 10 feet) of 24-gauge (minimum) stainless or Kynar pre-painted steel through the valley.

E. The wood roofing units are lapped onto the flange on either side of the valley metal, leaving a clear space between the roofing material to channel runoff water down the valley.

F. Valley metal shall be 24 inches wide. This means that the flanges on either side of the metal valley centerline are 10 inches wide. Having a flange width of 10 inches allows the wood roofing units to lap well onto the flange (at least 4 inches), leaving 5 or 6 inches of the flange exposed for clear drainage, near the bottom of most valleys.

G. When shop formed valley metal is used, it shall be formed with an inverted “V”-shaped splash diverter, or rib in the center.

H. The center rib shall not be less than 1 inch high.

I. Metal valleys shall be no more than 12 feet long.

J. The following procedures are required for installation of open valleys using metal valley flashings:

1. Center a minimum 36 inch wide layer of No. 30 asphalt-saturated (non-perforated) underlayment in the valley. The lower edge of the underlayment felt is cut to conform to the roof perimeter, leaving enough so that the felt will be flush with the starter course.

2. Nail the underlayment with enough nails to hold the sheet smoothly in place, but keep nails back at least 14 inches from the centerline of the valley. Note: If a self-adhering underlayment or modified bitumen ice dam protection membrane is centered through the valley, it may not need to be nailed on relatively low slopes, but it must be properly adhered. If the valley is relatively steep and nailing the membrane is deemed necessary, the material shall be nailed along one side of the valley first. Stagger the nails slightly, approximately 1 to 2 inches in from the edge of the sheet.

3. As the nailing proceeds to the opposite side of the sheet, press the underlayment material smoothly into place through the width of the valley.

4. When felt underlayment material must be lapped, the ends of the upper sheet shall overlap the lower sheet by at least 12 inches. Blind nail across the top portion of the downslope sheet, and adhere the lap with vertical-grade asphalt roof cement.

5. Next, the valley metal is installed. The lower edge of the first piece is cut to conform to the downslope roof perimeter. If an extended metal drip-edge is used, it can be beneficial to “lock” the valley metal to the perimeter by bending it over the extended edge. Leave enough metal so that the downslope end of the valley metal will be flush with the eave’s starter strip. Succeeding valley metal lengths shall overlap underlying lengths by at least 8 inches. Blind nail each section across its upper end with round headed ring or barbed shank roofing nails made from metal compatible to the valley metal. Stagger nail through the metal approximately 3 inches on center.

6. Secure each section of valley metal by clipping it to the roof deck with metal clips spaced 8 to 24 inches apart. Nail each clip to the roof deck with two round headed roofing nails, and bend the clip back over the nail heads to protect the overlying roofing from the fastener heads shall thermal movement

of the metal valley cause nails to back out. Note: With wood shingles the irregularities of the metal valley clips and hemmed valley flange edges do not allow the finished roofing (at the valley) to lie smoothly. This unevenness of the wood roofing laying over the clips and hemmed edges can impede drainage. Therefore, in some regions of the country, metal valleys are secured by simply nailing along both outer valley metal flanges. In regions where snow and ice are typically experienced, the outer flanges may then be stripped in with a self-adhering ice dam protection membrane.

7. Before the wood roofing units are applied, snap two chalk lines along the full length of the valley. Snap one chalk line on each side of the valley centerline, so that the lines diverge as they progress downslope. When the shingles are installed to the lines, the resultant open valley will gradually become wider toward the bottom than it is at the top.
8. Set the lines approximately 4 to 6 inches apart at the ridge, or top of the valley, which means that each line is approximately 2 to 3 inches from the center of the valley. Set the chalk lines so that they diverge at the rate of 1/8 inch per foot (1%) as they approach the downslope roof perimeter. (For example, a valley 8 feet long may be 7 inches wide at the bottom, and a valley 16 feet long may be 8 inches wide at the bottom.) When a course of wood roofing material is extended to the valley, the chalk line serves as a guide to trim the last unit in order to ensure a relatively clean, even, continuous edge along the valley.
9. Two common procedures for enhancing the performance of open metal valley flashing are:
    1) Line the valley with a self-adhering modified bitumen underlayment material, before application of the metal valley
    2) Strip in the flanges on either side of the metal valley with a 9 to 12 inch strip of self-adhering modified bitumen underlayment material. The self-adhering material is adhered onto the valley metal flanges, and onto an underlying width of similar self-adhering membrane material.

K. Valley Flashing Design - General:

1. For roofs with slopes of 1: 1 or greater, valley flashing shall extend not less than 7" on each side of the valley centerline.
2. For roof slopes less than 1:1, flashing shall extend not less than 10" each side.
3. Valley flashing shall be center crimped, painted, stainless steel or aluminum.
4. Valley metal shall be underlayed with approved ice and water shield (minimum).
5. Shingles extending into the valley shall be sawed to the proper miter.
6. Do not break joints into valley.
7. Do not lay shingles with grain parallel with the centerline of valleys.

8. All valleys shall be installed with shingles lapping the valley flashing not less than 7" on each side.
9. On shingle roofs of less than 1/2 pitch, flashing shall extend at least 10"on each side.
10. Shingles shall not be applied with their grain parallel to the valley centerline and those extending into the valley shall be cut at the correct angle.
11. Joints between shingles must not break into the valley.

3.11 FLASHINGS AT VERTICAL WALLS

A. When a roof area intersects with a vertical wall apply a metal step flashing over the end of each course of wood roofing. This method is referred to as step flashing.

B. The following criteria shall be used when determining the appropriate step flashing size:

1. *Headlap:* The step flashing must be longer than the exposed surface of the wood roofing units, so that the step flashings overlap each other by approximately 3 inches. On relatively low slopes in severe climates, or at roof-to-wall intersections that are expected to be oriented into wind-driven rains, it is suggested to specify more than the minimum 3 inch headlap. Three and one-half to 4 inches of step flashing headlap may not be uncommon in severe climates.
2. *Vertical Extension Up Wall:* The step flashing shall extend up the intersecting wall or vertical surface sufficiently to allow the siding, cladding, or metal counterflashing to overlap the step flashing by a minimum of 2 inches. For example, the step flashing shall be extended a minimum of 4 inches up the adjacent wall or vertical surface if the siding, cladding, or metal counterflashing is to be kept 2 inches above the finished roof surface. The extension up the vertical wall is critical so the wall cladding, or siding, may overlap the step flashing by at least 2 inches.
3. *Extension onto Roof:* The step flashing shall extend approximately 4 inches onto the field of the roof, so that each step flashing overlaps the underlying shingle by approximately 4 inches.
4. *Thickness or Gauge of Metal:* The step flashing shall be made from a material and be of sufficient gauge to achieve at least the expected design life of the steep-slope wood roof covering used with it. For curb flashings, a minimum of 24-gauge stainless steel, or another metal compatible with surrounding components that has anticipated design life at least equivalent to the wood shingles being specified.

C. The following procedures shall be used to install step flashing at vertical walls.

1. Extend the underlayment and/or inter-layment felt approximately 3 to 4 inches up the vertical wall.

2. Install the starter course. Butt the starter course that intersects the wall firmly against the wall, and fasten the wood starter material in place.
3. Apply the first piece of metal step flashing over the starter course, so that the step flashing extends approximately 4 inches up the vertical wall. Extend the metal step flashing so that it overlaps the end of the starter course by a minimum of 4 inches. Each step flashing shall be placed just up-slope from the exposed edge of the wood shingle unit that will overlap it. The step flashing is fastened through the flange. Nail the step flashing near the upper corner of the flange.
4. Install the first course of wood roofing, and butt the end of the unit that intersects the wall firmly against the step flashing. Fasten the wood roofing unit in place, and consider moving the nail at the edge of the shingle (that would be driven through the step flashing) over slightly so the metal flange is not punctured by the nail.
5. Install the second step flashing, being sure to overlap the first step flashing a minimum of 3 inches. Fasten this second step flashing through the upper corner.
6. Install the second course of wood roofing, and butt the end of the unit that intersects the wall firmly against the second step flashing. Fasten this second course in the same manner as the first wood roofing course.
7. Install the succeeding step flashing and wood roofing courses in the same manner as the first and second step flashing and roofing courses.
8. The wall's felt or air retarder sheet material and the cladding or siding must be brought down over the upper portion of the step flashings' vertical flange a minimum of 2 inches to serve as counterflashing. The siding shall be held far enough up above the roof surface so that the ends of the siding can be painted or maintained as necessary to prevent dampness from degrading the siding and roofing materials.

3.12 PROJECTION FLASHINGS

A. Soil Stacks/plumbing vents:
   1. Trim or extend vent to a height of 18".
   2. Fabricate sleeve flashing using 24 ga stainless steel.
   3. Flange width shall be eight inches.
   4. Fabricate and install stainless steel cap.
   5. Seal flange to roof underlayment in a uniform application of asphalt mastic.
   6. Form shingles around vent.
   7. Paint metal to match roof (color to be determined by College).

B. Covered vents/attic vents

1. Remove existing vent unit.
2. Install 24 gauge stainless steel vent similar in size and configuration to existing.
3. Set metal flange in a uniform application of asphalt mastic.
4. Nail flange to the deck three inches on center.
5. Form shingles around vent.
6. Paint vent to match roof (color to be determined by College).

C. Projections requiring roof jacks:

1. Remove existing roof jack.
2. Fabricate and install new roof jack using stainless 24 gauge steel.
3. Set metal flange in a uniform application of asphalt mastic.
4. Nail flange to the deck three inches on center.
5. Form shingles around vent.
6. Seal around top of jack using flashing tape.
7. Paint jack to match roof (color to be determined by College).

3.13 ADJUSTING AND CLEANING

A. Repair of deficiencies: Installations of details noted as deficient during Final inspection must be repaired and corrected by applicator, and made ready for reinspection.

B. Clean-up: Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of debris.

C. Aesthetics: Contractor shall coordinate aesthetics with College.

END OF SECTION

SECTION 07 54 00
THERMOPLASTIC MEMBRANE ROOFING

PART 1 – GENERAL

1.01 SCOPE OF WORK UNDER THIS SECTION:

A. Mechanically attach R10 insulation to the wood deck.

B. Adhere ¼" coverboard to the deck as specified.

C. Adhere specified 80 mil fleece backed thermoplastic membrane as specified.

D. Provide all flashing and penetration details in accordance with the detail drawings and manufacturer guidelines as specified in this.

E. Provide College with a five (5) year contractor guarantee as specified.

F. Provide College with a thirty (30) year no-dollar-limit manufacturer warranty covering labor, materials, and metal flashings as specified.

1.02 QUALITY ASSURANCE

A. Contractor shall:

1. Be experienced in single ply roofing.
2. Be certified or approved for the installation of proposed manufacturer's warranted roofing systems.

1.03 SYSTEM REQUIREMENTS

A. Roofing system shall comply with the California Building Code.

B. All materials shall comply with section 5.504 of the California Green Building Standards Code. This requirement shall apply regardless of the products listed in these specifications. It is the responsibility of the contractor and manufacturer to comply with this requirement.

C. FIRE RATING - UL Class A: Proposed roofing system must have approvals from Underwriters Laboratories that indicate that the existing fire ratings attain a UL Class A assembly.

1.04 TECHNICAL SUBMITTALS

A. Submittal requirements: Contractor shall highlight anything in the submittal package that conflicts with or changes specifications or drawings. Include a reason for the change. Any submittals that alter existing specifications or

drawings shall be approved by the engineer and College prior to implementation.

B. The following submittals are to be made in conjunction with any other submittal requirements set forth in the bid documents.

C. The contractor shall submit the following upon request of the College or engineer:

1. Manufacturer specification data sheets. Submit for the following products:
    a. Roof assembly.
    b. Single ply membrane.
    c. Adhesives.
    d. Any other product used on this project.
2. Manufacturer literature describing the installation procedure of the specified system.
3. Shop drawings of any details that may be different than the NRCA standard details included in these specifications. This includes manufacturer detail drawings that may be different than NRCA drawings. All flashing detail designs shall be approved by the College.
4. Material safety data sheets.

1.05 SUBMITTALS OF RFI's (Requests for Information)

A. Refer to Section 3.07 of this specification for explanations of the procedures surrounding flashing design changes.

B. RFI's for design clarifications shall be submitted prior to bid opening. If an RFI for the design of a flashing is submitted after the bid opening, contractor may be liable for compensating the College and engineer for time spent responding.

C. RFI's can only be made after the bid opening if as a result of removing the existing roofing/flashing an unforeseen condition arises that affects the flashing design or the manufacturer required design.

D. It is the responsibility of the contractor to carefully review specifications and drawings prior to bidding. If conflicts are found between drawings and specifications (and between manufacturer requirements), submit an RFI prior to bidding. After the bid opening, it will be assumed that the contractor has reviewed the drawings and specifications and has bid the more stringent requirement. At this point, no change orders will be given for such discrepancies.

1.06 WARRANTY

A. Warranty: The Roofing Manufacturer shall provide a full system no dollar limit (NDL) warranty covering the roofing system against labor and/or material deficiencies for a minimum period of thirty (30) years from the date of acceptance by the College. This shall be a continuous warranty without the need for renewing. Manufacturer may require inspections throughout the warranty period, but any costs associated must be included in this initial contract.

B. Contractor Warranty: Upon project completion and College acceptance, effective upon complete payment, Contractor shall issue College a warranty against defective workmanship and materials for a period of five (5) years. This warranty shall cover all aspects of the project as specified. It shall not be limited to leaks, but include any and all defects that may become apparent during the warranty period.

PART 2 – MATERIALS

2.01 GENERAL:

A. All materials used on this project shall be new products.

B. Any materials that are seconds, out of date, or used, shall be removed from the job site.

C. Single ply membrane shall be white with a Cool Roof and Energy Star rating.

D. FIRE RATING: UL Class A: Proposed roofing system must have approvals from Underwriters Laboratories that indicate that the existing fire ratings attain a UL Class A assembly.

2.02 RELATED MATERIALS:

A. R10 INSULATION – Isocyanurate approved by the roofing manufacturer.

B. COVERBOARD:

1. USG Securerock
2. Densdeck Prime
3. or approved equal.
4. Note: Wood fiber or perlite coverboard is not acceptable for this project even if it is approved by the manufacturer.

C. ADHESIVES: Shall be approved by the membrane manufacturer. Adhesives shall be voc compliant.

D. FASTENERS AND STRESS PLATES: Shall be a non-corrosive type approved by the membrane manufacturer.

E. CAULK: Shall be a high-grade silicone or urethane as recommended by a membrane manufacturer.

2.03 PRE-APPROVED ROOFING SYSTEMS/MANUFACTURERS:

Note: When systems are fully adhered, use fleece backed membrane only. Check with manufacturer for specification/warranty compliance prior to bidding. Some listed manufacturers may not provide the 30 year warranty as specified.

A. PVC Thermoplastic Membrane 80 mils
   1. Sarnafil
   2. Johns Manville
   3. Durolast
   4. Carlisle SynTec Sure-Flex
   5. GAF EverGuard
   6. Soprema Sentinel
   7. Siplast Parasolo

B. TPO Thermoplastic Membrane 80 mils
   1. Firestone UltraPly
   2. Johns Manville
   3. Carlisle SynTec Sure-Weld
   4. GAF EverGuard

PART 3 – EXECUTION

3.01 GENERAL

A. It is the responsibility of the contractor to ensure that all requirements for the specified 30 year NDL warranty are accomplished and included in the bid for this project. No change orders will be approved for non-specified details, techniques, materials or procedures in order to obtain this warranty. If major problems or challenges are noted with regards to these requirements, the contractor shall notify the College prior to the bid opening.

B. When using adhesives for membrane or flashings, contractor shall follow manufacturer's guidelines for installation during particular weather conditions. High humidity and/or low temperatures can adversely affect adhesives, especially low VOC and water based adhesives. Contractor shall take care on a daily basis to ensure that the use of these adhesives is restricted to weather

conditions that are acceptable to the manufacturer.

3.02 SURFACE PREPARATION:

A. Remove designated roof membrane and flashings down to the deck as specified in section 02 41 19.13.

B. Repair or replace damaged wood decking and wood deck components in accordance with section 06 01 00 Rough Carpentry.

C. Ensure that the substrate is dry and free of dirt, debris, and other foreign matter prior to the installation of new materials.

3.03 INSTALLATION OF INSULATION AND COVERBOARD:

A. Mechanically attach the specified insulation and adhere the coverboard filling all voids greater than 1/4" and staggering all joints. If using fasteners, fasten only into upper flutes. (For applications on metal decks). Fastener length should not penetrate down below the lower flutes because conduits are mounted on the underside of the deck.

B. Stagger all joints between layers.

C. Cut insulation to fit snugly around all penetrations. Fill any voids greater than ¼" with like material.

3.04 INSTALLATION OF MEMBRANE:

A. Install perimeter sheets using approved adhesive in accordance with manufacturer's requirements.

B. Follow manufacturer recommendations for the installation of perimeter or membrane venting.

C. Inspect the membrane for factory defects or shipping damage. Defective and/or damaged membrane will be rejected. (Note: No more than ten (10) patches per sheet.)

D. Position field sheets so that side laps are single lapped with the slope and in accordance with the manufacturer's recommendation.

E. Fully adhered membrane: Adhere the membrane using approved adhesive in accordance with the manufacturer's requirements to satisfy specified wind uplift requirements.

F. Prevent wrinkling of membrane as much as possible. (If excessive wrinkling occurs, the Consultant may require the contractor to tack-weld the lap seams and then complete the entire weld.)

G. Set the seam welder to the manufacturer's required setting. Make a test run and check the seam for proper welds. (All test runs shall be performed on a daily basis.

H. Probe seams daily and repair loose edges, fish-mouths, and other defects the same day.

I. Insure that all welding is performed by qualified personnel.

J. The seam welder shall be powered by a dedicated power supply so as to ensure proper, adequate, and uniform voltage for sufficient seaming procedures. Also, the welder shall be equipped with voltage regulator cut-off features such as infrared sensors and other similar devices to insure consistent voltage, thereby reducing the possibility of cold or inadequate welds. The extension cord to welding units from power supply shall not exceed one (1) cord of 100 feet in length.

3.05 FLASHINGS

A. General flashing requirements:

1. Elastomeric Flashing:

a. Adhere elastomeric sheeting completely to flashing surface and roof with Flashing Adhesive. Embed flashing into adhesive immediately.

b. Ensure complete bond and continuity without wrinkles or voids.

c. Any equipment that will not have curb heights of 8” above the final roof surface shall be extended or raised. If the proposed roofing system manufacturer will accept curb heights less than 8”, contractor shall submit request in writing (from manufacturer) to College and engineer to withdraw this requirement. If a particular piece of equipment is impossible or not financially feasible to lift, raise or extend, contractor shall notify the engineer prior to the bid date for direction.

B. Install flashings in accordance with detail drawings and manufacturer guidelines. Details depicted in the drawings shall also conform with manufacturer guidelines. Where conflict exists, the more stringent detail shall govern. If conflict exists between depicted drawings and manufacturer guidelines, the following process shall apply:

1. Manufacturer shall inspect the detail and provide a recommended flashing design to the contractor and engineer.

2. Contractor shall install the flashing only after it has been approved by the engineer and College.

3. There shall be no additional charges for this proposed detail. It is the responsibility of the contractor to ensure that all manufacturer guidelines are

accounted for in the base bid for this project.

C. ANY DETAIL NOT COVERED IN THESE SPECIFICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH GOOD ROOFING PRACTICE, N.R.C.A. RECOMMENDATIONS AND HAVE THE APPROVAL OF THE MANUFACTURER PROVIDING THE WARRANTY FOR THE ROOFING SYSTEM. If a detail is not covered in these specifications the following process will take place prior to bid opening:

1. Contact manufacturer responsible for flashing guarantee. Manufacturer shall inspect the detail and provide a recommended flashing design to the contractor. OR contractor may bid using the approved manufacturer detail.
2. Contractor shall bid using the manufacturer-approved detail.
3. Contractor shall submit detail drawing to College as part of the submittals.
4. No change order will be given to the contractor for flashing details that were visible prior to construction. It is the responsibility of the contractor to cover in his bid all approved and specified details.

D. Hidden Conditions warranting a change in scope of work or change order:

1. A hidden condition is defined as a condition that is revealed when the existing roof or flashing is removed AND that condition requires additional work above and beyond the work specified. For example, damaged substrate that must be replaced.
2. If after removal of the roof or flashing, the substrate differs from that shown on the drawings, it shall not be considered a hidden condition unless it requires a change in scope of work.
3. If nailers are required by the manufacturer, contractor shall install nailers if not present. If nailers are present, contractor may re-use if nailers are approved by the manufacturer.

3.06 AESTHETICS:

A. Contractor shall coordinate aesthetics with College.

B. Any dirt, stains from bitumen materials, or other foreign matter shall be removed from the newly installed membrane to restore the surface to a clean, spot-free, and as-new condition, using methods as recommended by the manufacturer.

3.07 FINAL TESTING, INSPECTION & PUNCHLIST:

A. Contractor shall notify the College when roof is ready for final inspection.

B. College shall coordinate final inspection and provide contractor with punch list.

C. Contractor shall perform punchlist items within seven (7) working days of having

received the final inspection punchlist.

D. College shall coordinate an inspection verifying that all punchlist items have been complete. If punchlist items remain, contractor may be subject to compensating the College for additional final punchlist verification inspections.

END OF SECTION

Section 08 63 00
Domed Curb Mounted Skylights

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Increase existing wood curb heights in order to install the specified skylights. Curb height shall be minimum 10” from the plywood deck level.

B. Installation of aluminum framed double domed curb mounted skylight system.

C. Provide any and every other component of the skylight system required in order to create an acceptable leak tight assembly.

D. Provide OSHA compliant fall protection.

1.02 QUALITY ASSURANCE

A. Provide a skylight and application that is structurally sound, impact resistant and weather tight.

B. Except as otherwise indicated, requirements for aluminum skylights, terminology, tolerances, standards of performance and workmanship are those specified in ANSI/AAMA.

1.04 SUBMITTALS

A. Shop Drawings: Submit scaled shop drawings including all conditions of construction, location diagrams including identification of and spacing of anchorage, framing members, joinery, glazing materials and sealant details.

B. Samples: Submit samples as required by the owner and engineer.

C. Construction guidelines: Submit written construction guidelines from the manufacturer.

D. Sample manufacturer warranty.

1.05 WARRANTY/GUARANTEE

A. Provide contractor guarantee stating that skylight materials for above project will be free from defects and workmanship for a period of five (5) years from date of substantial completion.

B. Provide manufacturer standard warranty.

PART 2 PRODUCTS

2.01 PRE-APPROVED MANUFACTURERS – Contractors shall select appropriate model of skylight from the approved list below.

1. Velux Commercial Skylights
   http://www.Veluxusa.com

2. Skyline Sky-Lites
   2925 Delta Drive
   Colorado Springs, CO 80910
   (866) 625-1330.
   http://www.skylites.com/

2. Royalite Manufacturing, Inc.
   1055 Terminal Way
   San Carlos CA 94070
   650-637-1440
   http://www.royalite-mfg.com/skylites/index.html

3. Bristolite
   401 East Goetz
   Santa Ana CA 92707
   800-854-8618
   www.bristolite.com
   E-mail: sales@bristolite.com

4. Engineer/Owner Approved Equal

B. Skylight profile: Formed acrylic double domed. Curb mounted.

C. Fall protection:

1. Skylights shall receive exterior fall protection screens as provided by the manufacturer or approved third party manufacturer.
2. OR, skylights shall have integrated fall protection.

D. Frame:

1. Extruded aluminum.
2. Vinyl gasket shall be used beneath the glazing forming a watertight seal.
3. Weep holes shall be provided in the frame. Weep holes shall be covered with screen to prevent debris from blowing into the building when the roof is cleaned.

E. Finishes: Dual glazed with a clear or bronze acrylic outer glaze and white or clear cast acrylic inner glazing. A continuous seal shall be used between glazings.

F. FABRICATION - Skylights shall be factory fabricated and assembled at the manufacturer's factory where feasible.

G. WOOD FRAMING FOR CURB: 2X10 Pressure treated Douglas Fir.

PART 3 EXECUTION

3.01 PROTECTION OF INTERIOR

A. Protect interior by covering with light mil plastic.

B. Protect interior floor and stair surfaces with heavy mil plastic.

C. Section off areas below skylight with caution tape.

3.02 SAFETY

A. Follow safety guidelines as published by the owner.

B. Provide as part of the submittal process, a safety plan to be approved by the owner and project engineer.

C. As a part of the scope of work for the project, the Contractor is required to erect a Warning Line System, in strict accordance with OSHA 29 CFR Part 1926.502, whenever personnel are working on a building area which is higher than 8 feet in height off of the existing grade or to the adjacent building area below.

B. As a part of the scope of work for the project, the Contractor is required to provide the proper Personal Fall Arrest System, as outlined in 29 CFR Part 1926.502.d . When personnel are working near roof openings, all personnel shall be properly affix in accordance to the provisions itemized below.

3.03 WOOD CURB INSTALLATION

A. Build rectangular frame dimensioned so as to receive skylights.

B. Attach to plywood deck using Simpson HL 5-3/4" X 5" galvanized heavy angle brackets. Attach brackets with Simpson Strong-Drive SD Connector Screws.

C. Install one bracket per foot, minimum two per side.

3.04 SKYLIGHT INSTALLATION

A. Provide any and every other component of the skylight system required in order to create an acceptable leak tight assembly.

B. After verification of field conditions and properly prepared openings, install skylight system in strict accordance with approved submittal drawing.

C. Skylight system must be installed by a factory authorized and licensed contractor.

D. Protect all dissimilar metals with a heavy coat of zinc chromate or bituminous paint.

E. Install true and plumb without warping or racking.

3.05 CLEANING AND PROTECTION

A. Clean all exposed surfaces and remove labels and excessive silicone from skylight system.

B. Touch up any finish blemish and replace parts that cannot be successfully cleaned or repaired.

END OF SECTION