

PROJECT MANUAL

including Specifications
for construction of:

The COUNTY OF MENDOCINO

CHILD SUPPORT

FLOORING AND IMPROVEMENT PROJECT

107 S. State Street
Ukiah, CA 95470



Prepared by:
FACILITIES & FLEET DIVISION
851 LOW GAP ROAD
UKIAH, CA 95482
Tel: (707) 234-6054

Date of Issue:
MARCH 2, 2021

BID 10-21

SECTION 00500 - AGREEMENT FOR LUMP SUM BID

THIS AGREEMENT, made effective on the day it becomes fully executed by all parties, between the County of Mendocino, hereinafter called COUNTY, and August-Jaye Inc, hereinafter called CONTRACTOR.

COUNTY and CONTRACTOR, for the consideration described below named, agree as follows:

FIRST: CONTRACTOR shall furnish all labor, materials, equipment, mechanical workmanship, transportation, and services required for the installation and completion of the **Child Support Flooring and Improvement Project**, in accordance with the contract documents, including the Addenda thereto, all as adopted by COUNTY.

SECOND: The work under this contract described below shall be completed within sixty (60) days from the date of the "Notice to Proceed".

THIRD: The Contract consists of the following documents, all of which are fully a part hereof as if herein set out in full, whether or not hereto attached:

1. Invitation to Bid
2. Instructions to Bidders
3. Agreement
4. Contractor's Guarantee
5. Close-Out Items including all Warranties
6. Coordination
7. Construction Temporary Facilities
8. Drawings & Specifications
9. General and Technical Conditions of the Specifications
10. All modifications thereof incorporated before execution of the Contract

FOURTH: COUNTY shall pay to CONTRACTOR, if CONTRACTOR is successful bidder, as full consideration for the faithful performance of the Contract the sum of:

Two Hundred Eighty-Eight Thousand Dollars	\$288,000.00
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This sum constitutes the bid for the following project components (referenced hereunder to specifications section). This sum includes the following contingency allowance:

Contingency Allowance-Rot Repair and Unforeseen Conditions.	\$25,000.00
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Payment shall be made each month to CONTRACTOR in accordance with and subject to the provisions embodied in the Documents made a part of this Contract.

IN WITNESS WHEREOF

DEPARTMENT FISCAL REVIEW:

Janelle Raul **04/09/2021**

DEPARTMENT HEAD DATE

Budgeted: ☒ Yes ☐ No

Budget Unit: 1710-CI979

Line Item: 864360

Grant: ☐ Yes ☒ No

Grant No.: _____

CONTRACTOR/COMPANY NAME

By: Eddy Deniz / EDDY DENIZ

Date: 4/2/2021

NAME AND ADDRESS OF CONTRACTOR:

August-Jaye Inc.

PO Box 1425

Rohnert Park, CA. 95472

COUNTY OF MENDOCINO

By: Dan Gjerde
DAN GJERDE, Chair
BOARD OF SUPERVISORS

Date: MAY 05 2021

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement

ATTEST:

CARMEL J. ANGELO, Clerk of said Board

By: Amap
Deputy **MAY 05 2021**

I hereby certify that according to the provisions of Government Code section 25103, delivery of this document has been made.

CARMEL J. ANGELO, Clerk of said Board

By: Amap
Deputy **MAY 05 2021**

COUNTY COUNSEL REVIEW:

APPROVED AS TO FORM:

CHRISTIAN M. CURTIS,
County Counsel

By: Matthew Kiedrowski
Deputy

Date: 04/09/2021

INSURANCE REVIEW:

By: Carmel J. Angelo
Risk Management

04/09/2021
Date: _____

EXECUTIVE OFFICE/FISCAL REVIEW:

By: Janelle Raul
Deputy CEO

04/09/2021
Date: _____

Signatory Authority: \$0-25,000 Department; \$25,001- 50,000 Purchasing Agent; **\$50,001+ Board of Supervisors**

Exception to Bid Process Required/Completed ☐

Mendocino County Business License: Valid ☐

Exempt Pursuant to MCC Section: _____

AGREEMENT FOR LUMP SUM BID

00500 - 2

00005 - TABLE OF CONTENTS

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

00001	Cover Page
00002	Project Directory
00005	Table of Contents
00020	Notice Inviting Bids
00100	Instruction to Bidders
00120	Qualification Application
00306	Antitrust Claim Assignment
00307	Non-Collusion Affidavit
00310	Bid Form
00430	Subcontractor Listing Form
00500	Agreement for Lump Sum Bid
00501	Workers Compensation Certification
00510	Contractor Guarantee
00650	Construction Site Storm Water Policy
00700	General Conditions
00811	Unforeseen Physical Conditions
00851	Drawings Index

DIVISION 1 - GENERAL REQUIREMENTS

01010	Summary of Work
01500	Temporary Facilities and Controls
01640	Product Handling
01700	Contract Closeout
01710	Cleaning

DIVISION 2 - SITE WORK

02080	Construction Waste Management
02820	Asbestos Abatement and Related Work

DIVISION 5 – METALS

05410	Metal Stud Framing
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DIVISION 6 – CARPENTRY

06100	Rough Carpentry
06101	Miscellaneous Carpentry (Underlayment)

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

07900	Sealants
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DIVISION 8 – DOORS AND WINDOWS

08210	Wood Doors
08710	Finish Hardware

DIVISION 9 - FINISHES

09250	Gypsum Board
09600	County Standard Flooring
09900	Painting

DIVISION 16 – ELECTRICAL

16000	Electrical
16700	Telephone and Data Systems

SECTION 00020 - NOTICE INVITING BIDS

Notice is hereby given that sealed bids will be received at the Executive Office, Facilities and Fleet Division, County of Mendocino, 851 Low Gap Road, Ukiah, California 95482 until the hour of 2:00 p.m., as determined by the clock on the wall of the Facilities and Fleet Division Office, County of Mendocino, on WEDNESDAY , MARCH 31, 2021 at 2:00 PM and then publicly opened and read aloud in the Executive Office, Facilities and Fleet Division, County of Mendocino, 851 Low Gap Road, Ukiah, California for the following project:

Mendocino County BID 10-21 Child Support Flooring and Improvement Project

The license required for this Project is a "B" License. Abatement work will require an ASB license which shall be held by the bidder or a listed subcontractor.

Electronic Plans and Documents may be seen or downloaded from the Mendocino County Web Page for Open RFP, Quotes & Bids: <https://www.mendocinocounty.org/government/executive-office/open-rfp-quotes-bids>.

Additionally plans and documents have been distributed to builder's exchange plan rooms throughout Northern California. For printed plans in Mendocino County, electronic copies of the plans and documents have been supplied to:

Creative Workshop
759 S. State St.
Ukiah, CA 95482
707-468-0251

Bids shall be made on a form provided by the County and accompanied by a Certified Check, Cashier's Check, or Bidder's Bond for ten percent (10%) of the amount bid, made payable to the County of Mendocino. The above-mentioned check or Bid Bond shall be given as a guarantee that the Bidder shall execute the contract if it be awarded to it in conformity with the contract documents and shall provide the surety bond or bonds required, sign the contract and commence work as set forth in the Instructions to Bidders of the contract documents.

The successful Bidder will be required to furnish a Labor and Material Bond and a Faithful Performance Bond in an amount equal to one hundred percent (100%) of the contract price. Bonds shall each be obtained from a surety company satisfactory to the County of Mendocino.

Federal Laws, including The Davis-Bacon Act and The Americans with Disabilities Act of 1990, are applicable to the project.

Bidders' attention is called to Instruction to Bidders and other related documents for full directions and information as to bidding and other requirements.

Pursuant to California Public Contract Code Section 22300, the Contractor may substitute securities for any money withheld by the County to insure performance under the Contract. Said securities shall be in a form and of a type acceptable to the County.

A mandatory pre-bid conference and site inspection will be held on TUESDAY, MARCH 16 @ 10:00 AM at the Project site, 107 S State Street, Ukiah, California.

PAYMENT OF PREVAILING WAGES

Pursuant to the provisions of the Labor Code of the State of California, the Department of Industrial Relations has made a determination of the rate of per diem wages to be paid on the prevailing rate of pay for regular, holiday and overtime work in the locality in which the public work is to be performed, for each craft, classification, or type of workman needed to execute the contract. All County of Mendocino projects greater than \$1,000 require that contractors adhere to Prevailing Wage requirements (California Labor Code, Sections 1770 through 1775). The rates can be found online here: <https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

CONTRACTOR REGISTRATION

Per Labor Code Section 1771.1(a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

CERTIFIED PAYROLL RECORDS

Per Labor Code Section 1776 each contractor and subcontractor shall keep accurate payroll records. A certified copy of all payroll records for work performed under this contract shall be furnished upon request to a representative of the awarding body. Per SB 854 contractors and subcontractors are required to furnish certified payroll reports directly to the Department of Industrial Relations.

EMPLOYMENT OF APPRENTICES

Each contractor and subcontractor performing work in an apprenticeable craft or trade shall comply with Section 1777.5 relating to Apprentices on public works projects.

MENDOCINO COUNTY BUSINESS LICENSE

Pursuant to Mendocino County Code Section 6.0 – Business Licenses and Regulations, at the time of contract award, the contractor shall supply a copy of their current County of Mendocino business license.

LAWS AND GOVERNANCES

In the performance of the work contemplated by this contract, the contractor shall conform to and abide by all labor requirements and provisions of State and Federal Laws and City and County

NOTICE INVITING BIDS

00020-2

Ordinances and Regulations which may in any manner affect those engaged or employed on the work project, including but not limited to the overtime provisions of the Labor Code section 1813 and 1815 of the State of California.

END OF SECTION

SECTION 00100 INSTRUCTIONS TO BIDDERS

PART 1 – GENERAL

1.1 BIDS RECEIVED

- A. Sealed bids for **Mendocino County Bid 10-21 Child Support Flooring and Improvement Project** will be received at the Facilities and Fleet Division Office, County of Mendocino, 851 Low Gap Road, Ukiah, California, until 2:00 p.m. as determined by the clock on the wall of the Facilities and Fleet Division Office, on WEDNESDAY, MARCH 31, 2021 at 2:00PM, and then publicly opened and read aloud in the Facilities and Fleet Division Office, County of Mendocino.
- B. Late bids will not be accepted. It is Bidder's responsibility to assure that its bid is delivered and received at the location noted above on or before the date and hour set for the bid opening.

1.2 LICENSE REQUIREMENT

- A. The license required for this Project is a “B” License. Abatement work will require an ASB license which shall be held by the bidder or a listed subcontractor.
- B. Pursuant to Mendocino County Code Section 6.0 – Business Licenses and Regulations, at time of contract award, the contractor shall supply a copy of their current County of Mendocino business license.

1.3 SECURING OF PLANS AND DOCUMENTS

Electronic Plans and Documents may be seen at, or downloaded from the Mendocino County Web Page for Bidding Opportunities – Construction:
<https://www.mendocinocounty.org/government/executive-office/open-rfp-quotes-bids>

Additionally plans and documents have been distributed to builder's exchange plan rooms throughout Northern California. In Mendocino County, printed plans may be obtained from:

Creative Workshop
759 S. State St.
Ukiah, CA 95482
707-468-0251

1.4 BIDS

Bids, to be considered, must be in accordance with the following instructions:

- A. Bids must be submitted on the bid form provided by County, properly and completely filled out with numbers stated both in writing and in figures and with signatures of all persons signing in longhand/cursive.
- B. The completed form shall be without erasures or interlineation and shall not contain recapitulations of the work to be done. Only written proposals will be permitted.
- C. A Bid Bond or Certified Cashier's Check made payable to the County of Mendocino for an amount equal to at least ten percent (10%) of the bid amount shall accompany each bid. Such guaranty to be forfeited should the Bidder to whom the contract is awarded fail to enter into the contract.

1.5 PRE-BID CONFERENCE AND SITE ACCESS

- A. A pre-bid conference will be held, TUESDAY, MARCH 16 @ 10:00 AM at the site, 107 S. State St., Ukiah, California. Following the meeting, a site review will be conducted to acquaint Bidders with the Project.
- B. The County reserves the right to schedule an additional mandatory pre-bid conference to ensure adequate bid representation.
- C. Failure to attend at least one of the pre-bid conferences will disqualify a non-attending bidder from the bid.

1.6 SUBCONTRACTORS LISTED

- A. In accordance with California Public Contract Code Sections 4100 et seq., inclusive, each bidder shall provide a list of subcontractors (Section 00430), giving the name and location of place of business and contractor's license number of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent (0.5%) of the total contract price. In each instance, the nature and portion of the work to be subcontracted shall be described.
- B. Failure of Bidder to specify a subcontractor for any portion of the work in an amount in excess of one-half of one percent (0.5%) of the total contract price constitutes an agreement for Bidder to perform that portion of the work itself. After bids are opened, no subcontractor may be designated or substituted except as provided for in Sections 4107 et seq. of the Public Contract Code.
- C. All Bidders must supply with their Bids the required information on all subcontractors who will perform any portion of the work including labor, rendering of service or specially fabricating and installing a portion of the Work

or improvement according to detailed drawings contained in the plans and specifications, in excess of one-half of one percent (0.5%) of total bid. Violation of this requirement may result in Bid being deemed non-responsive and not being considered.

1.7 AWARD OR REJECTION OF BIDS

The contract shall be awarded to the lowest responsible bidder complying with these instructions, provided the bid is deemed reasonable and in the best interest of the County of Mendocino. County reserves the right to reject any and all bids, and to waive any informality on bids received whenever the rejection or waiver is in the best interest of County. The competency and dependability of the bidders will be considered when making the award.

Additive and Deductive Items: Method of Determining Lowest Bid. Pursuant to Public Contract Code section 20103.8, if this bid solicitation includes additive and/or deductive items, the checked [X] method shall be used to determine the lowest bid: [check one]

X (a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

(b) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Form as being used for the purpose of determining the lowest bid price.

(c) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the County before the first bid is opened.

(d) The lowest bid shall be determined in a manner that prevents any information that would identify any of the bidders or the proposed Subcontractors or suppliers from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

If no method is checked, sub-paragraph (a) shall be used to determine the lowest bid.

Notwithstanding the method used by the County to determine the lowest responsible bidder, the County retains the right to add to or deduct from the contract any of the additive or deductive items included in the bid solicitation.

The award of the contract, if awarded, is expected to be made within thirty (30) days and in no event later than eighty (80) days after the bid opening. After award, County shall

notify the successful Bidder in writing, and forward with the notification original contracts for Bidder's execution. Within eight (8) working days after such notification, the successful Bidder shall return the signed contracts to County, accompanied by all required Surety Bonds, insurance policies and endorsements.

1.8 TIME OF COMPLETION

Bidder agrees to commence work on or before a date to be specified in the written "Notice to Proceed" from County and to fully complete the project within sixty (60) calendar days from date of the written "Notice to Proceed".

1.9 ADDENDUM

Any addendum issued during the time of bidding and before bid opening shall be included in the bid. The addendum issued by County shall become part of the agreement. Questions to be considered for inclusion in an addendum must be in writing and in the hands of County not less than seven (7) days prior to bid opening date.

1.10 INTERPRETATION OF DRAWINGS AND DOCUMENTS

Should a Bidder find discrepancies in, or omissions from, the drawings or documents, or should it be in doubt as to their intent, it should at once notify County, which will then send responsive written instructions in the form of addenda to all Bidders. County will not be responsible for any oral instructions. Any verbal conversations with County during the bidding period are not to be construed as instructions. Any changes in the Contract documents will be issued by written addendum only.

1.11 WITHDRAWAL OF BID

Bids may be withdrawn prior to, but not later than, the time of bid opening.

1.12 BONDS

The successful Bidder is required to furnish a Labor and Material Payment Bond and a Performance Bond each in the amount equal to one hundred percent (100%) of the contract price. In addition, the successful Bidder is required to furnish a Bid Bond or Certified Cashier's Check made payable to the County of Mendocino for an amount equal to at least ten percent (10%) of the bid amount. Said Bonds shall be obtained from a surety company satisfactory to County.

1.13 SUBSTITUTIONS

Any substitution shall be made in accordance with instructions contained in Section 00700 – General Conditions included herein. Questions concerning substitutions will not be entertained during the bidding period.

1.14 LIQUIDATED DAMAGES

In case of failure on the part of Contractor to complete the work within the time stipulated plus any duly authorized extension of time granted in writing by County, Contractor shall pay to County the sum of \$250.00 per calendar day for each day's delay beyond the time prescribed as liquidated damages, but not as a penalty. The language in the paragraph of the General Conditions entitled "Time of Completion and Liquidated Damages" is incorporated herein.

1.15 BIDDER'S QUALIFICATIONS

- A. All Bidders, Contractors and Subcontractors bidding under joint venture agreements shall be duly licensed as provided for under Sections 7000 et seq. of the Business and Professions Code.
- B. A corporation which is awarded the Contract will be required to furnish certification attesting to its corporate existence, as well as evidence that the Officer signing the contract is duly authorized to do so.
- C. Bidders and their subcontractors may be required to furnish evidence satisfactory to County that they have sufficient means and have had experience in the class of work called for to enable them to complete the contract in a satisfactory manner.
- D. No person, firm or corporation shall make or file or be interested in more than one bid for the same work, except insofar as alternate bids may be called for. No person, firm or corporation shall submit a collusive or sham bid or seek directly or indirectly to induce any other bidder to submit a collusive or sham bid or to refrain from submitting a bid or to seek in any way to control or fix the price of the bid or any portion of the bid price in order to secure an advantage against County or any other person interested in the proposed contract. However, a person, firm or corporation submitting a sub-proposal to a bidder or quoting prices on materials to a bidder is not hereby disqualified from submitting sub-proposals or quoting prices to other bidders.
- E. A licensed contractor shall not submit a bid to a public agency unless (1) its contractor's license number appears clearly on the bid, (2) the license expiration date is stated, and (3) the bid contains a statement that the representations made therein are made under penalty of perjury. Any bid not containing this information, or a bid containing information which is subsequently proven false, shall be considered non-responsive and shall be rejected by County.

1.16 EXAMINATION OF SITE AND DOCUMENTS

By submitting a bid, Bidder agrees and warrants that (1) it has examined the site and all documents, drawings and specifications; (2) it is satisfied that the same are adequate to produce the required results; and (3) its bid covers the cost of all items required in the agreement. The work to be performed includes all of the items mentioned in these specifications and/or as shown on the plans and other documents included as a part of the project.

1.17 ENVIRONMENTAL AND PLANNING CONDITIONS OF APPROVAL

Bidder agrees to perform its work in conformance with all environmental and planning conditions of approval applicable to the project. Bidders' attention is directed to specification section 00801 Supplementary General Conditions and the source documents for specific conditions of approval

1.18 AGREEMENT

Contract documents include the Agreement which the successful Bidder, as Contractor, will be required to execute.

1.19 PRE-CONSTRUCTION CONFERENCE

The successful bidder shall be available for a pre-construction conference with County at a mutually convenient time.

1.20 QUALIFICATIONS OF BIDDERS

- A. The work to be performed under this contract is of a very specialized nature. It is the desire of County to secure the best work attainable and to maintain a very critical and condensed schedule. Bidders considered for award will be limited to those firms who can show to the satisfaction of County that they have the facilities and experience necessary to perform the required construction in accordance with specifications proposed for this project. The terms under which bidders will be evaluated and the rules that will be applied are attached to the bid documents herein as Section 00120, "Qualification Application".

END OF SECTION

SECTION 00120 – QUALIFICATION APPLICATION

The information contained in this Application is confidential, and is for the sole use of County in evaluating the qualifications of Bidder. Only the information below ("Contact Information") is considered public information.

CONTACT INFORMATION

Firm Name (as it appears on license): August-Jaye Incorporated

Check one: ☒ Corporation

☐ Partnership

☐ Sole Proprietor

Contact Person: Eddy Deniz

Address: PO Box 1425, Rohnert Park, CA 94927

Phone: 707-766-0927 Fax: (707) 634-1418

If the firm is a sole proprietor or partnership:

Owner(s) of Company: _____

Contractor's License Number(s):

License No.	Classifications	Expiration	Qualifying
<u>Individual</u>			

<u>987876</u>	<u>B</u>	<u>10/31/2021</u>	
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DIR Registration Number: 1000041753

Mendocino County Business License No: Pending - to be issued 4/1/21

QUALIFICATION APPLICATION

00120-1

PART I.

ESSENTIAL REQUIREMENTS FOR QUALIFICATION

The Contractor will be immediately disqualified if the answer to any of questions 1 through 3 is "no".

The Contractor will be immediately disqualified if the answer to any of questions 4 through 7 is "yes"¹.

1. Contractor possesses a valid and current California Contractor's license for the project or projects for which it intends to submit a bid.
☐ Yes ☐ No
2. Contractor has a liability insurance policy with a policy limit of at least one million dollars (\$1,000,000) per occurrence and two million dollars (\$2,000,000) aggregate.
☐ Yes ☐ No
3. Contractor has a current workers' compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code Section 3700 *et seq.*
☐ Yes ☐ No ☐ Contractor is exempt from this requirement because it has no employees
4. Has Contractor's license been revoked at any time in the last five (5) years?
☐ Yes ☐ No
5. Has a surety firm completed a contract on Contractor's behalf, or paid for completion because Contractor's firm was default terminated by the project owner within the last five (5) years?
☐ Yes ☐ No
6. At the time of submitting this qualification form, is Contractor's firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code Section 1777.1 or Labor Code Section 1777.7?
☐ Yes ☐ No

If the answer is "yes", state the beginning and ending dates of the period of debarment:
7. At any time during the last five (5) years, has Contractor's firm, or any of its owners or officers, been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?
☐ Yes ☐ No

¹ A contractor disqualified solely because of a "yes" answer given to questions 4, 5, or 7 may appeal the disqualification and provide an explanation of the relevant circumstances during the appeal procedure.

PART II. ORGANIZATION, HISTORY, ORGANIZATIONAL PERFORMANCE,
COMPLIANCE WITH CIVIL AND CRIMINAL LAWS

A. Current Organization and Structure of the Business

For firms that are corporations:

- 1a. Date incorporated: _____
1b. Under the laws of the State of: _____
1c. Provide all the following information for each person who is either (a) an officer of the corporation (president, vice president, secretary, treasurer), or (b) the owner of at least ten percent (10%) of the corporation's stock:

Name	Position	Years with Co.	% Ownership	Social Security #

For firms that are partnerships:

- 1a. Date of formation: _____
1b. Under the laws of the State of: _____
1c. Provide all of the following information for each partner who owns ten percent (10%) or more of the firm:

Name	Position	Years with Co.	% Ownership	Social Security #

For firms that are sole proprietorships:

- 1a. Date of commencement of business: _____
1b. Social security number of company owner: _____

B. History of the Business and Organizational Performance

2. Has there been any change in ownership of the firm at any time during the last three (3) years?

NOTE: A corporation whose shares are publicly traded is not required to answer this question.

☐ Yes ☐ No

If "yes", explain on a separate signed page.

3. Is the firm a subsidiary, parent, holding company, or affiliate of another construction firm?

NOTE: Include information about other firms if one firm owns fifty percent (50%) or more of another, or if an owner, partner, or officer of Contractor's firm holds a similar position in another firm.

☐ Yes ☐ No

If "yes", explain on a separate signed page.

4. Are any corporate officers, partners, or owners connected to any other construction firms?

NOTE: Include information about other firms if an owner, partner, or officer of Contractor's firm holds a similar position in another firm.

☐ Yes ☐ No

If "yes", explain on a separate signed page.

5. Financial Statements: Does the Contractor have reviewed or audited financial statements for each of the last three years?

☐ Yes ☐ No

6. State Contractor's firm's gross revenues for each of the last three (3) years:

Year	Gross Revenue

7. How many years has Contractor's organization been in business in California as a contractor under its present business name and license number? _____ years.

8. Is Contractor's firm currently the debtor in a bankruptcy case?

☐ Yes ☐ No

If "yes", please attach a copy of the bankruptcy petition, showing the case number, and the date on which the petition was filed.

Disputes

9. At any time in the last five (5) years, has Contractor's firm been assessed and paid liquidated damages after completion of a project under a construction contract with either a public or private owner?

☐ Yes ☐ No

If "yes", explain on a separate signed page, identifying all such projects by owner, owner's address, the date of completion of the project, amount of liquidated damages assessed, and all other information necessary to fully explain the assessment of liquidated damages.

QUALIFICATION APPLICATION

00120-4

10. In the last five (5) years, has Contractor's firm, or any firm with which any of Contractor's company's owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or public works project for any reason?

NOTE: "Associated with" refers to another construction firm in which an owner, partner or officer of Contractor's firm held a similar position.

☐ Yes ☐ No

If "yes", explain on a separate signed page. State whether the firm involved was the firm applying for qualification here or another firm. Identify by name of the company, the name of the person within Contractor's firm who was associated with that company, the year of the event, the owner of the project, the project, and the basis for the action.

11. In the last five (5) years, has Contractor's firm been denied an award of a public works contract based on a finding by a public agency that Contractor's company was not a responsible bidder?

☐ Yes ☐ No

If "yes", explain on a separate signed page. Identify the year of the event, the owner, the project, and the basis for the finding by the public agency.

NOTE: The following two questions refer only to disputes between Contractor's firm and the owner of a project. Contractor need not include information about disputes between its firm and a supplier, another contractor, or subcontractor. Contractor need not include information about "pass-through" disputes in which the actual dispute is between a subcontractor and a project owner. Also, Contractor may omit reference to all disputes about amounts less than \$50,000.

12. In the last five (5) years, has any claim *against* Contractor's firm concerning the firm's work on a construction project been *filed in court or arbitration*?

☐ Yes ☐ No

If "yes", on separate signed sheets of paper identify the claim(s) by providing the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed, and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution).

13. In the last five (5) years, has Contractor's firm made any claim against a project owner concerning work on a project or payment for a contract and *filed that claim in court or arbitration*?

☐ Yes ☐ No

If "yes", on separate signed sheets of paper identify the claim by providing the project name, date of the claim, name of the entity (or entities) against whom the claim was filed, a brief description of the nature of the claim, the court in which the case was filed, and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution).

Criminal Matters and Related Civil Suits

QUALIFICATION APPLICATION

00120-5

14. Has Contractor's firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?

☐ Yes ☐ No

If "yes", explain on a separate signed page, including who was involved, the name of the public agency, the date of the investigation and the grounds for the finding.

15. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a crime involving federal, state, or local law related to construction?

☐ Yes ☐ No

If "yes", explain on a separate signed page, including who was involved, the name of the public agency, the date of the conviction and the grounds for the conviction.

16. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?

☐ Yes ☐ No

If "yes", identify on a separate signed page the person(s) convicted, the court (the county if a state court, the district or location if a federal court), the year, and the criminal conduct.

Bonding

17. If Issued a Notice of Award, can the contractor secure payment and performance bonds within ten (10) calendar days?

☐ Yes ☐ No

Name of Bonding Company: _____

Name, Address, Telephone# for Surety Agent: _____

- C. Compliance with Occupational Safety and Health Laws and with Other Labor Legislation Safety

18. Has Cal-OSHA cited and assessed penalties against Contractor's firm for any "serious", "willful", or "repeat" violations of its safety or health regulations in the last five (5) years?

NOTE: If Contractor has filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, Contractor need not include information about it.

☐ Yes ☐ No

If "yes", attach a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was/were issued, and the amount of the penalty paid (if any). If the citation

QUALIFICATION APPLICATION

00120-6

was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.

19. Has the Federal Occupational Safety and Health Administration cited and assessed penalties against Contractor's firm in the last five (5) years?
NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.
☐ Yes ☐ No

If "yes", attach a separate signed page describing each citation.

20. Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either Contractor's firm or the owner of a project contracted to Contractor in the last five (5) years?
NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.
☐ Yes ☐ No

If "yes", attach a separate signed page describing each citation.

21. How often does Contractor require documented safety meetings to be held for construction employees and field supervisors during the course of a project?

22. List Contractor's Experience Modification Rate (EMR) (California's Workers' Compensation insurance) for each of the past three (3) premium years:
NOTE: An Experience Modification Rate is issued to Contractor annually by its workers' compensation insurance carrier.

Current year: _____

Previous year: _____

Year previous to previous year: _____

If Contractor's EMR for any of these three (3) years is or was 1.20 or higher, Contractor may, at its discretion, attach a letter of explanation.

Prevailing Wage and Apprenticeship Compliance Record

23. Provide the name, address and telephone number of the apprenticeship program (approved by the California Apprenticeship Council) from whom Contractor intends to request the dispatch of apprentices to Contractor for use on any public work project for which it is awarded a contract by the County of Mendocino:

QUALIFICATION APPLICATION

00120-7

SECTION 00306 - ANTITRUST CLAIM ASSIGNMENT

Pursuant to California Labor Code Section 7103.5, the following certification is hereby set forth and made a part of these specifications:

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.

SECTION 00307 - NON-COLLUSION AFFIDAVIT

In accordance with California Public Contract Code Section 7106, the following affidavit must be completed by the Bidder:

Non-Collusion Affidavit to be executed by Bidder
and submitted with bid

State of California
County of Mendocino

Eddy Deniz, being first duly sworn,
deposes and says that he or she is President of
August - Tage Incorporated the party making the foregoing bid that the bid
is not made in the interest of, or on behalf of, any undisclosed person, partnership,
company, association, organization, or corporation; that the bid is genuine and not
collusive or sham; that the bidder has not directly or indirectly induced or solicited any
other bidder to put in a false or sham bid, and has not directly or indirectly colluded,
conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that
anyone shall refrain from bidding; that the bidder has not in any manner, directly or
indirectly, sought by agreement, communication, or conference with anyone to fix the bid
price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of
the bid price, or of that of any other bidder, or to secure any advantage against the public
body awarding the contract of anyone interested in the proposed contract; that all
statements contained in the bid are true; and, further, that the bidder has not, directly or
indirectly, submitted his or her bid price or any breakdown thereof, or the contents
thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee
to any corporation, partnership, company association, organization, bid depository, or to
any member or agent thereof to effectuate a collusive or sham bid.

Signature

Eddy Deniz

3/30/21

(see attached notarization)

CALIFORNIA JURAT

GOVERNMENT CODE § 8202

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Sonoma

Subscribed and sworn to (or affirmed) before me on
this 30 day of March, 2021, by
Date Month Year

(1) Eddy Deniz

(and (2) _____),
Name(s) of Signer(s)

proved to me on the basis of satisfactory evidence to
be the person(s) who appeared before me.

Signature [Signature]
Signature of Notary Public



Place Notary Seal and/or Stamp Above

OPTIONAL

Completing this information can deter alteration of the document or
fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

SECTION 00308 – PUBLIC CONTRACT CODE QUESTIONNAIRE

In accordance with California Public Contract Code Section 7106, the following questionnaire must be completed by the Bidder:

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on or completing a federal, state, or local government project because of a violation of law or a safety regulation?

☐ Yes ☒ No

If 'yes', explain the circumstances in the space below.

SECTION 00310 - BID FORM FOR MENDOCINO COUNTY

Date Received 3.31.21
Date Opened 3.31.21
Initials MA

CHILD SUPPORT - FLOORING & IMPROVEMENT PROJECT

TO: Honorable Board of Supervisors

It is understood that this bid is based upon completion of the work within the time of completion requirements contained in the Instructions to Bidders.

It is agreed that this bid may not be withdrawn for a period of eighty (80) days from the opening hereof.

The undersigned has carefully checked all its figures and understands that the County will not be responsible for any error or omissions on the part of the undersigned in making up this bid.

If awarded the Contract, the undersigned agrees to complete the Work sixty days (60) calendar days from the date of Notice to Proceed.

The undersigned, having become completely familiar with all conditions affecting the cost of the work at the place where the work is to be done, and with the drawings, specifications and other contract documents prepared and issued thereof and now on file at the General Services Agency Office, hereby proposes and agrees to perform everything required to be performed, and to provide and furnish any and all required labor, materials, equipment, transportation and services necessary to erect and complete in the best workmanlike manner, all as shown and specified.

The following bid amounts are as defined and clarified in the Bids Required portion of these specifications:

BASE BID:

Two hundred sixty three thousand dollars + no/100 Dollars (\$263,000.00)

CONTINGENCY ALLOWANCE: Rot repair and unforeseen conditions

Twenty-five thousand dollars (\$25,000.00)

TOTAL BID PRICE (Base Bid and Allowance) (\$ 288,000.00)

SALES TAX

All bids shall include required California State Sales Tax, cost of all bonds and insurance as required and all other items of expense incidental to the contract. The County of Mendocino is exempt from Federal Excise Tax.

Name of Organization August-Jaye Incorporated

A licensed Contractor shall not submit a bid to a public agency unless its Contractor's License number appears clearly on the bid, the license expiration date is stated, and the bid contains a statement that the representations made therein are made under penalty of perjury. Any bid not containing this information, or a bid containing information which is subsequently proven false, shall be considered nonresponsive and shall be rejected by the public agency.

Name of Organization August-Jaye Incorporated

Type of Organization Corporation
(Corporation, Partnership, etc.)

Address PO Box 1425 Rohnert Park, CA 95472

Name of State where incorporated California

CONTRACTORS LICENSE NO. 987876 EXPIRATION DATE 10/31/21

☒ Contractor has registered with the State of California's DIR (Department of Industrial Relations) website.

DIR Registration #: 1000041753

☐ Contractor is currently licensed to do business in the County of Mendocino.

Mendocino County Business License #: pending - to be issued 4/1/21

ADDENDA: CONTRACTOR TO ACKNOWLEDGE RECEIPT

I have received the following Addenda pertaining to this project and they have been included as part of my bid.

Numbers: Addendum #: 01

The undersigned hereby certifies under penalty of perjury that this bid is genuine and not collusive, that all the information is correct and that he/she has carefully checked all of the above figures and understands that the County will not be responsible for any errors or omissions on the part of the undersigned on making up this bid.

Signature Eddy Di

Corporate Seal

SECTION 00430 - SUBCONTRACTORS LISTING FORM

CHILDSUPPORT – FLOORING & IMPROVEMENT PROJECT

In accordance with the provisions of Section 4100 *et seq.* of the Public Contract Code of the State of California, each bidder shall list below the name, license number, Department of Industrial Relations (DIR) Registration Number, and location of place of business of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent (0.5%) of the total contract price. In each such instance, the nature and portion of the work to be subcontracted shall be described.

PORTION OF WORK	SUBCONTRACTOR'S NAME	CONTRACT LIC.	LOCATION
		DIR REG #	
Painting	Dunn Right Painting	691040 1000008654	Ukiah, ca
Abatement	CVE	974852 1000001557	Rohnert Park CA
Electric	coastal Mountain Elect.	507105 1000008522	Clearlake CA
Flooring	BT MANCINI	229210 1000002989	SANTA ROSA, CA

August-Laye

SUBCONTRACTOR LISTING FORM

00430-1



**Exchange
Bank**

Santa Rosa, CA | Member FDIC

**CASHIER'S CHECK
RECEIPT**

No. 108000703

DATE: 03/31/2021

CUSTOMER RECEIPT

PAY TO THE COUNTY OF MENDOCINO
ORDER OF

\$30,000.00

NON NEGOTIABLE

Thirty Thousand and 00/100ths Dollars

PURCHASED BY: AUGUST-JAYE INC

Bid Security-
BID 10-21-Child Support Flooring
and Improvements Project

SECTION 00500 - AGREEMENT FOR LUMP SUM BID

THIS AGREEMENT, made effective on the date it becomes fully executed by all parties, between the County of Mendocino, hereinafter called COUNTY, and _____, hereinafter called CONTRACTOR.

COUNTY and CONTRACTOR, for the consideration described below named, agree as follows:

FIRST: CONTRACTOR shall furnish all labor, materials, equipment, mechanical workmanship, transportation, and services required for the installation and completion of the **Child Support Flooring and Improvement Project**, in accordance with the contract documents, including the Addenda thereto, all as adopted by COUNTY.

SECOND: The work under this contract described below shall be completed within sixty (60) days from the date of the "Notice to Proceed".

THIRD: The Contract consists of the following documents, all of which are fully a part hereof as if herein set out in full, whether or not hereto attached:

1. Invitation to Bid
2. Instructions to Bidders
3. Agreement
4. Contractor's Guarantee
5. Close-Out Items including all Warranties
6. Coordination
7. Construction Temporary Facilities
8. Drawings & Specifications
9. General and Technical Conditions of the Specifications
10. All modifications thereof incorporated before execution of the Contract

FOURTH: COUNTY shall pay to CONTRACTOR, if CONTRACTOR is successful bidder, as full consideration for the faithful performance of the Contract the sum of:

_____ \$

This sum constitutes the bid for the following project components (referenced hereunder to specifications section). This sum includes the following alternate bids:

NO ALTERNATES

Payment shall be made each month to CONTRACTOR in accordance with and subject to the provisions embodied in the Documents made a part of this Contract.

IN WITNESS WHEREOF

DEPARTMENT FISCAL REVIEW:

DEPARTMENT HEAD _____ DATE _____

Budgeted: ☐ Yes ☐ No

Budget Unit: _____

Line Item: _____

Grant: ☐ Yes ☐ No

Grant No.: _____

CONTRACTOR/COMPANY NAME

By: _____

Date: _____

NAME AND ADDRESS OF CONTRACTOR:

COUNTY OF MENDOCINO

By: _____

DAN GJERDE, Chair
BOARD OF SUPERVISORS

Date: _____

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement

ATTEST:

CARMEL J. ANGELO, Clerk of said Board

By: _____

Deputy

I hereby certify that according to the provisions of Government Code section 25103, delivery of this document has been made.

CARMEL J. ANGELO, Clerk of said Board

By: _____

Deputy

COUNTY COUNSEL REVIEW:

APPROVED AS TO FORM:

CHRISTIAN M. CURTIS,
County Counsel

By: _____

Deputy

Date: _____

INSURANCE REVIEW:

By: _____

Risk Management

Date: _____

EXECUTIVE OFFICE/FISCAL REVIEW:

By: _____

Deputy CEO

Date: _____

Signatory Authority: \$0-25,000 Department; \$25,001- 50,000 Purchasing Agent; **\$50,001+ Board of Supervisors**

Exception to Bid Process Required/Completed ☐

Mendocino County Business License: Valid ☐

Exempt Pursuant to MCC Section: _____

AGREEMENT FOR LUMP SUM BID

00500 - 2

SECTION 00501 - WORKERS' COMPENSATION CERTIFICATION

Pursuant to California Labor Code Section 1861, the Contractor hereby certifies the following:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Dated _____

Contractor Signature _____

SECTION 00510 - CONTRACTOR GUARANTEE

FOR CHILD SUPPORT – FLOORING & IMPROVEMENT PROJECT

Contractor hereby guarantees that the labor and material furnished for this project is in accordance with the drawings and specifications. Contractor agrees to repair or replace any or all of the work, together with any other adjacent work which may be displaced in so doing, that may prove to be defective in its workmanship or material within a period of ONE (1) YEAR from date of acceptance of the above named project by County without any expense whatsoever to County, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of Contractor's failure to comply with the above-mentioned conditions within fifteen (15) calendar days after being notified in writing by County, Contractor authorizes County to proceed to have said defects repaired and made good at Contractor's expense. Contractor shall honor and pay the costs and charges therefore upon demand.

SIGNED _____

COUNTERSIGNED _____

CONTRACTOR _____

DATED _____

DATE OF BUILDING ACCEPTANCE _____

SECTION 00650 - CONSTRUCTION SITE STORM WATER POLICY

PART I – GENERAL

1.1 SUMMARY

- A. Mendocino County Ordinance No. 4313 STORM WATER RUNOFF POLLUTION PREVENTION PROCEDURE (Mendocino County Code Chapter 16.30 et.seq.) requires any person performing construction and grading work anywhere in the county shall implement appropriate Best Management Practices (BMP) to prevent the discharge of construction waste, debris, sediment or contaminants from construction materials, tools and equipment from entering the storm drainage system or natural waterways (off-site).
- B. By commencing work in this contract, the contractor agrees to comply with Mendocino County Code Section 16.30.140 Inspection and monitoring. The County may enter the worksite whenever necessary to perform inspections related to the Storm Water Runoff Pollution Prevention Procedures for the project including inspection of BMP's and records relating to storm water plan compliance.

1.2 SUBMITTALS

- A. Prior to beginning construction activities, submit construction site Best Management Practice (BMP) Plans and Specifications prepared by a Qualified Storm Water Developer (QSD) or the Contractor referencing Mendocino County Building and Planning Services Documents noted below:
 - 1. Construction Best Management Practices for over-the-counter building permits for projects that do not disturb any soil.
 - 2. Small Construction Site Storm Water Erosion and Sediment Control Plan Template for projects that will disturb any soil.
- B. Submittal shall include a project specific BMP plan for all areas of soil disturbance and possible contamination source generated by the project. Attach copies of the relevant current BMP fact sheets from the California Storm Water BMP Handbook Portal planned to address each potential source of contamination generated by the project.
- C. A County approved BMP plan is required prior to beginning work on the project.

Part 2 – PRODUCTS

2.1 MATERIALS

- A. Provide Materials in Compliance with Approve BMP fact sheets in appropriate quantities to mitigate possible runoff, sedimentation and/or contamination in accordance with the approved BMP plan.

Part 3 – EXECUTION

3.1 PREPARATION

- A. Prepare BMP schedule to identify dates when BMP's will be installed.
- B. Ensure that BMP Materials are on site in the event of an untimely rain event and prior to October 15th.
- C. Identify and mark Storm Drain Inlets and drainage features leading to storm drains or natural waterways.
- D. Identify and provide instruction and training to on site personnel responsible for installation and management of BMP's.

3.2 INSTALLATION

- A. Complete BMP installation Prior to October 1st or prior to ground disturbance activities between October 1st and April 15th, and call the project manager for an inspection of the installed BMP plan. Do not start grading activities without BMP's in place.
- B. Comply with installation guidelines included with BMP fact sheets and suitable to site conditions.
- C. Remove Contamination and Sediment BMP's after sources of sedimentation, or contamination have been removed from the site or final soil stabilization is complete. Do not remove Erosion Control BMP's until permanent Erosion Control features are established unless directed by the County.

3.3 INSPECTION

- A. It is the responsibility of the Contractor to provide regular inspection of BMP's throughout the rainy season. Maintain and replace all BMP's in accordance with the approve BMP plan.
- B. Prior to significant rain events, inspect installed BMP's to ensure all potential sources of contamination, sedimentation or erosion are protected by approved BMP's.
- C. During significant rain events verify that installed BMP's are adequate to the flows on the project site.
- D. Record inspection findings as required by approved BMP plan.
- E. Maintain Inspection records and a copy of the approved BMP plan on the project site for inspection by County and NCWRCB.

- F. Failure of the Contractor to comply with the requirements of these specifications and the provisions of the approved Storm Water pollution Prevention Plan or BMP plan may result in work stoppage, a written citation, monetary fine or any combination thereof.

END OF SECTION

SECTION 007000 - GENERAL CONDITIONS

1. DEFINITIONS

Whenever in the Specifications and other Contract Documents the following abbreviations and terms are used, the intent and meaning shall be interpreted as follows:

- A. "Owner" - Board of Supervisors, County of Mendocino, or its authorized agents or assignees.
- B. "Agent" - The Agent acting for the County, which shall be either the County General Services Agency Director or his/her designee, or the County Executive Officer or his/her designee.
- C. "Contractor" - The person or persons, partnership, corporation, or combination thereof, private or municipal, who have entered into a contract with the County, as party or parties of the second part or his/her or their legal representatives.
- D. "Specifications" - The directions, provisions and requirements contained in these Specifications as supplemented by the Supplementary Conditions. Whenever the term "These Specifications" is used in this book, it means the provisions as set forth in this book.
- E. "Paragraph" - The particular section of subdivision herein designated by a number.
- F. "Laboratory" - The designated laboratory authorized by the County to test materials and work involved in the Contract.
- G. In the case of conflict between the Standard Specification and these Specifications, these Specifications shall take precedence over and be used in lieu of such conflicting portions:
 - A.W.S. American Welding Society
 - A.S.T.M. American Society for Testing Materials
 - A.S.A. American Standard Association
 - N.B.F.U. National Board of Fire Underwriters
 - N.B.S. National Bureau of Standards
 - A.S.M.E. American Society of Mechanical Engineers
 - A.R.I. American Refrigeration Institute
 - N.E.M.A. National Electrical Manufacturers Association
 - U.L. Underwriter's Laboratories
 - E.T.L. Electrical Testing Laboratories
 - A.C.I. American Concrete Institute
 - F.A. Federal Specifications
 - A.I.S.C. American Institute of Steel Construction
- H. The County and the Contractor are those named as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and the masculine gender.

- I. When the words "Approved", "Satisfactory", or "Equal", "As Directed", etc. are used, approval by the County is understood.
- J. All Federal, State laws and local laws shall govern the construction of the Contract and all rules, ordinances and requirements of authorized officials shall be complied with.
- K. It is understood that any reference to the Specifications or designation of the American Society for Testing Materials, Federal Specifications or other standard, code, or order, refers to the most recent or latest amended specification or designation.

2. EXAMINATION OF PLANS AND SPECIFICATIONS

The Bidder shall examine carefully the site of the work contemplated and the proposal, plans, specifications, and Contract forms thereof. It will be assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and material to be furnished, and as to the requirements of these Specifications.

3. DRAWINGS AND SPECIFICATIONS

- A. Figured dimensions on the drawings shall govern, but work not dimensioned shall be as directed. Work indicated but not particularly detailed or specified shall be equal to similar parts that are detailed or specified, or as directed. Full-size detailed shall take precedence over scale drawings as to shape and details of construction. It is intended that scale drawings, full-size details and specifications should agree, but should any discrepancy or apparent error occur in plans and specifications or should any work of others affect this work, the Contractor shall notify the County at once; if the Contractor proceeds with the work affected without instruction from the County he shall make good any resultant damage or defect.
- B. All misunderstandings of drawings or specifications shall be clarified by the County, whose decision shall be final.
- C. Any work called for by the drawings and not mentioned in the Specifications, or vice versa, is to be furnished as though fully set forth by both. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, including special construction for any specific brand or shape of material called for even though only briefly mentioned or indicated, shall be furnished and installed fully and completely as a part of the Contract.
- D. Lists, rules and regulations referred to are recognized printed standard and shall be considered as one and a part of these Specifications within the limits specified.
- E. "General Conditions" apply with equal force to all of the work, including extra work authorized.
- F. For convenience, the Technical Specifications are arranged in Divisions and further divided into various sections. It is to be understood, this separation is for convenience of all parties involved and is not to be considered as the limits of the work required of any separate trade.

The terms and conditions of such limitations are wholly between the County and the Contractors during bidding and construction phases; i.e., all work shown, as well as for the proper completion of the project as a whole, shall be coordinated by the Contractor and his Subcontractors during bidding and construction and shall be provided in this Contract.

4. CONDUCT OF WORK

A. The County reserves the right to do other work in connection with the project by contract or otherwise. Contractor shall at all times conduct his work so as to impose no hardship on the County or others engaged in the work. Contractor shall adjust, correct, and coordinate his work with the work of others so that no discrepancies shall result in the whole work.

B. The Contractor shall provide at his own cost and risk all labor, material, water, power tools, machinery, scaffolding, and framework for the execution of the work. Equipment shall be adequate and as approved.

The Contractor shall obtain all necessary measurements from the work and shall check dimensions, levels, and construction and layout and supervise the construction, for correctness of all of which he shall be responsible.

C. Where work of one trade joins or is on other work, there shall be no discrepancy when same is completed. In engaging work with other materials, marring or damaging same shall not be permitted. Should improper work of any trade be covered by another which results in damage or defects, the whole work affected shall be made good without expense to the County.

D. The Contractor must anticipate relation of all parts of the work and at the proper time furnish and set anchorage, blocking or bonding as required. Anchorage and blocking necessary for each trade shall be a part of same, except where stated otherwise.

E. Assistance required by the County in obtaining measurements or information on the work shall be furnished accurately and fully without cost to the County.

5. OWNERSHIP OF DRAWINGS

All plans and specifications shall remain the property of the County and shall be returned to the office of the County Facilities and Fleet Division Manager or shall be accounted for by the Contractor before the final certificate will be issued.

6. PUBLIC AND COUNTY CONVENIENCE AND SAFETY

The Contractor shall furnish, erect, and maintain such fences, barriers, lights and signs as are necessary to give adequate warning to the public at all times and of any dangerous conditions until final acceptance of the work by the County.

7. ACCIDENT PREVENTION

A. It shall be the Contractor's responsibility to keep himself fully informed of all existing and future safety regulations, Codes, OSHA requirements, and other laws and regulations

GENERAL CONDITIONS

00700-3

governing the work which may in any manner affect anyone in and around the project or engaged or employed in the work, or materials, equipment, etc. used in the work or which in any way affect the conduct of the work.

- B. The Contractor shall appoint a Safety Officer for the project and submit his name to the County.
- C. The Contractor shall supply the County with a Material Safety Data Sheet (MSDS) on each hazardous substance to be used by the Contractor on the project.
- D. The Contractor and his Safety Officer shall be solely responsible for insuring compliance with those Codes, regulations, OSHA requirements, and for discovering and correcting any code violations or unsafe conditions.
- E. Reports of all lost-time accidents shall be promptly submitted to the Owner, giving all pertinent information.

8. RESPONSIBILITY FOR DAMAGE

The County shall not be answerable or accountable in any manner for: (1) any loss or damage that may happen to the work or any part thereof, for any loss or damage to any of the materials or other things used or employed in performing the work; (2) injury to or death of any person or persons, either workers or the public; (3) damage to property from any cause which might have been prevented by the Contractor or his workers or anyone employed by him. The Contractor shall be responsible for any liability imposed by law for injuries to or death of any person including, but not limited to, workers and the public or damage to property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before its completion and final acceptance. The Contractor shall indemnify, save harmless and defend the County of Mendocino, its elected or appointed officers, agents, employees or volunteers connected with the work, from all claims or actions for injuries or death of any person, or damage to property, resulting from the Contractor's performance of the Contract. With respect to third party claims against the Contractor, the Contractor waives any and all rights to any type of express or implied indemnity against the County of Mendocino, its elected or appointed officers, agents, employees or volunteers.

In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the County may be retained by the County until disposition has been made of such suits or claims for damages as aforesaid.

9. LAWS TO BE OBSERVED

The Contractor shall keep himself fully informed of all existing and future State, Federal and local laws, codes and regulations which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies and tribunals having any jurisdiction or authority over the same and shall be solely responsible for insuring compliance with those laws, codes and regulations.

A partial, though not necessarily complete listing of laws to be observed by the Contractor is as follows:

GENERAL CONDITIONS

- A. Federal Americans with Disabilities Act of 1990.
- B. Federal Labor Standards Act.
- C. The Anti Kick-Back regulations found in 29 CFR Part 3.
- D. All contract clauses required by 29 CFR 5.5 (a) and (c), 20 U.S.C. 1232b ; 40 U.S. C. 276a, 276c, 327-332; 29 CFR Parts, (926).
- E. Nondiscrimination clause and Certification of Non-Segregated Facilities prescribed by Executive Order No. 11246, September 24, 1965 as amended by Executive Order 11375.
- F. Executive Order No. 11288 of July 7, 1966 (31 FR 9261) "Prevention, Control and Abatement of Water Pollution".
- G. Executive Order 11988, relating to evaluation of flood hazards.
- H. Compliance with all Federal, State and local requirements for handicapped access, fire safety and seismic resistance.

10. BONDS REQUIRED

The successful bidder shall furnish bonds as required in the document entitled "Instructions to Bidders" which is part of these Contract documents.

11. INSURANCE

The Contractor, at his expense, shall secure and maintain at all times during the entire period of performance under this Contract, insurance as set forth below with insurance companies acceptable to the County of Mendocino.

The Contractor shall provide to the County of Mendocino certificates of insurance with endorsements properly executed by an officer or authorized agent of the issuing insurance company evidencing coverage and provisions as stated below:

A. INSURED

Name the County of Mendocino, its elected or appointed officials, employees, agents and volunteers as additional insured with regard to damages and defense of claims arising from: (a) activities performed by or on behalf of the Named Insured, (b) products and completed operations of the Named Insured, (c) Premises owned, leased or used by the Named Insured, or (d) Ownership, operation, maintenance, use, loading or unloading of any vehicle owned, leased, hired or borrowed by the Named Insured, regardless of whether liability is attributable to the Named Insured or a combination of the Named Insured and the County of Mendocino, its elected or appointed officials, employees, agents and volunteers.

B. SEVERABILITY OF INTEREST

Provide that the inclusion of more than one named insured shall not operate to impair the rights of one insured against another insured, and the coverages afforded shall apply as though separate policies had been issued to each insured.

C. CONTRIBUTION NOT REQUIRED

Provide that as respects: (a) work performed by the Named Insured on behalf of the County of Mendocino; or (b) products sold by the Named Insured to the County of Mendocino; or (c) premises leased by the Named Insured from the County of Mendocino; or (d) ownership, operation, maintenance, use, loading or unloading of any vehicle owned, leased, hired or borrowed by the Named Insured, the insurance afforded by this policy shall be primary insurance as respects the County of Mendocino, its elected or appointed officials, employees, agents and volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the County of Mendocino, its elected or appointed officials, employees, agents and volunteers shall be excess of this insurance and shall not contribute with it.

D. COVERAGE BELOW MINIMUM REQUIRED NOTICE

Provide that the limits of insurance afforded by this policy shall not fall below the minimum requirements of the County of Mendocino without notice to the County of Mendocino by certified mail return receipt requested. Such notice shall be addressed to: County of Mendocino, 501 Low Gap Road, Ukiah, Calif. 95482, Attn: Risk Management.

E. CANCELLATION NOTICE

Provide that the insurance afforded by this policy shall not be suspended, voided, canceled, non-renewed or reduced in coverage or in limits except after thirty (30) day's prior written notice, delivered in person or by First Class U.S. Mail, has been given to the County of Mendocino. Such notice shall be addressed to: County of Mendocino, 841 Low Gap Road, Ukiah, Calif. 95482, Attn: Risk Management.

Contractor shall furnish to the County of Mendocino certificate(s) of insurance evidencing Workers Compensation Insurance coverage to cover its employees. The Contractor shall require all subcontractors similarly to provide Workers Compensation Insurance as required by the Labor Code of the State of California for all of the Contractor's and subcontractors' employees.

The Contractor shall not commence work, nor shall he allow his employees or subcontractors or anyone to commence work until all insurance required and provisions contained herein have been submitted to and accepted by the County of Mendocino. Failure to submit proof of insurance as required herein may result in awarding said Contract to another bidder. Failure to comply with the insurance requirements set forth herein shall constitute a material breach of contract and, at County of Mendocino's option, shall subject this Contract to termination.

GENERAL CONDITIONS

00700-6

Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor for liability in excess of such coverage, nor shall it preclude the County of Mendocino from taking such other action as is available to it under any other provisions of this Contract or otherwise in law.

SCOPE OF LIABILITY COVERAGES

Contractor shall furnish to the County of Mendocino certificates of insurance evidencing at the minimum the following:

1. Public Liability-Bodily Injury (not auto) \$500,000 each person; \$1,000,000 each accident,
and
Public Liability-Property Damage (not auto) \$500,000 each occurrence; \$1,000,000 aggregate.

---or---

Combined Single Limit Bodily Injury Liability and Property Damage Liability (not auto) \$1,000,000 each occurrence.

2. Vehicle-Bodily Injury \$500,000 each person, \$1,000,000 each occurrence,
and
Vehicle-Property Damage \$1,000,000 each occurrence.

---or---

Combined Single Limit Vehicle Bodily Injury and Property Damage Liability \$1,000,000 each occurrence.

12. WORKERS COMPENSATION CERTIFICATION

Contractor certifies as follows:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract". (Labor Code Section 1861)

13. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the formal acceptance of the work by the County, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof or to materials or thing employed in doing the work or stored on the site by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, replace, and make good all injuries or damages to any portion of the work occasioned by any of the above caused before final acceptance and shall bear the expense thereof, except such injuries or damages occasioned by acts of the Federal Government or the public enemy. The Contractor's responsibility also extends to adjoining property as related to the construction operation.

GENERAL CONDITIONS

00700-7

14. RESPONSIBILITY OF COUNTY

The County shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these Specifications.

15. COOPERATION BETWEEN CONTRACTORS

Where two or more contractors are employed on related or adjacent work, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to person or property, or for loss caused by failure to furnish the work within the time specified for completion.

Should the Contractor, through acts of neglect on the part of any Contractor, suffer loss or damage to the Work, the Contractor agrees to settle with such other Contractor by agreement. If such other Contractor should file claim against the County on account of alleged damages to be sustained, the County shall notify the Contractor who shall, at his expense, indemnify and save harmless the County against any such claim.

16. SUBCONTRACTING AND ASSIGNMENT

The Contractor shall give his personal attention to the fulfillment of the Contract and shall keep the work under his control. Should the Contractor subcontract any part of his Contract, the Contractor shall be fully responsible to the County for the acts and omissions of his subcontractor and of the persons either directly or indirectly employed by the subcontractor as he is for the acts and omissions of persons directly employed by himself.

No subcontractor will be recognized as such, and all persons engaged in the work on construction shall be considered as employees of the Contractor.

17. PERMITS AND LICENSES

The Contractor shall procure all permits and licenses, pay all charges and fees, and file all notices necessary and incidental to the due and lawful prosecution of the work.

18. PATENTS

The Contractor shall assume all responsibilities arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work.

19. LIENS

Liens shall be enforced as provided by California State Law pertaining to Public Works.

20. CHANGES IN THE WORK

A. The County may order changes in the work, in which event the Contract sum shall be adjusted by one or more, or a combination of, the following methods:

1. Unit bid prices previously approved or as may be agreed upon.

2. An agreed lump sum substantiated by Contractor, itemizing labor, material, equipment, overhead, profit, bond, etc.
3. By ordering Contractor to proceed with work and keep correct account with vouchers the actual cost of:
 - a. Labor, including foreman;
 - b. Materials entering permanently into the work;
 - c. The ownership or rental cost of construction plant and equipment during the time of use on the extra work;
 - d. Power and consumable supplies for the operation of power equipment;
 - e. Insurance;
 - f. Social Security and old age and employment contribution.
- B. To the cost under (2) and (3), there may be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) for the estimated cost of the work. The fee shall be compensation to cover the cost of administrative overhead, and profit.
- C. On changes which involve a credit to the County, no allowances for overhead need be figured.
- D. All such change orders and adjustments shall be in writing. Claims by Contractor for extra cost shall be made in writing before executing the work involved.
- E. All change orders shall be reviewed and approved by the County.

21. COUNTY'S RIGHT TO TERMINATE CONTRACT

If the Contractor should refuse or neglect to properly perform or prosecute the work or if he should substantially violate any provision of the Contract, then the County may, without prejudice to any other right or remedy upon seven (7) days written notice to the Contractor, terminate the services of the Contractor and take possession of the premises, and all materials, tools, and equipment thereon and complete the work. The expense thereof shall be deducted from the balance otherwise due the Contractor. If such expense should exceed such unpaid balance, then the Contractor shall pay the difference to the County.

22. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work is stopped for a period of thirty (30) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the work under a contract with the Contractor, or if the work should be stopped for a period of thirty (30) days by the Contractor because no certificate for payment has issued as provided in Paragraph 25 or because the County has not made payment thereon as provided in Paragraph 25, then the Contractor may, upon seven (7) additional days' written notice to the County, terminate the Contract and recover from the County payment for all work executed and for any proven loss

sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

23. TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. In case all the work called for under the Contract is not completed before or upon the expiration of the time limit as set forth in these specifications, damage will be sustained by the County, and it is impracticable to determine the actual damage which the County will sustain in the event of and by reason of such delay. It is therefore agreed that the Contractor will pay to the County the sum of money per calendar day for each day's delay beyond the time prescribed as required in the document entitled "Instructions to Bidders", which is a part of these Contract Documents. The Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, agrees that the County may deduct the amount thereof from any money due or that may become due the Contractor under the Contract.
- B. In case the work called for under the Contract is not finished and completed in all parts and requirements within the time specified, the County shall have the right to extend the time for completion or not, as may best serve the interest of the County. If the County decides to extend the time limit for the completion of the Contract, the County shall further have the right to charge the Contractor, his heirs, assigns or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual cost of County, including inspections, superintendence, and other overhead expenses directly chargeable to the Contract, and which accrue during the period of such extension. The cost of final inspections shall not be included in such charges.
- C. The Contractor shall not be assessed with liquidated damages nor the cost of County's services and inspection during any delay in the completion of the work caused by acts of God or the public enemy, acts of the County, fire, flood, earthquake, epidemics, quarantine restrictions, strikes, freight embargoes, shortages of materials, labor, fixtures or equipment (provided the Contractor furnishes satisfactory and acceptable proof that he has made diligent attempts to obtain same) and unusually severe weather or delays of subcontractors due to such causes, provided the Contractor shall within ten (10) days from the beginning of such delay notify the County in writing of the delay. County's findings of fact thereon shall be final and conclusive.
- D. The County agrees that changes in work ordered pursuant to Paragraph 20 and extensions of completion time made necessary by reasons thereof, shall in no way release any guarantee given by the Contractor or the Contract let hereunder, nor shall such changes in the work relieve or release the sureties on bonds executed pursuant to these specifications. Sureties shall be deemed to have expressly agreed to any change in the work and to any extension of time made by reason thereof.

24. ACCEPTANCE

- A. The Contract will be accepted as completed only when the whole and entire Contract shall have been completed satisfactorily to the County. In judging the work, no allowance for deviations from the original plans and specifications will be made unless already approved in writing at proper times and in a manner as called for herein.

- B. Should it become necessary to occupy a portion of the work before the Contract is fully completed, such occupancy shall not constitute acceptance.

25. PARTIAL PAYMENTS

Prior to submitting and as a condition of approval of the first progress payment application, the Contractor shall submit a schedule of values acceptable to the County providing a breakdown of the contract value by trade division such that the County can accurately assess the percentage completion of the project.

On the twenty-fifth (25th) day of each month, the Contractor shall submit to the County an application for payment, on a form acceptable to the County, showing an itemized statement for work that has been performed on a percent complete basis based on the previously approved schedule of values. The County within thirty (30) days of receipt of application that meets the County's approval shall issue to the Contractor a certificate for ninety percent (95%) of the amount the County finds due for work that has been performed.

Contractor shall submit certified copy of payroll showing payment of Davis-Bacon Act wages with each request for payment submitted.

26. FINAL PAYMENT

Upon completion of the Contract, the County will cause to be made a final estimate of the amount of work done, and the value of such work. After approval by the County representative, the County shall pay the remainder due on the contract (with the exception of retainage) after deducting there from, all previous payments. All amounts retained (retainage) under the provisions of the Contract shall be due and payable 30 days from the date of acceptance in writing of the completion of Contract and / or Notice of Completion issued by the County representative. All prior partial estimates and payments shall be subject to correction in the final estimate and payments. Payment and the final estimate is due within thirty-five (35) days from the recorded date of the Notice of Completion, provided all as-built drawings, equipment manuals, instructions to the owner and guarantees have been received and accepted by the County.

27. PAYMENT WITHHELD

The County may withhold or, on account of subsequently discovered evidence, may nullify the whole or part of any certificates to such extent as may be necessary to protect the County from (1) defective work not remedied, (2) asserted claims against Contractor, (3) failure of the Contractor to make payments properly to employees or for material or labor, (4) any reasonable doubt that the Contract work can be completed for the balance then unpaid, or (5) damage to another contractor.

28. FAULTY WORK AND MATERIALS

The Contractor shall promptly remove from the premises all materials condemned by the County as failing to conform to the Contract, whether incorporated in the work or not. The Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the County. The Contractor shall bear the expense of making good all work of other contractors destroyed or damaged by such removal.

If the Contractor does not remove such condemned work and materials within reasonable time, fixed by written notice, the County may remove them and may store the materials at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten (10) days thereafter, the County may upon ten (10) days written notice, sell such materials at auction or at private sales and shall account for the net proceeds thereof after deducting all costs and expenses that should have been borne by the Contractor.

29. TEMPORARY SUSPENSION OF WORK

The County shall have the authority to suspend the work wholly or in part, for such period as it may deem necessary, due to unsuitable weather or to such other conditions as are considered unfavorable for the suitable progression of the work, or for such time as it may deem necessary due to the failure of the Contractor to carry out orders given by County, or to perform any provision of the Contract. The Contractor shall immediately obey such order of the County and shall not resume work until ordered in writing by the County.

30. SAMPLES

When requested, the Contractor shall submit for the County's review samples of the various materials, together with the finish thereof, as specified for and intended for use in the work. Samples of bulk materials shall be selected by the lab. All materials and workmanship shall in all respects be equal to the samples so submitted and reviewed. Samples shall be sent or delivered to the County, samples and delivery charges paid by Contractor. Samples will be returned to the Contractor if requested, shipping or delivery charges collect.

31. CLEANING AND REMOVAL OF DEBRIS

The Contractor shall, as directed by the County during the progress of the work or as indicated elsewhere in these documents, remove and properly dispose of dirt and debris and shall keep the premises reasonably clean. Upon completion of the work, the Contractor shall remove all of his equipment and unused materials provided for the work, and shall put the building and appurtenances in a neat and clean condition and shall do all cleaning and washing required by the specifications.

32. OBSTRUCTIONS

The Contractor may be required to work around public utility facilities and other improvements which are to remain in place within the construction area. The Contractor shall be held liable to the owners of such facilities and improvements for any damage or interference with service resulting from the Contractor's operation.

The exact location of underground facilities and improvements within the construction area, whether shown on the drawings or not, shall be ascertained by the Contractor before using equipment that may damage such facilities or interfere with their service.

33. SUPERINTENDENT IN CHARGE

The Contractor shall keep on the work at all times and until the acceptance certificate is issued a competent superintendent or foreman for the purpose of receiving and executing without delay

any orders from County in keeping with the terms of the Contract. This foreman shall have charge of the plans and specifications kept on the job. He shall be instructed to familiarize himself closely with all provisions of the plans and specifications and to follow the same accurately.

34. STORAGE OF MATERIALS AND EQUIPMENT

Materials and equipment shall not be stockpiled or placed outside of the site property lines unless written permission is obtained by the appropriate owner or political subdivision having jurisdiction over the adjacent property, roads, streets, etc.

35. GENERAL GUARANTY

Neither the final payment nor any partial payment, nor partial or entire use of the premises by occupancy by the County shall constitute an acceptance of the work not completed in accordance with the Contract. Final Payment or partial payment or partial or entire use of the premises by occupancy shall not relieve the Contractor of liability with respect to any warranties or responsibilities for faulty materials or workmanship. The Contractor shall remedy any defect in the work and pay for any damage to other work resulting therefrom which shall appear within a period of one (1) year from the date of final acceptance of the work, unless a longer period is specified elsewhere in these specifications. The County shall notify the Contractor of observed defects with reasonable promptness.

36. MATERIALS SUBMITTALS AND SUBSTITUTIONS

Materials and substitutions shall be governed by the relevant sections elsewhere in these documents. If not specified, the following shall govern.

- A. Specific reference to materials, appliances, fixtures and equipment by trade name is intended to be used as standard, but this implies no right on the part of the Contractor to use other materials, fixtures, appliances, equipment, until reviewed by the County.
- B. The County alone shall determine what will be considered as equal, but the burden of proof as to quality, utility and function, etc. shall be upon the Contractor.

If the Contractor desires to substitute any item, he shall in writing state the cost of such item and the original item named in the specifications if requested and shall submit a substitution warranty in the format shown in the specifications.

- C. As soon as practicable and within twenty (20) days after official award of Contract and before any fixtures, materials or equipment are purchased, the Contractor shall submit to the County a complete list of materials, fixtures and equipment giving the manufacturers' names, catalog numbers, etc., and, when requested, the original and substitute item of each article which he proposes to install as a substitution.
- D. Requests for substitution will not be considered after the above period of time unless the item specified is not obtainable or, in the opinion of the County, such substitution would serve the County's interest.

37. CONSTRUCTION, MATERIAL AND LABOR COST SCHEDULES

- A. The successful Contractor shall submit the following schedules to the County within ten (10) days after commencing the work:
1. A construction schedule indicating the start and finish of each phase of the work.
 2. A detailed statement of the cost of material and labor included in the original estimate for each phase of the work so arranged that the value of the work as it progresses may be readily determined.

38. CONFERENCES

At any time during the progress of the work, the County may request the Contractor to attend a conference of any or all of the Contractors engaged on the work, and any notice of such conference shall be duly observed and complied with by the Contractor.

39. INSPECTION AND PAYMENTS - NOT ACCEPTABLE

The fact that the work and materials have been inspected by the County of Mendocino and payments on account have been made does not relieve the Contractor from the responsibility of replacing and making good any defective work or materials that may be discovered within one (1) year from the date of the completion of the work by the Contractor and its acceptance by the County. [Five (5) years for roof.]

40. RETURN OF DRAWINGS AND SPECIFICATIONS

All plans and specifications shall be returned to the Office of the County Director of General Services or shall be accounted for by the Contractor before the final certificate will be issued.

41. ARRANGEMENT OF SPECIFICATION SECTION

- A. For convenience, these specifications are arranged in several sections, but such separation shall not be considered as limiting any work required to a particular trade. The Contractor shall in cooperation with other contractors establish responsibility for any work required by the plans and specifications which may be improperly arranged or not included in the appropriate section.
- B. In areas where one trade meets another for joining, the Contractor is responsible to be certain that all work shown is included in his bid.

42. QUALITY OF MATERIALS AND LABOR

All materials used on this Contract shall be new and the best market quality, unless specified or shown otherwise. All labor used on this Contract shall be competent and skilled for the work. All work executed under this Contract shall be done in the best, most thorough, substantial and workmanlike manner.

All material and labor not meeting these standards shall be removed. The County may refuse to issue any certificate of payment until all defective materials or work have been removed, and other material of proper quality substituted therefor.

43. INCOMPETENT WORKERS

If at any time any foreman or worker who shall be employed by the Contractor shall be declared by the County to be incompetent or unfaithful in executing the work, the Contractor, on receiving written notice, shall forthwith initiate appropriate action to dismiss such person from the work.

44. COUNTY TO DECIDE

All matters of color, texture, design, interpretation of plans and specifications shall be referred by the Contractor to County, whose decision thereon shall be final.

45. CODES

All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal; the Safety Orders of the Division of Industrial Safety; the California Electric Code; the California Building Code; California Mechanical Code; the California Fire and Plumbing Codes; OSHA and other applicable State and local codes and laws. Nothing in these plans or specifications is to be construed to permit work not conforming to these Codes.

46. PAYMENT OF FEDERAL, STATE OR LOCAL TAXES

Any Federal, State or Local tax payable on articles furnished by the Contractor under the Contract shall be included in the Contract price and paid by the Contractor.

47. LIMITATIONS OF HOURS OF WORK

Eight (8) hours labor constitutes a legal day's work. The Contractor shall forfeit as a penalty \$25.00 for each worker employed in the execution of the Contract by the Contractor for each calendar day which such worker is required or permitted to work more than eight (8) hours in one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of the California Labor Code, and in particular Sections 1810 and 1816. Work performed by employees of Contractors in excess of eight (8) hours per day and forty (40) hours during any one (1) week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1 & 1/2) times the basic rate of pay, as provided in Section 1815.]

48. PAYMENT OF NOT LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES

A. The Contractor shall pay his workers on all work included in this Contract not less than the general prevailing rate of per diem wages for legal holiday and overtime work in said locality. Such per diem wages shall not be less than the stipulated rates contained in a schedule thereof which has been ascertained and determined by the State Director of

Industrial Relations to be the general prevailing rate of per diem wages for each craft or type of worker needed to execute this Contract.

- B. The Contractor shall comply with Labor Code Section 1775. In accordance with Section 1775, the Contractor shall forfeit as a penalty twenty-five dollars (\$25.00) for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the Contract in violation of the provisions of the Labor Code in particular Labor Code Sections 1770 and 1780. In addition to said penalty, and pursuant to Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

49. LABOR CODE CLARIFICATION

It is to be understood that references to the California Labor Code shall mean the current Code or as may be amended during the period of the Contract.

50. NOTIFICATION OF READINESS FOR REQUIRED TESTS AND INSPECTIONS

The Contractor shall be responsible to notify all inspectors, testing agencies, and County representatives a minimum of seventy-two (72) hours before required tests and/or inspections.

51. RESPONSIBILITY FOR PROJECT SAFETY AND CONSTRUCTION TECHNIQUES

Specifically omitted from the services of the County are all design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences, or procedures required for the Contractor to perform his work.

Omitted services include, but are not limited to, shoring, scaffolding, underpinning, temporary retainment of excavations and any erection methods and bracing.

52. RECORD DRAWINGS

- A. The Contractor shall furnish one complete set of clean "Record" drawings to the County prior to project acceptance, showing clearly any changes made during construction. Record drawings shall be in accordance with Section 017839 Project Record Documents..
- B. In addition to any changes, all mechanical, electrical and plumbing items concealed in the building and underground, actually installed and routed. Depth below surface to top of underground item shall be indicated.
- C. All underground items shall be dimensioned from permanent reference points in a manner that they can be easily found in the field at a later time.
- D. Each sheet of the "Record" drawings shall be identified with the following label to be signed by the Contractor:

These are record drawings which have been

GENERAL CONDITIONS

00700-16

prepared or supervised by the undersigned.

Contractor

Date

- E. The Contractor is solely responsible for the preparation, completeness, and accuracy of the "Record" drawings. The County and its representatives are not responsible to review the "Record" drawings.

53. OCCUPANCY OR USE BEFORE ACCEPTANCE OF COMPLETION

The County may occupy any building or portion thereof or use any improvement contemplated by the Contract prior to the completion of the entire work. A list of work to be completed and corrected by the Contractor, if any, shall be prepared and agreed to between the County and the Contractor before occupancy or use. Such occupancy or use shall not operate as an acceptance of any part of the work but shall start the guaranty-warranty period on the structure or portion thereof so occupied or improvement of equipment so used, provided, however, that such occupancy shall not start the guaranty-warranty period as to items appearing on the list of work to be completed and corrected. No such occupancy or use shall be deemed to have occurred unless and until the County has given the Contractor formal written notice of intention to so occupy or use, specifying the portion or portions of the structure, improvement or equipment which will be deemed so occupied or used.

54. COMPLIANCE WITH HANDICAPPED ACCESS LAWS

- A. It is the County's intent for all features on these plans and specifications to conform to applicable regulations for the accommodations of physically handicapped persons in buildings and facilities used by the public, whether or not said plans and specifications so conform.
- B. It shall be the responsibility of the manufacturers, suppliers and distributors to insure that all manufactured and fabricated products, devices and items they supply for this project conform to applicable regulations of Title 24 of the California Code of Regulations.
- C. When shop drawings and/or manufacturers product literature, and other matters subject to handicapped regulations are submitted to County, the following shall be provided:
1. Statement that the item shown complies with the handicapped regulations of Title 24 of the California Code of Regulations.
 2. Show all required dimensions, heights, clearances, and locations that must be followed when items are installed on project.

55. CONTRACT AMBIGUITY

This Contract shall be deemed to have been prepared jointly by the parties signing the Contract and if any inconsistencies or ambiguities exist, they shall not be interpreted or construed against any of the parties as the drafter.

56. FAIR EMPLOYMENT PRACTICES/NONDISCRIMINATION

The Contractor shall comply with Federal and State Fair Employment Practices provisions.

The Contractor, in connection with performance of work under this agreement, agrees to comply with the rules and regulations which deal with or relate to nondiscrimination set forth as follows:

- A. During the performance of this Contract, the Contractor and its subcontractors shall not deny the Contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex or age, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, age, or sex. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.
- B. The Contractor shall comply with the provisions of the California Fair Employment and Housing Act (Gov. Code, sections 12900 *et seq.*), the regulations promulgated thereunder (2 Cal. Code of Regulations sections 7285.0 *et seq.*), and Government Code Sections 11135 - 11139.5).
- C. The Contractor shall permit access by representatives of the Department of Fair Employment and Housing and the County upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours notice, to view such of its books, records, accounts, other sources of information and its facilities as said Department or County shall require to ascertain compliance with this clause.
- D. The Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- E. The Contractor shall include the above nondiscrimination and compliance provisions in above subparagraphs A and B in all subcontracts to perform work under the Contract.

END OF SECTION

SECTION 008110 - UNFORESEEN PHYSICAL CONDITIONS

PART I – GENERAL

1.1 SUMMARY

This Section includes special requirements for unforeseen hidden conditions, differing site conditions and underground facilities as required for California Public Works Contracts.

1.2 UNFORESEEN SITE CONDITIONS

A. Pursuant to Section 7104 of the California Public Contract Code, if any of the following conditions, hereinafter called hidden conditions, are encountered at the site, then Contractor shall promptly, before such conditions are disturbed and in no event later than three (3) days after discovery, notify County in writing using the "Hidden Conditions Report" attached to this Document:

1. Material that Contractor believes may be hazardous waste material, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or a Class III disposal site in accordance with provisions of existing law.
2. Subsurface or latent physical conditions at the site or in the building differing materially from those represented in the Contract Documents.
3. Archaeological or historical artifacts or soils conditions identified with such artifacts as noted in the conditions of approval from the California Department of Parks and Recreation CEQA Document No. 11293 – Archaeological Review.
4. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents or conditions that could be observed by examination of the site and the Reference Documents.

B. Conditions that are not unforeseen, hidden, unknown or differing site and building conditions include but are not limited to, the following.

1. All that is indicated in or reasonably interpreted from the Contract Documents.
2. All that is indicated in or reasonably interpreted from the Reference Documents specified in Section 01010, "Summary of Work".
3. All that could be seen on site and that could be observed.
4. Conditions that are materially similar or characteristically the same.
5. Conditions where the location of the building component is in the proximity where indicated in or reasonably interpreted from the Contract Documents or

Reference Documents.

- C. County will promptly investigate the conditions reported which appear to be unforeseen conditions.
1. If County determines that the reported conditions are inherent in work of the character provided for in the Contract Documents or observed by examination of the site and Reference Documents, or that the condition is not hidden, unforeseen or materially different, Contractor shall execute the Work at no additional cost to County.
 2. If County determines that the conditions are hidden or differing conditions and that they will materially cause a decrease or increase in Contractor's cost of any portion of the work, a Contract Modification will be issued for compensation of such portion of the work as provided in the General Conditions.
 3. If County determines that the conditions are hidden or differing conditions and that they will materially affect the performance time, Contractor, upon submitting a written request, will be granted an extension of time subject to the provisions of the General Conditions.
 - a. Time extensions or contract costs will not be granted for delays that could be or could have been avoided by Contractor redirecting his forces and equipment to perform other work on the Contract.
- D. Should Contractor disagree with County's determination, Contractor shall submit a Request for Change (RFC) to County that the condition is not indicated in or reasonably interpreted from the Contract Documents, and that the condition is not similar in character to the material that could have been observed by examination of the site and Reference Drawings, but that the condition is materially different and the condition is unforeseen and unknown.
1. Contractor shall submit proof with written explanation, drawings, photographs, material and labor cost breakdowns, and other relevant data to show the condition.
 2. County will review Contractor's submission and make a determination. Contractor shall not file for claim or RFC before County makes the determination.
 3. In the event of continued disagreement, Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract.
 4. Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of RFC and protests between the contracting parties.

1.3 REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES

UNFORESEEN PHYSICAL CONDITIONS

- A. In accordance with the provisions of Section 4215 of the California Government Code, County will assume the responsibility for the removal, relocation, or protection of existing main or trunk-line utilities located on the site of the Contract work, if such utilities are not identified in the Contract Documents.
- B. Contractor shall immediately notify County and the public utility in writing of such utility facilities it discovers while performing the work which are not identified in the Contract Documents.
 - 1. Contractor shall negotiate with the owner of the utility, who shall have the sole discretion to perform repairs or relocation work or permit Contractor to do such repairs or relocation work at a reasonable price.
- C. Contractor shall not be assessed liquidated damages for delay in Substantial Completion if the delay was caused by such existing utilities in direct conflict with the work and not shown on the Drawings.
- D. Contractor will be compensated under the provisions of General Conditions Section 00700, Article 20 for extra work involving existing utilities not shown on the Drawings or included in the Specifications but in direct physical conflict with Contractor's operations.
 - 1. This extra work shall include the following costs:
 - a. Locating, supporting, working around, and protecting or repairing damage not due to the failure of Contractor to exercise reasonable care.
 - b. Removing and relocating, as directed by County, existing main or trunk line utility facilities located on site but not indicated on the Drawings and Specifications with reasonable accuracy.
 - c. Equipment on the project necessarily idled during such work.
- E. Contractor shall not be entitled to any adjustment in the Contract Sum or Time if the existence of such condition:
 - 1. Could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Contract Documents to be conducted by or for Contractor prior to commencing such work, or
 - 2. Could have been inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the work site.

1.4 WORK STOPPAGES FOR HISTORICAL OR ARCHAEOLOGICAL FINDS

UNFORESEEN PHYSICAL CONDITIONS

00811-3

- A. CONTRACTOR shall not be entitled to any adjustment in the Contract Sum for reasonable accommodations required to comply with the conditions of approval.
- B. Work stoppages required and any special excavation requested by the Archaeological monitor will be compensated under the provisions of article 7 of the General Conditions.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

END OF SECTION

HIDDEN CONDITIONS REPORT (HCR)

Regional Behavioral Health Training Center - Flooring Project

HCR No. _____

Submitted By: _____ Date: _____

Ctr to PM

PM to Arch

Arch to PM

PM to Ctr

Date Sent: _____

Date Received: _____

Type of Conditions Reported:

☐ Site Work

☐ Structural

☐ Architectural

☐ HVAC

☐ Plumbing

☐ Fire Protection

☐ Electrical

☐ Other

Location and Reference to Drawing: _____

Conditions Reported: _____

Investigated By: _____ Firm: _____ Date: _____

☐ Check this box if the hidden condition reported is not hidden. Reply with location(s) where the information can be obtained.

Reply of Findings: _____

By: _____ Firm: _____ Date: _____

The reply is a finding from the investigation. No change in the Contract Sum or Time is authorized. See Specifications Document 00811 for the timeliness of investigation.

00851 - DRAWINGS INDEX

T-1	Title Page and Site Logistics Plan
A-2	Demolition Floor Plan
A-3	Interview Room Plan
A-4	Flooring Plan
A-5	Network Plan
A-6	Interview Room Electrical and Network Plan
A-7	Steel Framing Details

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

- 1.1 REQUIREMENTS of the drawings and general provisions of the Prime Construction Agreement and other sections of Division 1 apply to this section.
- 1.2 THIS SECTION sets forth general project scope, and general provisions regarding work to be performed by the Contractor.
- 1.3 THE WORK OF THIS CONTRACT consists generally of: Hazardous Material abatement, demolition and installation of new partitions and doors, electrical and data wiring, furnishing and installing carpet tile, resilient base and painting for the County of Mendocino Child Support Services – Building 55, located at 107 S. State St., Ukiah, CA 95482.

WORK INCLUDED: Provide all documentation, labor, material, superintendence and administration to complete the work as depicted in the drawings, as described in the project manual or as necessary for a complete and proper installation. Present to the Owner, at the close of construction, signed copies of all required permits indicating successful completion of all permit requirements.

1.4 APPLICABLE CODES AND REGULATIONS:

- A. General Requirements: All materials and workmanship shall comply with the most recent edition of the California Code of Regulations (CCR), Title 24 (California Building Standards Code) with current State and local amendments. CCR, Title 24 consists of the following twelve parts:

- Part 1 - California Building Standards Administrative Code
- Part 2 - California Building Code
- Part 3 - California Electrical Code
- Part 4 - California Mechanical Code
- Part 5 - California Plumbing Code
- Part 6 - California Energy Code
- Part 7 - (No longer published in Title 24. See Title 8, CCR)
- Part 8 - California Historical Building Code
- Part 9 - California Fire Code
- Part 10 - California Existing Building Code
- Part 11 - California Green Building Standards Code (CALGreen)
- Part 12 - California Reference Standards Code

- B. Energy Requirements: All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local

amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.

- C. Air Quality Requirements: All materials and workmanship shall comply with all current requirements of the Mendocino County Air Quality Management District. Provide all application materials, fees and documentation necessary to provide required notification and obtain all permits required by the Mendocino County Air Quality Management District. Obtain approval for all operations and present to the Owner, at the close of construction, signed copies of all required permits indicating successful completion of all permit requirements.
- D. Recycling Requirements: This project is subject to the Mendocino County "Construction and Demolition Recycling and Reuse" Ordinance and the Department of Toxic Substances Control "Requirements for Generators of Treated Wood Waste." and the requirements of California Green Building Standards Code (CALGreen).
- E. Other Requirements: All materials and workmanship shall comply with the most recent edition of any other codes or regulations adopted by governmental agencies having jurisdiction over any portion of the work.

1.5 PROJECT DATA:

- A. Construction Type: The proposed facility shall conform to all requirements for Type III-B construction as set forth in the most current edition of the California Building Code in effect at the time of construction with current State and local amendments.
- B. Occupancy Classification: The proposed facility shall conform to all requirements for Group B Occupancy as set forth in the most current edition of the California Building Code in effect at the time of construction with current State and local amendments.

1.6 WORK AREA AND USE OF PREMISES

- A. The contractor shall have controlled access to the site. Contractor shall perform work such that access to the building is not restricted except by prior arrangement with the County. Pedestrian access to the building entrances and adjacent businesses shall be maintained during business hours. Work shall be adequately cordoned off to direct public from the street or parking lot, and direction shall be provided around the work area, to the building entrances.

- B. The Contractor shall use every precaution to insure the protection of and prevent damage to existing facilities on or adjacent to the construction area. Damage to existing facilities due to construction activities shall be repaired by the Contractor at no additional cost to the Owner.
- D. Bidders shall assume that they can use only the area inside of the fenced area for staging, as shown on Sheet E1.1 of the drawings. Maintain the area clean and without damage to the surfaces or adjacent curbs and structures.

1.5 EXAMINATION

- A. General: As stipulated in Document 001000 Instructions to Bidders, Contractor is responsible for inspection of the existing site conditions prior to bidding and shall include in the Contract any modifications of the Contract Documents proposed as a result of Contractor's inspection. Such modifications shall be included in the bid.
- B. Persons performing work shall examine conditions that affect their work and shall report in writing to Contractor, with a copy to County, conditions detrimental to work.
 - 1. Failure to examine and report makes the person responsible, at no increase in the Contract Sum, for corrections necessary for the proper installation of their work.
 - 2. Commencement of Work constitutes acceptance of existing condition.
- C. Field Verification: Contractor shall verify all existing conditions in the field prior to commencing the Work.

1.6 PERMITS FOR WORK

Contractor shall obtain and meet any building permit requirements from the County of Mendocino Building Department. Contractor is responsible for scheduling and passing all required building inspections and securing final acceptance. Building permit fees are waived by the County.

1.7 LISTING OF RELATED WORK

Listings of related work or sections in the various Sections are not necessarily complete listings. They are provided for information and convenience only and are intended to highlight related or similar work which is specified in other Sections. Related work listings and omissions from such listings are not intended

to control Contractor in dividing the work among subcontractors or in establishing the extent of the work to be performed by any trade.

1.8 REQUEST FOR INFORMATION (RFI)

A. Requirement: It is Contractor's responsibility to review Contract Documents in advance of the work to be executed, and to request information so that County will have sufficient time to respond to Requests for Information prior to the start of actual construction of that part of the Work to which the RFI relates. Contractor shall be responsible for all delays, disruptions and other related impacts as a result of untimely RFI's submitted to County.

B. Contractor shall coordinate all requests for information to prevent duplication. Requests for information that are duplicative, uncoordinated with each other, or do not allow for a reasonable time for response will be returned to Contractor.

1. Contractor shall promptly notify County in writing of any discrepancies, and shall not proceed with the Work until such discrepancies have been resolved.
2. Failure to notify County shall not relieve Contractor of its responsibility for resulting damage and/or defect, and for the cost of any corrective work that may be required due to Contractor's failure to notify.

C. Contractor shall prioritize RFI's and request a response based on its most current and accepted CPM schedule.

D. Form:

1. When an interpretation or clarification of the Contract Documents is required from County, Contractor shall make the request on a form acceptable to the County.
2. Contractor shall limit the subject to one design discipline to expedite reply and attach supplementary information where necessary.
3. County will reply or give summary of reply on the same form and include supplementary information where necessary.
4. The completed form shall be the written record of each RFI.

F. Reply:

1. County will endeavor to reply to all RFI's promptly as work schedule of the consultants allows; generally no later than fifteen (15) days from the day received.
2. When an RFI involves a complex subject, extensive research or development, or substantial input from other governmental agency, County will inform Contractor and request additional time to prepare the reply. Contractor shall cooperate and agree to a reasonable time extension.
3. The reply shall be a clarification or an interpretation of the Contract Documents; the reply is not an authorization of change in the Contract Sum or Time.
4. Such written interpretation or clarification will be binding on Contractor and County. If County or Contractor believes that a written interpretation or clarification justifies an adjustment in the Contract Sum or Time, then County or Contractor may make a written request for change therefor as provided in the General Conditions, Article 20.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION (not applicable)

SECTION 01500 - TEMPORARY FACILITIES & CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide temporary facilities and controls needed for the Work including, but not necessarily limited to:
 - 1. Temporary utilities such as water, electricity, lighting and telephone;
 - 3. Sanitary facilities for Contractor's use as required for the work of this contract.
 - 4. Enclosures and temporary protection such as tarpaulins, barricades, and canopies;
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary conditions, and Sections in Division 1 of these Specifications.
 - 2. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safe regulations, such equipment normally furnished by the individual trades in execution of their own portions of the Work are not part of this Section.
 - 3. Permanent installation and hookup of the various utility lines are described in other Sections.

1.2 JOB SAFETY

- A. Comply with all applicable laws and regulations pertaining to job safety, and be solely responsible for construction means, methods, techniques, sequences procedures and safety precautions and programs in connection with the Work. Owner or Architect will not be responsible for Contractor's failure to employ proper safety procedures.
- B. All work, including the temporary construction, shall be in full accord with the latest orders, rules and regulations of the State of California Division of Industrial Safety and the California Occupational Safety and Health Act (CAL-OSHA).
- C. The Contractor shall at all times so conduct his work as to cause the least possible obstruction and inconvenience and insure the protection of persons and property in the vicinity of the Work.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS FACILITIES

TEMPORARY FACILITIES & CONTROLS

01500-1

- A. Construction Aids: Hoists, ramps and ladders, enclosures, pumps, barriers, fences, barricades necessary to adequately move materials and equipment and to protect workmen and public.
- B. All temporary construction to comply with requirements of state and local authorities.

2.2 PROTECTION OF INSTALLED WORK

- A. Protect existing construction and installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work areas to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills and soffits of openings.
- D. Protect existing or new finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit or as directed by the Architect.
- C. Remove temporary above grade or buried utilities, equipment, facilities, materials prior to Substantial Completion inspection.
- E. Clean and repair damage caused by installation or use of temporary work.
- F. Restore existing facilities used during construction to original condition.
Restore permanent facilities used during construction to specified condition.

END OF SECTION

TEMPORARY FACILITIES & CONTROLS

01500-2

SECTION 01640 - PRODUCT HANDLING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Products scheduled for use in the Work by means including, but not necessarily limited to those described in this Section.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE

Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS

Except as otherwise approved by the County, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 PACKING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
 - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
 - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The County may reject as non-complying such material and products that do not bear identification satisfactory to the County as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION

- A. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by Owner.

1.6 REPAIRS AND REPLACEMENTS

- A. In event of damage, promptly make replacements and repair to the approval of the County and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the County to justify an extension of the Contract Time of Completion.

SECTION 01700 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Closeout procedures, Final cleaning, Adjusting, Project record documents, Operation and maintenance data, Warranties, Spare parts and maintenance materials, Summary of closeout submittals to County.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for County's inspection.
- B. Provide submittals to County that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Comply with procedures stated in the Conditions of the Contract Agreement and General Conditions for issuance of Certificate of Substantial Completion.
- E. Should County consider that the Work' is incomplete or defective, he will promptly notify the Contractor in writing, listing the incomplete or defective items. The Contractor shall then take immediate steps to remedy the stated deficiencies, and send a second written certification to County that the Work is complete.
- F. Should County perform reinspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 - 1. Owner will compensate County for such additional services.
 - 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.
- G. When the County finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.
- H. County will issue a final change order reflecting approved adjustments to Contract Sum not previously made by Change Order.

CONTRACT CLOSEOUT

01700-1

1.3 FINAL CLEANING

- A. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- B. Execute final cleaning prior to final inspection.
- C. Clean interior carpeted finished floors of stains and foreign substances, vacuum carpeted and soft surfaces.
- D. Clean walls, windows, and sills affected by the work of the contract to a dust free condition.

1.4 OPERATION AND MAINTENANCE DATA

- A. Compile data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
- B. Submit one copy of completed product data electronically.
- C. Submit one copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned after final inspection, with County comments. Revise content of documents as required prior to final submittal.

1.5 WARRANTIES

- A. Provide two copies.
- B. Submit prior to final Application for Payment.

1.6 FINAL PAYMENT

- A. The 10% retention shall be held by the Owner until Forty (40) days after Final Acceptance. If no liens or encumbrances are filed and if all work is complete, the retention shall be paid the Contractor. Assessed liquidated damages shall be deducted from the retention.
- B. Final payment to the Contractor will not be made until the Owner and County receive a signed-off final copy of the Building Permit, as applicable.

PART 2 PRODUCTS

(Not used)

SECTION 01710 - CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.2 QUALITY ASSURANCE

- A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.
- B. In addition to the standards described in this Section, conduct cleaning and disposal operations to comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.
- B. Provide covered containers for deposit of waste materials, debris and rubbish.
- C. Locate containers for deposit of waste materials, debris and rubbish within the fenced site or as directed by owner.

2.2 COMPATIBILITY

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

- B. Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. General:

1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
2. Do not allow accumulation of scraps, debris, waste material, and other items not required for construction of this Work.
3. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

C. Building:

1. As required preparatory to installation of flooring, clean the building floor to the degree of cleanliness recommended by the flooring manufacturer, using equipment and materials required to achieve the necessary cleanliness.
2. Following the installation of finished floor materials, clean the finish floor.
 - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Construction Manager, may be injurious to the finish floor material.

3.2 DUST CONTROL

- #### A. Establish and enforce strict cleaning and dust control procedures before, during and after installation of health care equipment, as approved by Owner and Construction Manager. This requirement is critical to successful completion of the Work.

3.3 FINAL CLEANING

- A. "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.
- D. Schedule final cleaning as approved by the Construction Manager to enable the Owner to accept a completely clean finished installation.
- E. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of sight exposed surfaces in all construction areas, to verify that the entire Work is clean.

SECTION 02080 - CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Construction waste shall be managed in conformance with the applicable codes and regulations listed below.

1.2 APPLICABLE CODES AND REGULATIONS:

- A. General Requirements: See Specification Section 01010 - Summary of Work.
- B. Recycling Requirements: This project is subject to the Mendocino County "Construction and Demolition Recycling and Reuse" Ordinance and the Department of Toxic Substances Control "Requirements for Generators of Treated Wood Waste."
- C. This project is subject to the requirements of the most recent edition of the California Green Building Standards Code (CALGreen) with current State and Local amendments.

1.3 QUALITY ASSURANCE:

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

PART 2 - PRODUCTS

(No products are required in this Section.)

PART 3 - EXECUTION

3.1 SITE AND SURFACE CONDITIONS

- A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 CONSTRUCTION WASTE MANAGEMENT

- A. By careful study of the Contract Documents, determine the location and extent of construction waste management to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of construction waste management required.
 - 1. Carefully identify limits of selective demolition.
 - 2. Mark interface surfaces as required to enable workmen to identify items to be managed according to the requirements of this section.
- C. Prepare and follow an organized plan for construction waste management.
 - 1. Establish a location on site for construction waste management tasks. Sort waste into required categories and stockpile materials until ready for disposal.
 - 2. Develop an organized plan for construction waste management and fully inform all employees of the requirements and conditions.
 - 3. Use means necessary to prevent dust, airborne debris and waterborne debris from becoming a nuisance to the public, to neighbors, workers and to other work being performed on or near the site.
- D. Disposal of Materials
 - 1. Completely remove items scheduled to be removed from site, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
 - 2. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.

3.3 SUBMITTALS:

- A. Submit construction waste management plan, disposal confirmation and any other required documentation to governmental agencies having jurisdiction and County.

SECTION 02820 – ASBESTOS ABATEMENT & RELATED WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The General Conditions and Division I General Requirements shall be included in and made part of this Section.
- B. Examine all project drawings and documents including other Sections of the Specifications for requirements therein affecting the work of this Section of the Specifications.

1.2 COMPLIANCE AND INTENT

- A. The Contractor is responsible for repair, to the satisfaction of the County, of surfaces not scheduled for asbestos-related work or demolition that become damaged as a result of the work.
- B. Contractor shall coordinate removal with all site requirements related to protection of existing site building and utilities. Water and encapsulants used during the work must not migrate beyond established regulated work area barriers.
- C. This project includes the removal of carpet applied over asbestos-containing mastic on a wood floor at 107 South State Street, Ukiah, CA. The work will be conducted throughout the majority of the first floor. Following removal of the carpet, the asbestos-containing mastic shall be encapsulated with an encapsulant approved by County. It is necessary for the Contractor to coordinate all asbestos-related work with the project drawings and specifications. During all work, provide monitoring and worker protective equipment in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this specification. Where there is conflict, the most stringent requirement shall apply.
- D. The work covered by this specification includes the handling, removal, and proper disposal of ACMs and materials with asbestos content. All asbestos-containing or asbestos-contaminated materials shall be removed and disposed of according to all federal, state, and local regulations. The Contractor shall determine if additional asbestos materials will be impacted by the scope of the work. The cleanup of any incidental asbestos found in areas undergoing work that become separated from the building during the dismantling process are part of the work.
- E. The asbestos workers shall have received Cal-OSHA and Asbestos Hazard Emergency Response Act (AHERA) accredited training and be certified for asbestos abatement work.
- F. Any work that is likely to disturb ACMs remaining in the building must be completed by workers trained at minimum for Class III Asbestos O&M work.
- G. Furnish all labor, materials, facilities, equipment, services, employee training, medical monitoring, permits and agreements necessary to perform the work required for asbestos-related work in accordance with this specification.

- H. Comply with all federal, state, and local regulations pertaining to asbestos removal, storage, transportation and disposal; employee health and safety; Contractor certifications; and all licenses, permits, and training.
- I. Work on the premises shall be confined to areas designated in the Project Documents. Materials and equipment shall be stored within areas designated by the County. Should additional space be required, the Contractor shall request permission for additional space.
- J. Perform all work specified herein with competent persons trained, knowledgeable, and qualified in state-of-the-art techniques relating to asbestos abatement, handling, and the subsequent cleaning of contaminated areas.
- K. During removal activities, the Contractor shall protect against contamination of building finishes, and adjacent building areas. Contractor shall ensure that there is no airborne release of asbestos fibers or visible dusts. The County may collect air samples in the building and in adjacent areas to evaluate the Contractor's performance. Evidence of airborne levels of contaminants above background will require the implementation of additional controls.
- L. It is the Contractor's responsibility to determine the quantities of ACMs that will require removal / encapsulation prior to commencement of the project. The Contractor shall conduct a site visit to determine exact locations of materials included in the scope of work. This section provides appropriate protocols for handling and disposal of ACMs and materials with asbestos content. All ACMs and materials with asbestos content shall be removed according to the requirements outlined in this specification. If additional suspect ACMs are discovered during the work, immediately notify the County.
- M. The work of this section shall be performed by an entity that holds a current, valid C-22 license issued by the California Contractor's State License Board (CSLB) and a current valid Certificate of Registration for Asbestos-Related Work issued by the California Department of Industrial Relations-Division of Occupational Safety and Health (Cal-OSHA), unless other specified. Display copies of CSLB license and Cal-OSHA Registration in a visible place at the job-site.
- N. ACMs and materials with asbestos content removed during the asbestos-related work activities shall be disposed of in an approved manner complying with all applicable federal, state, and local regulations. Appropriate waste manifests or letters of salvage shall be furnished to the County thereby limiting the County's liability for improperly salvaged items. Materials are conveyed to the Contractor "as is," without any warranty, expressed or implied, including but not limited to, any warranty to marketability or fitness for a particular purpose, or any purpose. The County shall approve the asbestos waste disposal site(s) prior to disposal for materials that may be disposed of in that manner.
- O. All interior asbestos-related work shall be conducted using a negative pressure enclosure and two stage decontamination unit, at a minimum. Evidence of the release of asbestos from the containment area will necessitate additional controls.

1.3 DEFINITIONS

The following definitions pertain to work of this section.

1. Abatement: Process of controlling fiber release from ACMs including encapsulation, enclosure, controlled renovation procedures, removal, clean-up and disposal.
2. ACM: Asbestos-containing material
3. Aggressive Sampling: Air sampling either during or following the agitation of the air.
4. AHERA: Asbestos Hazard Emergency Response Act (40 CFR Part 763).
5. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and uncontaminated areas. Typically consists of two curtained or gasketed doorways separated by a distance of at least six feet such that one passes through one doorway into the airlock, allowing the doorway to close off the opening. This airlock must be maintained in uncontaminated condition at all times.
6. Ambient Air Quality: The quality of air (in terms of airborne fiber content) that is present in a given space.
7. Area Monitoring: Sampling of airborne asbestos fiber concentrations within the work area and outside the work area. Sampling shall represent airborne concentrations that may reach the breathing zone.
8. Asbestos Fibers: Refers to asbestos fibers having an aspect ratio of 3:1, and those fibers longer than five (5) microns.
9. Asbestos Permissible Exposure Limit (PEL): A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. This level represents the 8-hour time-weighted average of 0.1 fibers per cubic centimeter of air as measured by Phase Contrast Microscopy (PCM) analytical method.
10. Asbestos-Containing Material (ACM): Those manufactured products and construction materials including structural and mechanical building materials, as well as packings and gaskets that contain more than one percent (1.0%) asbestos by weight.
11. Asbestos: Asbestos includes asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-gunnite (amosite), anthophyllite, tremolite, and actinolite. For the purposes of determining worker respiratory protection, both the asbestiform and non-asbestiform of the above minerals, and any chemically treated or altered materials shall be considered as asbestos.
12. Authorized Visitor: Designated employees or consultants for the County and representatives of any federal, state or local regulatory or other agency having jurisdiction over the project.
13. Baseline: Refers to the background levels of asbestos monitored before abatement.
14. Breathing Zone: A hemisphere forward of the shoulders and head with a radius of approximately six to nine inches.
15. Breach: A rift or gap in the critical or secondary barriers that allow egress of air from the containment to outside, or vice versa.
16. Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in-situ asbestos matrix.
17. Cal-OSHA: State of California, Department of Occupational Safety and Health (DOSH).
18. Chain-of-Custody: A legal concept involving documentation of the physical possession of a sample(s) from the moment it is collected, transported, analyzed, and ultimately stored in an archive.
19. Change Rooms: Refers to the two chambers in the decontamination area used to change into and out of protective clothing.

20. Certified Industrial Hygienist (CIH): A person certified by the American Board of Industrial Hygiene.
21. Clean Room: An uncontaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment.
22. Clearance Level: Clearance level for samples analyzed by PCM will be less than 0.01 fibers per cubic centimeter of air and for TEM will be less than 70 structures per square millimeter ($<70 \text{ s/mm}^2$). Samples may be collected by aggressive or non-aggressive sampling methods and the minimum air volume shall be 1,200 liters.
23. Competent Person: One who is capable of identifying existing and predictable hazards and who has the authority to take prompt corrective measures to eliminate them.
24. County: Mendocino County
25. Critical Barrier: A unit of temporary construction that provides the only separation between asbestos work area and an adjacent potential occupied space. This includes the decontamination unit, perimeter walls, ceilings, penetrations and any temporary critical barriers between the work area and the uncontaminated environment.
26. CSLB: Contractors State Licensing Board
27. Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove contamination upon concluding work activities that result in exposure to these hazardous materials.
28. DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.
29. DOT: Federal Department of Transportation.
30. DOSH: Division of Occupational Safety & Health (see also Cal-OSHA)
31. Decontamination Unit: Refers to system of airlocks used to decontaminate personnel, waste bags, equipment, etc. when exiting the work area. A decontamination unit shall be set up for each containment area.
32. Demolition: The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.
33. Disposal Bag: Minimum six (6) mil thick leak-tight plastic bags used for transporting asbestos waste from a work area to disposal or shipping container. Each disposal bag must have required labels according to Title 8 CCR 1529 (Cal-OSHA asbestos rule), 5194 (HAZCOM). RACM waste must be additionally labeled according to 49 CFR 171-179 (USDOT), and 40 CFR 61 Subpart M (NESHAP). Hazardous waste disposal bags must be labeled with generator's name, address, site location, generator number, and the following information:

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST
RQ WASTE ASBESTOS, 9 NA 2212 PG III
(Class 9 placard)

HAZARDOUS WASTE
STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

- 34. Encapsulant: A liquid material that can be applied to ACMs that controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging) or by penetrating into the material and binding its components together (penetrating encapsulant).
- 35. Encapsulation: A specified procedure necessary to coat ACMs or asbestos contaminated surfaces with an encapsulant to control the possible release of asbestos fibers into the ambient air.
- 36. Enclosure: The construction of an airtight, impermeable, permanent barrier surrounding the ACM to prevent the release of asbestos fibers into the air.
- 37. Environmental Consultant: CIH, Certified Asbestos Consultant (CAC), and/or Certified Site Surveillance Technician (CSST) retained by the County.
- 38. Equipment Decontamination Enclosure System: A decontamination enclosure system for materials and equipment, typically in a designated area of the work area, and including a washroom, a holding area, and an uncontaminated area.
- 39. Equipment Room: A contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment. The equipment room shall be kept clean from asbestos-containing debris at all times.
- 40. Excursion Limit: A California Code of Regulations (Title 8 CCR 1529) requirement that ensures no employee exposed to airborne concentrations of asbestos in excess of 1.0 fibers per cubic centimeter of air as averaged over a sampling period of thirty (30) minutes.
- 41. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
- 42. Fixed Object: A unit of equipment or furniture in the work area that cannot be removed from the work area.
- 43. Friable Asbestos-Containing Material: Material that contains more than 1.0% asbestos by weight, and that can be crumbled, pulverized or reduced to powder by hand pressure when dry.
- 44. Foreman: An individual who typically fulfills the duties of "competent person" as defined by Title 8 CCR 1529. This individual must supply documentation of a passing grade in a Cal-OSHA accredited course in Asbestos Contractor/Supervisor training. The foreman must be on-site during all abatement work.
- 45. Gross or Full Abatement: Designated rooms, spaces, or areas of the project that have been totally sealed, contained in polyethylene, equipped with decontamination enclosure systems, and placed under negative pressure.
- 46. HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.

ASBESTOS ABATEMENT & RELATED WORK

47. Manifest: The document authorized by both Federal and State authorities for tracking the movement of ACMs.
48. Movable Object: A unit of equipment or furniture in the work area that can be removed from the work area.
49. 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.
50. Negative Pressure: Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).
51. NESHAP: National Emission Standard for Hazardous Air Pollutants – EPA Regulation 40 CFR Subpart M, Part 61.
52. NIOSH: National Institute for Occupational Safety and Health: Sets test standards, analytical methods, and certifies performance of various respirator designs (research institute within Federal OSHA).
53. NIST: National Institute of Standards and Technology: Administers the NVLAP Program.
54. NVLAP: National Voluntary Laboratory Accreditation Program – evaluates and certifies laboratories doing PLM and TEM analyses.
55. Passive Sampling: Refers to air sampling with no air agitation.
56. Permissible Exposure Limits (PEL): A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. This level represents the 8-hour time-weighted average of 0.1 fibers per cubic centimeter of air and 30-minute excursion limit of 1.0 fibers per cubic centimeter of air as measured by Phase Contrast Microscopy (PCM) analytical method.
57. Phase Contrast Microscopy (PCM): Technique using a light microscope equipped to provide enhanced contrast between the fibers and the background. Filters are cleared with a chemical solution and viewed through the microscope at a magnification of approximately 400X. This method does not distinguish between fiber types and only counts those fibers longer than 5 microns and wider than approximately 0.25 microns. Because of these limitations, fiber counts by PCM typically provide only an index of the total concentration of airborne asbestos in the environment monitored.
58. Polarized Light Microscopy (PLM): An optical microscope technique used to identify asbestos content and distinguish between different types of asbestos fibers by their shape and unique optical properties.
59. Powered Air Purifying Respirator (PAPR): A full facepiece respirator that has the breathing air powered to the wearer after it has been purified through a filter.
60. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
61. Remodel: Replacement or improvement of an existing building or portion thereof where exposure to airborne asbestos may result. Remodel includes, but is not limited to, installation of materials, demolition, cutting, patching, and removal of building materials.

62. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
63. Shower Room: A room between the clean room and the equipment room in the work decontamination enclosure system. This room contains hot and cold or warm running water and soap suitably arranged for complete showering during decontamination. The shower room comprises an airlock between contaminated and clean areas.
64. Surfactant: A chemical wetting agent added to water to improve penetration, this reducing the quantity of water required for a given operation or area.
65. Transmission Electron Microscopy (TEM): Asbestos structure analysis for a specified volume of air. TEM is a technique that focuses an electron beam onto a thin sample. As the beams transmits through certain areas of the sample, an image resulting from varying densities of the sample is projected onto a fluorescent screen. TEM is the state-of-the-art analytical method for identifying asbestos fibers collected in air samples in non-industrial settings. TEM microscopes equipped with selected area electron diffraction (SAED) capabilities also can provide information on the crystal structure of an individual particle.
66. Visible Emissions: Any emission containing particulate material that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
67. Visual Inspection: A visual inspection by Environmental Consultant, of the work area under adequate lighting to ensure that the work area is free of visible PCB material, debris, and dust.
68. Washroom: A room between the work area and the holding area in the equipment decontamination enclosure system equipped with water for decontamination of equipment and sealed waste containers. The washroom or shower room comprises one airlock.
69. Water Filtration: Refers to water filtration to as small a particulate size as technically feasible, but not more than 5 microns.
70. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, HEPA vacuuming, or other cleaning utensils dampened with amended water and afterward thoroughly decontaminated or disposed of as asbestos contaminated waste.
71. Work Area: The area where asbestos removal is performed and that is defined or isolated to prevent the spread of asbestos fibers, dust or debris, and entry by unauthorized personnel. Work area is a regulated area as defined by Title 8 CCR 1529.

1.4 SCOPE OF WORK

- A. Provide the removal of carpet which is applied over asbestos-containing mastic as specified in this section. Reference all other sections of the Specifications and other sections included in the contract documents for information and requirements that affect the work of this Section. It is not the intent of this project to remove all the asbestos-containing mastic.
- B. Removal of carpeting which is applied over asbestos-containing mastic. During the removal of the carpet, damaged sections of wood subfloor **MAY** be encountered. The work to repair any area(s) found requiring replacement will disturb the ACM. Therefore, workers

that will perform these tasks shall be trained in accordance with Title 8 CCR 1529 for Class II Work. All work shall be conducted in a negative pressure enclosure.

- C. Following removal of the carpet and cleaning of debris from the wood subfloor, the Contractor shall encapsulate the flooring mastic with an approved encapsulant. Followed by the installation of wood subflooring underlayment. The encapsulation shall be conducted in a negative pressure enclosure.
- D. Workers that will perform work that may disturb remaining ACMs such as installation of wood subfloor over asbestos-containing mastic shall be trained in accordance with Title 8 CCR 1529 for Class III Work. This work shall also be conducted in a negative pressure enclosure. Construction work that will create debris during removal of architectural components or attachments to existing finishes with ACM is considered Class III work. Any limited asbestos-related work required to complete required construction must be coordinated with the construction documents.
- E. All workers that contact, but do not disturb, ACM shall be trained at minimum in accordance with Title 8 CCR 1529 for Class IV Work.
- F. Table 1 attached provides the ACMs that will be impacted by this project. The Contractor is responsible for field verifying quantities of these materials and the scope of the asbestos-related work. Coordination and defined areas of asbestos-related work is required where ACMs and materials with asbestos content will remain.
- G. The following materials can be disposed of as Category I Non-friable ACMs if they are not rendered friable during removal: flooring mastic (including carpet and wood subfloor with adhered flooring mastic).

1.5 REFERENCES

The publications listed below form a part of this specification by reference. The publications are referred to in the text by basic designation only. If there is a conflict between any of the listed regulations or standards, then the most stringent or restrictive shall apply.

- A. American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM)
 - 1. ANSI Z9.2, 1979 (R 1991), Fundamentals Governing the Design and Operation of Local Exhaust Systems
 - 2. ANSI Z87.1, 2003, Occupational and Educational Eye and Face Protection
 - 3. ANSI Z88.2 1992, Respiratory Protection
 - 4. ANSI Z89.1, 1986, Requirements for Protective Headgear for Industrial Workers
 - 5. ANSI Z41, 1999, Personal Protection – Protective Footwear
 - 6. ANSI Z88.6, 1984, Respiratory Protection – Respiratory Use Physical Qualifications for Personnel
 - 7. ASTM C 732, 1982 (R 1987) Aging Effects of Artificial Weathering on Latex Sealants
 - 8. ASTM D 522, 1993 (Rev. A) Mandrel Bend Test of Attached Organic Coatings
 - 9. ASTM D 1331, Solutions of Surface-Active Agents

10. ASTM D 2794, 1993 Resistance of Coatings to the Effects of Rapid Deformation (Impact)
 11. ASTM E 84, 1991 (Rev. A) Surface Burning Characteristics of Building Materials
 12. ASTM E 96, 1994 Water Vapor Transmission of Materials
 13. ASTM E 119, 1988 Fire Tests of Building Construction and Materials
 14. ASTM E 736, 1992 Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
 15. ASTM E849, 1986 Safety and Health Requirement Relating to Occupational Exposure to Asbestos
 16. ASTM E 1368, 1990 Visual Inspection of Asbestos Abatement Projects
 17. ASTM E1494, 1992 Specifications for Encapsulants for Friable Asbestos-Containing Building Materials
- B. California Assembly Bills (CAB)
1. CAB 040, Yearly Registration of Contractors
- C. California Code of Regulations (CCR)
1. Title 8 CCR 5208, General Industry - Asbestos
 2. CCR CARS, Carcinogen and Asbestos Registration Sections 340-344.53, 341.6 Amended, and 341.9 Amended Through 341.14
 3. CCR ESO, Electrical Safety Orders, Chapter 4, Subchapter 5
 4. CCR 1523, Illumination
 5. CCR 1529, Asbestos in the Construction Industry
 6. CCR 1531, Construction Respiratory Protective Equipment
 7. CCR 3203, Injury and Illness Prevention Program
 8. CCR 3204, Access to Employee Exposure and Medical Records
 9. CCR 3220, Emergency Action Plan
 10. CCR 3221, Fire Prevention Plan
 11. CCR 5144, Respiratory Protection Equipment Standard
 12. CCR 5194, Hazard Communication Standard
 13. CCR 6003, Accident Prevention Signs
 14. Title 22, Division 4, Minimum Standards for Management of Hazardous and Extremely Hazardous Waste
- D. California Health Services (CHS) Titles 22 and 23, California Administrative Code Disposal Requirements
1. CHS 25123, Section 25123
 2. CHS 25124, Section 25124
 3. CHS 25143, Section 25143
 4. CHS 25163, Section 25163
 5. CHS 66508, Section 66508
 6. CHS 66510, Section 66510
 7. CHS DIV 4, Division 4, Commencing with Section 66000, "Disposal"
- E. California Health and Safety Code (CHSC)
- CHSC 20
1. Division 20, Commencing with Section 24200

- F. California Labor Code (CLC)
 - 1. CLC DIVISION 5, Part 1, commencing with 6300
- G. California Propositions (CP)
 - 1. CP 65, Proposition 65
- H. California State Board of Equalization (CSBE)
 - 1. CSBE ETU, Excise Tax Unit
- I. California State License Board (CSLB)
 - 1. CSLB CBPC, California Business and Professional Code Sections 7058.5 and 7058.7, "Certification"
- J. Code of Federal Regulations (CFR)
 - 1. 29 CFR 1910.134, Respiratory Protection
 - 2. 29 CFR 1910.141, Sanitation
 - 3. 29 CFR 1910.145, Accident Prevention Signs and Tags
 - 4. 29 CFR 1926.21, Safety Training and Education
 - 5. 29 CFR 1926.55, Gases, Vapors, Fumes, Dusts, and Mists
 - 6. 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response
 - 7. 29 CFR 1926.59, Hazard Communication
 - 8. 29CFR 1910.1000, Air Contaminants
 - 9. 29 CFR 1926.1101, Asbestos
 - 10. 40 CFR 61-SUBPART A, General Provisions
 - 11. 40 CFR 61-SUBPART M, National Emission Standard for Asbestos
 - 12. 40 CFR 260, Hazardous Waste Management Systems: General
 - 13. 40 CFR 745, Lead; Requirements for Lead-Based Paint Activities
 - 14. 40 CFR 763, Asbestos Containing Material in Schools
- K. State and Local Regulations
 - 1. Mendocino County Air Quality Management District
- L. Underwriters Laboratories, Inc. (UL)
 - 1. UL 586-96, 1996 Test Performance of High-Efficiency Particulate Air Filter Units

1.6 SUBMITTALS PRIOR TO START OF WORK

- A. The reviews by the County are intended to be only for general conformance with the requirements. The County assumes no responsibility for permits, licenses, notices, materials and methods, equipment or temporary construction required to execute the work described in this Section of the Specification or in other Sections of the Specification or in other documents included in the contract documents.
- B. Before commencing work involving the disturbance of asbestos, submit the following for review by the County:
 - 1. Provide a detailed asbestos work plan that is specific for the materials to be removed / encapsulated.

2. Provide an asbestos site safety plan prior to project initiation. The site safety plan shall deal with the following, at a minimum: site safety and health hazards; fiber release incidents; control of water leakage or discharge within and/or from the work area; medical emergency; asbestos handling procedures; electrical safety; Contractor's internal administrative and inspection procedures; earthquakes and/or fire emergency procedures; protocol for responding to complaints or questions from interested parties; 24-hour emergency telephone numbers for individuals with authority to respond to emergencies.
3. Competent Person (as defined by Title 8 CCR 1529): Demonstrate education and specialized training with successful completion of examination of a Cal-OSHA accredited asbestos training course.
4. Workers: Demonstrate education and specialized training with successful completion of a Cal-OSHA accredited asbestos training course.
5. Submit current certificates (less than 11 months) signed by each employee and trainer that the employee has received proper training in the handling of materials that contain asbestos. Include documentation showing that the worker understands the following; health implications and risks involved (including the illnesses possible from exposure to airborne asbestos fibers), the use and limits of the respiratory equipment to be used, and the results of monitoring of airborne quantities of asbestos concerning health and respiratory equipment.
6. Proof of Respirator Fit Testing: Provide proof of respirator fit testing. Fit testing records must be less than eleven (11) months old and document testing on each type of respiratory protective equipment used for this project. Fit testing records must be signed by the Competent Person.
7. Foreman Training: Submit evidence that the foreman to be used on the job fulfills the qualifications detailed in this specification and has experience in similar jobs.
8. Medical Examinations: Submit evidence signed by a physician that each employee used on the job has received an appropriate medical examination as detailed in Title 8 CCR 1529. The submitted document must be less than eleven (11) months old.
9. Certificates of Compliance: Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2. Submit results of onsite DOP testing of all HEPA-filtered ventilation equipment.
10. Satisfactory proof that written notification and subsequent updates have been provided to the following, as required: Mendocino County Air Quality Management District (Title 40 CFR Part 61 Subparts A&M, National Emission Standards for hazardous Air Pollutant, U.S. EPA as needed for any friable removal) and Cal-OSHA.
11. Licenses: Submit copies of state and local licenses, evidence of Cal-OSHA registration and permits necessary to carry out the work of this contract.
12. Notification of Other Contractors: If other contractors are working at the job site, before beginning any work the Contractor must inform all other contractors in writing regarding the location, nature, and requirements of the work areas.
13. Safety Data Sheets (SDSs)/Specification Sheets: The Contractor shall submit SDSs and Specification Sheets for all chemicals, encapsulants, etc. to be used for this project.

1.7 SUBMITTALS AT THE COMPLETION OF THE PROJECT

ASBESTOS ABATEMENT & RELATED WORK

- A. Upon completion of on-site work, the Contractor shall provide a detailed project summary that will include each of the items listed below. The project summary shall be submitted and approved by the County and shall include the following:
1. Copies of the Security and Safety Logs showing names of persons entering the workspace. The logs shall include date and time of entry and exit, supervisor's record of any accident (detailed description of accident).
 2. Chain of custody documentation and laboratory reports for all analyses performed.
 3. Emergency evacuations and any other safety or health incident.
 4. Submit uniform hazardous and non-hazardous waste manifests prepared, signed and dated by an agent of the landfill. The manifest must certify the amount of asbestos delivered to the landfill. The manifest must be provided to the County within ten working days after delivery.
 5. Personal air sample results.
 6. Pressure differential readings for each differential recording device on the site.
 7. Project Summary:
 - a. Abatement contractor's name and address, certification number (CSLB), registration number (DOSH) and Tax ID number.
 - b. Hazardous waste hauler certifications (DHS, DOT).
 - c. Name, address, and registration number of hazardous waste hauler.
 - d. Laboratory performing analyses (NVLAP).
 - e. Name of project and project reference number.
 - f. Specific inventory (including locations and approximate quantities) of the asbestos materials which were removed or handled.
 - g. Number of employees working on the project.
 - h. Dates of commencement and completion of on-site work.
 - i. Work method(s) employed (i.e., mini-containment, full containment with negative air and decontamination enclosure system, etc.)
 - j. Name, location, telephone number and EPA registration of waste disposal site(s) used.
 - k. DOP testing results.

1.8 CONTRACTOR MONITORING

- A. The County reserves the right to perform air sampling in selected areas during the project. The County representative reserves the right to stop work within an area if while performing monitoring, instances of substantial non-conformance with this Section or other Sections of the Specification presenting health hazards to workers, the general public or the surrounding areas are observed. Work shall not resume until the corrective measures have been enforced. Instances of substantial non-conformance shall include, but not be limited to, the following:
1. Activities or misconduct imperiling worker's safety and health.
 2. Airborne fiber concentrations as measured by PCM outside of the containment area exceeding background or 0.01 fibers per cubic centimeter of air (f/cc) whichever is greater. Airborne concentrations as measured by TEM outside of the containment area exceeding background or 70 asbestos structures per square millimeter (S/mm²), whichever is greater.

3. Loss of negative pressurization for more than two minutes.
 4. Breaches in containment resulting in potential release of asbestos to non-work areas.
- B. The County may perform visual inspections of each regulated area prior to asbestos-related work to verify proper containment and controls. A visual inspection(s) will be performed at the conclusion of the asbestos-related work to verify satisfactory project completion. The consultant may perform air sampling inside and outside the regulated work areas during all phases of the work to verify air quality beyond the work areas during the work and air quality inside the work areas following the asbestos-related work.
- C. The County's designated CAC may perform visual inspections and air testing as requested to verify performance.

PART 2 - PRODUCTS

2.1 SIGNS AND LABELS:

- A. Provide labeling in accordance with state and federal EPA requirements. Provide the required signs, labels, warnings, placards, or posted instructions for containers used to transport hazardous material to the landfill.
- B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos-containing materials, scrap, waste, debris, and other products contaminated with hazardous materials.
- C. Warning Sign Format: Vertical format conforming to Title 8 CCR 1529:

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGED TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORS AND
PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

- D. Warning Label Format: Provide labels that comply with Title 8 CCR 1529 of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST

AVOID CREATING DUST

2.2 ENCAPSULANTS

- A. Encapsulants shall be U.L. Listed, in full-scale E-119 fire test.
- B. Average depth of penetration shall meet manufacturer's recommendations.
- C. Dry mil thickness of bridging encapsulating systems (if used) shall be as indicated in the specific treatment instructions included in this specification, and as recommended by the manufacturer.
- D. Performance Requirements: Classification - penetrating encapsulant; spray applied and brushable. Product shall be tested and listed by EPA and possess the following characteristics:
 - 1. Flame resistance/flame spread ~25 (ASTM E162) V6.
 - 2. Fire classification - UL Class A approved in the specific or similar assembly to its intended application.
 - 3. Product shall be tested and rated non-toxic and non-irritating under the Federal Hazardous Substances Control Act and contain no methylene chloride.
 - 4. Material shall be tinted sufficiently to provide a readable contrast to background color to which it is applied.

2.3 PLASTIC SHEETING:

- A. Use fire-retardant (FR) polyethylene (poly) film.
 - 1. Thickness - 6-mil, minimum, NO EXCEPTIONS.
 - 2. Flame Resistance/Flame Spread Rate <25.
 - 3. Conforms to NFPA #701 and Tested in accordance with ASTM E-84.

2.4 TAPE, ADHESIVE, SEALANTS:

- A. Tape, 2" or wider, shall be capable of sealing joints of adjacent sheet of polyethylene and shall attach polyethylene sheet to finished or unfinished surfaces or similar materials. Tape shall be capable of adhering under dry and wet conditions, including use of amended water. Taping to critical or sensitive surfaces shall be completed using preservation sealing tape.
- B. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds.
- C. Fire resistant sealants shall be compatible with concrete, metals, wood, etc. Sealant shall prevent fire, smoke, water and toxic fumes from penetrating. Sealant shall have a flame spread, smoke and fuel contribution of zero, and shall be ASTM and UL rated for 3 hours for standard method of fire test for fire stop systems.

2.5 DIFFERENTIAL PRESSURE RECORDER(S):

- A. Interior work area containments shall have a minimum differential pressure of 0.025 inches of water gauge at all times. Fluctuations below 0.025 inches of water column are unacceptable and may require temporary cessation of work until conditions are corrected.

- B. Differential pressure recorder(s) shall be used to document the level of pressure difference between the containment space and all other spaces. Defective or non-operating instrumentation may require temporary cessation of work until instrumentation is repaired or replaced.
- C. The differential pressure instrument will be checked a minimum of four times per day by a person familiar with the operation. Each check shall be documented with a time and date notation and the initials of the person performing the check. A copy of the differential pressure recordings shall be submitted daily to the County.
- D. Differential air pressure systems shall be in accordance with Appendix J of EPA's "Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024. The Differential pressure system shall be continuously monitored by the Contractor using a recording instrument. The recording instrument shall be connected to an audible alarm that will activate at a pressure differential of -0.025 inches of the water gauge air pressure.

2.6 VACUUM EQUIPMENT:

- A. All vacuum equipment used in the work area shall use HEPA filtration systems and be of the wet-dry type. The Contractor shall provide on-site independent DOP-equivalent testing to document the effectiveness of the vacuum units. The test results shall be signed by the individual performing the testing. Provide documentation to the County with 5 days of DOP-equivalent testing.

2.7 LOCAL EXHAUST SYSTEM:

- A. Where containments are required, sufficient High Efficiency Particulate Absolute (HEPA) ventilation units shall be used to maintain the negative pressure in each interior work area at 0.025 inches of water column and a minimum of four (4) air changes per hour.
- B. The ventilation system shall remain in operation 24 hours a day until the work area has passed the specified clearance criteria. HEPA filtered air which is exhausted to maintain negative pressure shall be exhausted from the building at locations approved by the County. Exhausted air shall not be near or adjacent to other building intake vents or louvers or at entrances to building.
- C. The Contractor shall provide on-site independent DOP-equivalent testing to document the effectiveness of the air filtration units. The test results shall be signed by the individual performing the testing. Repeat testing if the unit or the air filtration units have been repaired or replaced. Provide documentation to the County within 5 days of DOP-equivalent testing.

2.8 RESERVE EQUIPMENT:

- A. Contractor shall have the following equipment on site: one reserve, functioning and DOP-tested HEPA Filter Vacuum Cleaning Units, three reserve and DOP-tested HEPA area filtration unit. Contractor shall also have sufficient polyethylene (poly), respirators, protective equipment, tape, tools, and decontamination enclosure systems for each work area.

- B. Provide authorized visitors, County, Consultants or other contractors requiring access to the work area with suitable protective clothing, headgear, eye protection, as described in this specification, whenever the visitor must enter the work area. The Contractor shall have available and maintain adequate supplies of protective clothing and other suitable protective equipment for this purpose. All protective equipment shall be new and for the exclusive use of visitors.
- C. The Contractor shall document that each visitor has been trained and fit-tested prior to entering the asbestos work area.

2.9 TRANSPORTATION EQUIPMENT:

- A. Transportation equipment, as required, shall be lockable and suitable for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Any vehicle used to transport asbestos waste shall be properly registered with all applicable controlling agencies.

2.10 CONNECTIONS TO WATER SUPPLY:

- A. Contractor shall assure that all connections to the site's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water shall not damage existing finishes or equipment.
- B. Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system in each work area. Provide fittings as required to allow for connection to existing wall hydrants or spouts.

2.11 OTHER TOOLS AND EQUIPMENT:

- A. The Contractor shall provide other suitable tools for the stripping, removal, and disposal activities.
- B. Prohibited Equipment: The following equipment is prohibited from use on this project unless accepted in writing by the County:
 - 1. High or low-pressure water blasting equipment for hosing of work areas.
 - 2. Bead blasting or other uncontained abrasive blasting methods.
 - 3. Vacuum-powered removal or collection equipment located outside the asbestos work area, such as a "Vacu-Loader".
 - 4. Gasoline, propane, diesel or other fuel powered equipment inside the building, unless previously approved in writing by the County.
 - 5. Equipment that creates excessive noise or vibration that would affect the safety of the building or generate complaints from neighboring building occupants. No equipment shall exceed an A-weighted sound level of 85 dB as measured at 3 ft. from the radiating source without written permission of the County.
 - 6. Metal wire-brushes.

7. Flammable solvents with a flash point below 140 degrees F or materials containing ethylene glycol ether, methylene chloride, ethyl chloroform (1,1,1-trichloroethane), or other hazardous substances.
8. Non-fire retardant polyethylene sheeting.
9. Polyurethane spray foam for application in fire-rated assemblies, including but not limited to penetrations into stairwells, mechanical rooms, electrical closets, rated floor-to-floor assemblies, etc.

PART 3 - EXECUTION

3.1 INITIAL AREA ISOLATION

- A. The County reserves the right to inspect and approve all containment setups before any asbestos-related work is undertaken.
- B. If a containment area is breached (failure of polyethylene seals, visible dust emission, fiber counts above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the County.
- C. If sample results indicate that conditions have exceeded the baseline or clearance criteria, as determined by the County, all work shall cease. Work shall not recommence until the condition(s) causing the increase have been corrected.
- D. Verify that all electrical power, gas, control water, fire life safety lines and sprinkler systems to the work area have been isolated so that there is no possibility of reactivation and electrical shock.
- E. Provide all connections for temporary utilities in the work area needed throughout the asbestos-related work. Temporary electrical power shall be according to OSHA and the National Electrical Code for Wet Environments.
- F. Contractor shall conform to lockout requirements and secure the work area at all times. Area entrances and exits shall be secured by the Contractor throughout the work. Unauthorized visitors are strictly prohibited. Only the County or County's designative representatives are permitted at the job site. Contractor shall ensure that all doors, windows, and potential entrances to the work areas and the designated waste location areas are secured and locked at the end of each workday.
- G. Contractor shall store all materials, equipment, and supplies for the project inside the building or in areas designated by the County and in accordance with County requirements.
- H. As required, establish designated limits for the asbestos work area with continuous barriers. Provide signs around the perimeter of the work area according to EPA and Cal-OSHA.
- I. The Contractor shall be responsible for identifying all HVAC components (if applicable) that lead into or out of the work areas. All components shall be disconnected and sealed airtight for the duration of the asbestos-related work. All openings shall be sealed with two (2) layers of 6 mil polyethylene secured with duct tape or equivalent, as applicable.

- J. Pre-clean the work area and fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning methods. Protect fixed objects with protective barriers (as appropriate) and cover with 6 mil poly sealed with tape.

3.2 CONTAINMENT SET-UP PROCEDURES

- A. Containment is required for all interior asbestos-related work. Contractor shall construct critical barrier containment(s). The work area(s) shall be placed under negative pressure as outlined in this specification throughout the work period. Note: A two-chamber decontamination unit will be required for the asbestos-related work. Cover walls and floors with 6-mil poly and secure with tape (as appropriate).
- B. Protect the lower four (4) of all walls scheduled to remain with 4-mil poly within the regulated work area.
- C. To permit the inspector to view the majority of the work area, the Contractor shall provide easily accessible viewing ports from the clean space into each work area. Viewing ports must be a minimum of 2' x 2', clear-see-through plastic with no scratches, tape or glue marks.
- D. Pressure differential recorders are required to monitor the pressure differential in the work area. The recorders must be calibrated prior to arriving on site. Calibration shall be performed by qualified technicians following the procedures outlined by the manufacturers. Provide documentation of calibration before beginning work.
- E. A two-chambered decontamination unit shall be required during the asbestos-related work. The unit shall be located immediately outside the contained area. A pre-fabricated unit is acceptable. Chambers shall be arranged as follows: (1) a clean/change room shall be the first chamber entered from outside the work area, and (2) a dirty/change room shall be the last chamber before entering the work area.
 - 1. The clean/change room of the worker decontamination unit shall be of sufficient size to accommodate the work crew and their belongings. It shall include a respirator storage area and be fully equipped with reserve equipment and materials such as clean suits, towels, soap, tape, and respirator filters.
 - 2. Worker decontamination unit walls shall be a minimum of two layers of 6-mil fire retardant poly and floors shall be constructed with a minimum of three layers of fire retardant poly. All entry and exit doorways shall consist of at least two sheets of overlapping, fire resistant poly. At no time shall the flapped doors be taped open to expedite material or personnel load-out.
- F. Any water used for personnel decontamination shall be filtered to the technically feasible limit but not more than five (5) microns before disposal. In addition, the Contractor shall comply with all current local, state and federal codes relating to waste water release. All water connections must be verified for leaks and turned-off at the conclusion of each shift.
- G. Approved fire extinguishers (Class ABC, multi-purpose, dry chemical type, rated: 4A; 60BC) shall be readily available to workers (maximum travel distance of 50 feet) inside and adjacent to work area(s). Personnel and emergency exits shall be clearly indicated on

the inside of the containment area. The emergency exit plan shall be approved by the County prior to the set-up of any work areas.

3.3 PERSONNEL PROTECTION

A. Informed Workers:

1. All workers shall be informed of the hazards of asbestos and ACMs and any other hazardous materials exposure present within the site. Workers shall also be instructed in the use and fitting of respirators, protective clothing, decontamination procedures, and all other aspects associated with the asbestos-related work.

B. Personal Hygiene Practices:

1. The Contractor shall enforce and follow good personal hygiene practices during the asbestos-related work. These practices will include but not be limited to the following: no eating, drinking, smoking or applying cosmetics in the work area. The Contractor shall provide a clean space, separated from the work area, for these activities.
2. Workers shall remove street clothes in the clean room and put on a respirator and clean protective clothing before entering the work area. Upon exiting the work area, remove gross contamination from clothing before leaving the work area; proceed to the change room and remove clothing; clean the outside of the respirator with water; remove respirator and thoroughly wash hands and face. Following washing, proceed directly to the clean room and dress in street clothes. Do not wear disposable clothing outside the decontamination enclosure system.
3. If data gathered by the County in areas adjacent to the work areas shows exposure to airborne asbestos or other hazardous materials exceeding Cal-OSHA criteria, that area will become regulated and workers must wear protective clothing and approved respirators and must have a shower facility provided to them.

C. Respirators:

1. Establish a respiratory protection program as outlined by ANSI and required by Cal-OSHA. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH). Respirators selected must be approved by the Competent Person. Submit program for review a minimum of five (5) working days prior to the commencement of the work activities.
2. Provide workers with approved and personally-issued respirators with replaceable filters. Provide sufficient quantity of filters approved by NIOSH for use in asbestos environments so that workers can change filters as required by the manufacturer.
3. At a minimum, provide each employee with the following respiratory protection for each work phase:
 - a. Pre-cleaning, containment set-up, and containment removal work: NIOSH-approved, half-face respirators with HEPA cartridges.
 - b. Asbestos-Related Work and any Class III Asbestos work: half-face respirators with HEPA cartridges and organic vapor cartridges (as necessary).
4. At all times, respiratory protection selected shall, at a minimum, meet the requirements of the Table 1 below.

Table 1 – Respiratory Protection

ASBESTOS ABATEMENT & RELATED WORK

<u>Airborne Concentration of Asbestos</u>	<u>Required Respirator</u>
Not in excess of 1.0 f/cc (10 X PEL)	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filters
Not in excess of 5.0 f/cc (50 X PEL)	Full facepiece air purifying respirator equipped with high efficiency filters
Not in excess of 100 f/cc (1,000 X PEL)	Any powered air purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode
Not in excess of 100 f/cc (1,000 X PEL)	Full facepiece supplied air respirator operated in pressure demand mode
Greater than 100 f/cc or unknown concentration	Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus

D. Protective Clothing:

1. Provide personnel exposed to asbestos fibers with fire retardant disposable protective whole-body clothing, head coverings, gloves, and foot coverings. Provide appropriate gloves to protect worker's hands from exposure to hazardous materials. Make sleeves secure at the wrists and make foot coverings secure at the ankles with tape. Ensure that all personnel entering and leaving the work area follow this procedure. Suits shall be of adequate size to accommodate the largest employee. Foot covers may be part of the coveralls. Non-disposable footwear shall be left in the work area until it is decontaminated or disposed of at the completion of the job.
2. Protective clothing will be worn inside the work area after the area passes pre-work inspection and shall remain in use until the area passes final clearance inspection.

E. Eye Protection: Provide safety glasses or goggles to personnel removing or handling asbestos-containing materials and waste.

F. Shower Requirements: Contractor shall assure that all certified employees and visitors use protective equipment and the wash down facility following each entry into the containment area after the start of the asbestos-related work.

G. Emergency Precautions and Procedures:

1. Establish emergency and fire exits from the work area. Display necessary signage at exits and paths to exits with representative visual aids. A diagram of all emergency and

- fire exits shall be posted in a conspicuous area proximate to the entrance to each work area.
2. The Contractor's supervisor/competent person shall be trained and certified in first aid and CPR and be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs, the Contractor shall implement fiber reduction techniques until the injured person has been removed from the work area.
 3. In the event of a loss of negative pressure to the work area, work shall stop immediately and entrances to the work area sealed tight. The Contractor shall also institute fiber reduction controls until negative pressure is re-established to acceptable levels.

3.4 ASBESTOS-RELATED WORK

- A. The Contractor shall perform asbestos-related work identified in this specification and/or that require disturbance to complete work specified in other specification sections.
- B. The Contractor shall continuously apply wetting agent throughout the asbestos-related work. The wetting agent shall be applied with a low-pressure fine spray to minimize fiber releases. The materials shall be thoroughly saturated so that there is no detectable fiber release. All asbestos waste shall be immediately packaged in leak-tight containers following removal.
- C. Minimize removal activities that generate airborne particulate. To the extent feasible, score or cut-out materials in sections, wetting along the scoring line continually, and misting the air with an airless sprayer to knock down suspended particulate. After completion of removal work, the floor surfaces shall be brushed and/or wet cleaned to remove all visible material and residue prior to encapsulating the wood floor surface.
- D. Wet clean the exterior surfaces of waste containers in the equipment decontamination enclosure system prior to removal from the work area. Ensure that workers do not enter from uncontaminated areas into contaminated areas in the equipment decontamination enclosure system. The Contractor shall transport asbestos-containing waste bags to the waste debris box at designated hours approved by the County. RACM shall be packaged in a minimum of two (2) 6-mil polyethylene bags. Bags shall be properly labeled for RACM disposal including site-specific generator labels. Non-friable waste shall be packaged in clear, leaktight containers and properly labeled while stored on-site. Asbestos-containing debris and contaminated water shall be cleaned from the work area at the end of each work shift. The Contractor shall clean the work area using wet methods and HEPA vacuum equipment.

3.5 REGULATED AREA MONITORING

- A. Prior to each work shift and continuously throughout the project, each containment and decontamination enclosure system shall be inspected and repaired as needed.
- B. Ambient asbestos fiber levels outside each work area shall not exceed 0.01 f/cc (PCM) or 70 s/mm² (TEM) or background whichever is greater. If the asbestos fiber concentrations outside work areas exceed those levels shown above, then the work must stop and

operations be reviewed and modified until the fiber count can be reduced to within the acceptable limits.

3.6 AIR MONITORING

- A. The purpose of any air monitoring that may be conducted by the County will be to detect possible release of fibers or dusts (asbestos or lead) emanating from the work areas.
- B. All PCM air sample analysis shall comply with NIOSH Method 7400. All TEM analysis shall be consistent with modified-AHERA protocols or NIOSH 7402.
- C. The County reserves the right to perform and/or observe final clearance inspection and sampling.
- D. The method of analysis for pre-work and clearance air samples shall be via Phase Contrast Microscopy (PCM). The method of analysis for in-progress asbestos air samples shall be PCM and TEM at the option of the County.
- E. The Contractor shall be responsible for all personal air sampling. These samples shall be taken each shift and for each distinct crew operation and shall be used to verify adequacy of fiber control and respiratory protection. Personal breathing zone air sampling shall be in accordance with the Cal-OSHA asbestos standard. A minimum of 25% of the workforce shall be monitored during each shift. All sample results shall be available on-site within 24-hours of sample collection.

3.7 CLEARANCE INSPECTIONS

- A. The County or County's designated representative shall conduct visual inspections. Contractor shall notify the County when the decontamination process in each containment area is complete. Evidence of debris will require additional clean up by the contractor. Contractor shall be responsible for re-cleaning all areas found to be deficient.
- B. If the County or County's designated representative determines that the work area is sufficiently clean, the Contractor may proceed. If the County or County's designated representative determines that certain areas require additional cleaning, the Contractor shall re-clean the work area and request a second inspection of the recleaned area.
- C. Once the initial visual is passed, the Contractor shall remove all but the containment critical barriers.
- D. Following the visual inspection, the Contractor shall provide an approved encapsulant to the asbestos-containing mastic which remains on the wood floor substrate. The Contractor shall allow the encapsulant to dry for the period specified by the manufacturer.
- E. Asbestos Clearance Testing: Following encapsulation and drying time, the County or County's designated representative shall conduct air clearance sampling. Clearance air sampling shall not take place until all encapsulant is dry. The County or County's designated representative reserves the right to approve the initiation of clearance sampling.

3.8 ASBESTOS CLEARANCE CRITERIA:

- A. The clearance level per containment shall be less than 0.01 fibers per cubic centimeter via PCM or less than 70 structures per square millimeter via TEM. Aggressive air sampling shall be used for clearance purposes. Multiple samples shall be collected in large containment areas.
- B. If air samples do not pass the required clearance criteria, the area shall be recleaned and new samples shall be collected by the consultant. The Contractor shall be responsible for all costs associated with re-sampling and re-analyses.
- C. The County will notify the Contractor in writing of acceptable asbestos fiber concentrations. The Contractor shall then remove all the remaining barriers in the work area.

3.9 ASBESTOS DISPOSAL

- A. It is the responsibility of the Contractor to determine current waste handling, labeling, transportation and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these Specifications, local, state, and federal regulations and provide documentation of the same.
- B. Ensure that polyethylene bags are sealed air-tight. All bags shall be wet cleaned prior to removing them from the equipment decontamination enclosure system.
- C. Ensure all disposal containers are properly labeled according to 8 CCR 1529, 5194 (HAZCOM), 49 CFR 171-179 (USDOT), 40 CFR 61 Subpart M (NESHAP), and any local regulations and state regulations as required by this specification.
- D. Filter all wastewater to the technically feasible limit, but not more than five (5) microns before disposal. Comply with all current local, state and federal codes relating to waste water release.
- E. Asbestos-containing waste that is properly labeled and double-bagged may be temporarily stored in areas approved by the County. Areas must be made secure before storing the waste. Waste is not to remain in temporary storage area for longer than ten (10) days before final load-out of materials.
- F. All friable asbestos waste shall be double-wrapped prior to transport from the site.
- G. All vehicles used to transport hazardous waste must be registered with the Department of Toxic Substances Control and Department of Transportation and maintain proper registration and with vehicle at all times.
- H. Trucks must have an enclosed cargo area with a storage compartment that is fully lined with a minimum of one (1) layer of 6-mil polyethylene on the walls and two (2) layers on the floor.
- I. All vehicles and containers used to transport waste are subject to inspection and approval of County prior to departure from site.
- J. Contractor shall not throw bags into the truck in a way that may cause the bags to burst open.

- K. Contractor shall provide at minimum two (2) days advance notification to the County when signatures are required on manifest(s). The Contractor shall ensure that the Hazardous Waste Manifest is correctly filled out. The Contractor shall give the appropriate copies to the County and shall also instruct the County in writing that they must send the appropriate copy to the Department of Toxic Substances Control.
- L. Contractor is responsible for all coordination with the waste disposal site and with the waste hauling company.
- M. Debris box for hazardous waste shall be fully lined with a double layer of polyethylene sheeting and must be locked at all times when unattended.
- N. Debris box shall be constructed with minimum 20-gauge steel with no windows or openings other than the door. The door of the container shall have a secure cover on the locking device with access to the lock only at the key-hole. Once the debris box is filled and the manifest is signed, Contractor must transport the debris box off the job site.
- O. Waste disposal shall be in a landfill approved by the County that meets current federal EPA and state requirements.

**TABLE I
ESTIMATED QUANTITIES
ASBESTOS-CONTAINING MATERIALS**

Material Description	Material Location(s)	Waste Category	Asbestos Result	Estimated Quantity *
107 South State Street, Ukiah, CA				
Carpet Mastic, Black and Yellow	First Floor	Cat. I	Black Mastic: 3% CH Yellow Mastic: ND	TBD

None Detected, NA = Not Applicable, CH = Chrysotile, TBD = To Be Determined, RACM = Regulated asbestos containing material (friable), Cat. I = Non-friable (note ACM must be reclassified as a RACM if rendered friable during removal), Cat. II = Category II Non-friable (note ACM must be reclassified as a RACM if rendered friable during removal), sf = square feet, lf = linear feet, ea = each, Quantities must be field verified prior to abatement

END OF SECTION

ATTACHMENT A
ASBESTOS WORK PLAN OUTLINE

In accordance with the contract documents, the Contractor is required to prepare a written, site-specific Asbestos Work Plan, and submit to the Owner for approval prior to start of work. This plan is required for the contractor to meet Cal-OSHA requirements as well as the contract documents and shall describe work procedures and control methods that will protect the Owner's facilities and the environment.

I. Location of Work:

The work to be completed under this work plan will be completed at:

(Building name)

(Location within building)

Previous asbestos inspections or surveys have found that ACMs are present at the following locations:

(List all materials and locations to assure the Owner and the Contractor are aware of all hazardous materials locations)

II. Description of Work:

Describe the anticipated work scope

III. Schedule:

Phase/Task	Anticipated Date(s)
Mobilization	_____
Set-up of work area(s), containments	_____
Abatement	_____
Final Cleaning	_____
Visual Inspection	_____
Final Clearance (visual and air sampling)	_____
Teardown	_____
Demobilization	_____

IV. Equipment and Materials

List all equipment and materials to be used, such as the following:

HEPA Vacuums	Negative air filtration units
Scrapers	Manometers
Power saws	Shower facilities
Pry bars	Airless sprayers/compressors
Cutting shears	Cleaning detergents
Other hand tools	Solvents (must be approved by Owner)
Encapsulants/sealants	Roller/brushes
Gloves	Disposable coveralls
Respiratory protection	Eye & foot protection

ASBESTOS ABATEMENT & RELATED WORK

V. Crew

List all workers and supervisors with emergency contact names and phone numbers.

Clearly identify the supervisor and competent person who have authority for all safety and health.

VI. Control Measures and Work Practices

Describe in narrative format specific work procedures, exposure/contamination controls, and engineering controls. This description should include, but not be limited to, the following:

OSHA Class I, II, III and IV work	Wet methods
Negative pressure enclosure	Glovebag removal
Respiratory protection	HEPA vacuums
Mini-containments	Solvent removal of mastic
List other procedures	

VII. Respiratory Protection and Protective Clothing/Personal Protective Equipment

List all respiratory protection including types and manufacturers which are anticipated for this project. Identify the phases of the project for which respirators will be required or likely to be required. List all personal protective equipment anticipated to be used on the project.

VIII. Decontamination/Hygiene Facilities

Identify the types and locations of decontamination or hygiene facilities to be used on this project. Specify use of disposable towels, soap, hot and cold water, and other supplies. Specify the required use of the facilities, including use of the facilities prior to eating, drinking, smoking and before leaving the project site. Describe handling or treatment of asbestos-contaminated solid waste and wastewater.

IX. Air Monitoring Data

Identify general worker air monitoring protocols to be followed on this project, including worker category classifications, frequency of monitoring, anticipated laboratory to be used for analysis, pump calibration techniques, etc. Identify the competent person responsible for conducting personal air monitoring.

X. Containment Diagram

Include a diagram (hand written is acceptable) of the containment(s) showing the containment perimeter in relation to the surrounding areas, locations of negative air machines and exhaust locations, direction of airflow, and decontamination areas.

XI. Waste

Describe how all waste on this project will be packaged, labeled, stored, transported, manifested and disposed

XII. Preparation of Asbestos Work Plan

Date Prepared and Prepared By (signature, name and title)

SECTION 05410 – LIGHT GAUGE METAL FRAMING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing the following:
 - 1. Exterior load-bearing steel walls.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or Drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 05500 - Metal Fabrications.

1.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Engineer, fabricate, and erect cold-formed metal framing to with stand design loads within limits and under conditions required.
 - 1. Design Loads: 30 psf.
 - 2. Design framing systems to withstand design loads without deflections greater than the following:
 - a. Exterior Framing Systems: Lateral deflection of 1/240 of the wall height and as required to meet minimum requirements for deflection of substrate for metal wall panels and EIFS.
 - 3. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subjected to a maximum ambient temperature change of 120°F.
 - 4. Design framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain

LIGHT GAUGE METAL FRAMING

clearances at openings.

- B. Design exterior wall framing to accommodate lateral deflection without regard to contribution of sheathing materials.
- C. Engage a fabricator who assumes responsibility for engineering cold-formed metal framing by employing professional engineer licensed in the State of California to prepare design calculations, shop drawings, and other structural data.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product information and installation instructions for each item of metal framing and accessories.
 - 1. Web: Punched.
- B. Steel Track: Manufacturer's standard U-shaped steel track, unpunched, of web depths indicated, with straight flanges.
 - 1. Design Uncoated-Steel Thickness: Same as studs unless otherwise indicated.
 - 2. Flange Width: Manufacturer's standard deep flange.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed cold-formed metal framing similar in material, design, and extent to that indicated.
- B. Welding Standards: Comply with applicable provisions of AWS D1. 1 "Structural Welding Code - Steel" and AWS D1.3 "Structural Welding Code - Sheet Steel."
 - 1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect metal framing units from rusting and damage.
- B. Deliver to Project site in manufacturer's unopened containers or bundles, identified with name, brand, type and grade.
- C. Store off ground in a dry ventilated space or protect with suitable waterproof covering.

PART 2 – PRODUCTS

2.1 ACCEPTED MANUFACTURERS

LIGHT GAUGE METAL FRAMING

- A. American Studco, Inc., Angeles Metal Systems, Dietrich Industries, Inc., or equal.

2.2 MATERIALS

- A. Galvanized Steel Sheet: Mill certified steel conforming to ASTM A653, G60 coating designation.
 - 1. 18-Gauge and Lighter; ASTM A611, minimum yield strength 33,000 psi.
 - 2. 16-Gauge and Heavier: ASTM A570, minimum yield strength 50,000 psi.

2.3 WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs of web depths indicated, with lipped flanges.
 - 1. Design Uncoated-Steel Thickness: As indicated.
 - 2. Flange Width: 1-5/8".
- B. Grout bearing surfaces uniform and level to ensure full contact of bearing flanges or track webs on supporting concrete or masonry construction.

2.4 FRAMING ACCESSORIES

- A. Fabricate steel framing accessories of the same material and finish used for framing members.

2.5 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A36, zinc coated by the hot-dip process according to ASTM A123.
- B. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure.
- C. Powder-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials.
- D. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws.
- E. Welding Electrodes: Comply with AWS standards.

2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 94% zinc dust by content.

- B. Nonmetallic, Nonshrink Grout Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, Portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C11 07, with fluid consistency and a 30-minute working time.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine supporting substrates and abutting structural framing for compliance with requirements, including installation tolerances and other conditions affecting performance of cold-formed metal framing. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- B. Shop Drawings: Show layout, spacing, sizes, thickness, and types of cold-formed metal framing, fabrication, fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment of other work. Shop drawings shall be stamped and signed by a professional engineer licensed in the State of California.
- C. Calculations: Stamped and signed by a professional engineer licensed in the State of California.

3.3 INSTALLATION, GENERAL

- A. Install cold-formed metal framing and accessories plumb, square, true to line, and with connections securely fastened, according to manufacturer's recommendations.
 - 1. Cut framing members by sawing or shearing, not torch cut.
 - 2. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to manufacturer's instructions with screws penetrating joined members by not less than 3 exposed screw threads.

- B. Install framing members in one-piece lengths, unless splice connections are indicated for track or tension members.
- C. Provide temporary bracing and leave in place until framing is permanently stabilized.
- D. Do not bridge building expansion and control joints with cold-formed metal framing.
Independently frame both sides of joints.
- E. Erection Tolerances: Install cold-formed metal framing to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8" in 10 feet.
 - 1. Space individual framing members no more than $\pm 1/8$ " from plan location.
Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.4 LOAD-BEARING WALL INSTALLATION

- A. Install continuous top and bottom tracks sized to match studs. Align tracks accurately and securely anchor at corners and ends, and at 24" on center for powder-driven anchors, 32" on center for expansion anchors.
- B. Securely seat studs against webs of top and bottom tracks. Fasten both flanges to studs at top and bottom track. Space studs as indicated.
- C. Set studs plumb, except as required for diagonal bracing for non-plumb walls or warped surfaces.
- D. Align studs vertically where wall framing continuity is interrupted by floor framing. Where studs cannot be aligned, continuously reinforce track to transfer loads.
- E. Anchor studs abutting structural columns or walls to supporting structure.
- F. Install headers over wall openings wider than the stud spacing. Locate headers above openings as indicated. Fabricate headers of compound shapes, complete with clip-angle connectors, web stiffeners, or gusset plates.
 - 1. Frame wall openings with not less than a double stud at each jamb of frame.
 - 2. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with clip angles or by welding, and space jack studs same as full height wall studs.
- G. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, furnishings,

and similar work requiring attachment to framing.

- H. Install horizontal bridging in stud system, spaced in rows not more than 48" apart. Fasten at each stud intersection.
- I. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors and fasteners to provide a complete and stable wall framing system.

3.5 REPAIRS AND PROTECTION

- A. Galvanizing Repair: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A780.
- B. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer to ensure that cold formed metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 06100 – ROUGH CARPENTRY

PART 1 – GENERAL

1.1 DOCUMENTS

- A. The General Conditions, Supplementary Conditions and applicable portions of Division 1 of the Specifications are part of this Section.

1.2 SCOPE

- A. This Section includes all rough carpentry, framing and formwork required to complete the Work shown on the Plans and specified herein. Contractor shall provide backing required by other trades.

1.3 COOPERATION WITH OTHERS

- A. Contractor shall cooperate with other trades in providing backing or other work necessary for the completing of the job.

1.4 QUALITY ASSURANCE

- A. Reference Standard (unless otherwise noted). The following standards shall govern the work:
 - 1. Douglas Fir: California Building Code Standard No. 25-3 and 4 ("Standard Grading and Design Rules #16", of the West Coast Lumberman's Bureau latest edition, and "Standard Grading Rules" of Western Wood Products Association).
 - 2. Redwood (framing): California Building Code Standard 25-7 ("Standard Specifications for Grades of California Redwood Lumber", edition of November, 1970).
 - 3. Plywood: California Building Code Standard No. 25-9 (U.S. Product Standard PS-1-97).
 - 4. "Timber Construction Standards", (AITC), latest edition.
 - 5. "National Design Specifications", latest edition.

1.5 GENERAL REQUIREMENTS

- A. Carpentry shall be done by competent workmen experienced in work of the types specified or accordance with best standards of practice for carpentry work. When complete, exposed surfaces shall be free from dents and tool marks, unsanded, rough or torn faces and corners, and other defects.
- B. Furnish all nails, screws, adhesives and other installation accessories necessary for proper erection and completion of carpentry work.

ROUGH CARPENTRY

06100-1

- C. Verify all conditions at project site affecting the Work; work to field dimension as required. Coordinate carpentry with rough-ins and installations under other Sections.
- D. Protect materials against damage by handling, weather or other causes.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Fasteners:

1. General requirements for fasteners:
 - a. Fastenings shall be of adequate size, spacing and number to resist design loads under intended use, and types shall be appropriate for the materials or conditions for which used.
 - b. Include washers, pre-drilling, etc. required for proper installation.
 - c. For exterior work, fastenings shall be hot dip galvanized, non-ferrous, or made rust-resistant by approved methods.
2. Nails and nailing not otherwise shown or specified:
 - a. Comply with requirements of governing Building Code.
 - b. For securing materials to hardened concrete or masonry: hardened steel masonry nails.
 - c. For framing and general wood work: bright common wire nails (not box nails). Nails shall be of common wire and full round heads in all cases.
3. Bolts:
 - a. ASTM A-307, standard semi-finished machine bolts as shown or required. Malleable iron washers or steel plate washers, unless otherwise shown, shall be provided under all bolt heads and nuts, where installed against wood.
4. Power-Actuated Fastenings: Use only as approved by Engineer. Operators shall be qualified. Sized to be determined by thickness of material to be fastened and age of concrete.
5. Framing Hardware: Fabricated sheet metal timber framing connectors shall be manufactured from hot-dipped galvanized steel by "Simpson Strong-Tie" or equal as identified on the Drawings. Connectors shall be at least 16 gauge material, (1/8" plate materials where welded), unless otherwise noted, punched for nailing. Nails and nailing

ROUGH CARPENTRY

06100-2

shall conform to the manufacturer's instructions with a nail provided for each punched hole.

B. Structural Lumber and Plywood:

1. Lumber and plywood graded and grade-marked in accordance with standards specified. Lumber shall be grade marked by an agency approved by Engineer.
2. Lumber:
 - a. Size in accordance with industry standards for nominal sizes shown; S4S.
 - b. Moisture content of framing: Moisture content shall not exceed 19%. Maximum when installed: 25%. Maximum at close-in: 15%.
 - c. Sills on concrete or masonry: Redwood foundation grade, or pressure treated Douglas fir as called for on the Drawings. Pressure treatment shall be in accordance with UBC standard 25-12.
 - d. Minimum Lumber Grades: Lumber sizes noted on the Drawings shall bear grade marks. The grade of each piece of lumber shall meet or exceed the following requirements unless otherwise noted.

	Grade	Paragraph No.
Interior studs	DF No. 2	124(c)
Exterior studs	DF No. 1	123(b)
2x roof joists and rafters	DF No. 2	123(c)
4x headers and beams	DF No. 1	123(b)
6x beams and timbers	DF No. 1	130(b)
8x beams and timbers	DF No. 1	130(b)
 - e. Permanently exposed framing shall be selected structural grade and free of hear and center (FOHC).
 - f. Splits and checks are to be limited the half-depth of the member unless otherwise noted on the Drawings.
 - g. Warped/twisted and excessively checked members shall not be used regardless of grade marks.
 - h. Framing not otherwise shown or specified: Douglas fir, construction grade in accordance with WCLIB paragraphs applicable to uses and sizes required.
3. Plywood: All structural plywood shall be grade marked for conformance with Product Standards PS-1-97, and shall be fabricated with exterior glue. Grades shall be as noted on the Drawings. Plywood shall be CD type with exterior glue.

4. Parallam (PSL): by Truss Joist MacMillan or Architect-approved equal.
- C. Preservative Treatments:
1. Field-applied treatment to light framing:
 - a. F.S.TT-W-570a(1), non-creosote type.
 - b. Apply two brush coats or full-immersion dip not less than 15 minutes, or as required to thoroughly saturate all surfaces after cutting. Air dry two hours minimum before installation.
 - c. For all lumber (except redwood) and plywood contacting or within two feet of concrete and soils.
 2. Pressure Treatment:
 - a. For all lumber (except redwood) used as sill plates or embedded in or in contact with concrete. Treat end cuts and daps of all pressure-treated lumber. Treated lumber shall be marked.
 - b. For field-applied treatment to light framing use F.S.TT-W570-a(1), non-creosote type. Apply two brush coats or full-immersion dip not less than 15 minutes, or as required to thoroughly saturate all surfaces after cutting. Air dry two hours minimum before installation.
- D. Flashing paper: Sisalkraft "Orange Label" or equal.
- E. Resin Sized Building Paper.

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR STRUCTURAL FRAMING

- A. General:
1. Refer to Drawings for layouts, notes and details, provide framing as required; comply with governing Building Code requirements.
 2. Before commencing work, Contractor shall check all lines and levels as given on the Drawings and such work as has been completed and shall call to the attention of Engineer, in writing, any discrepancies it may find for correction or adjustments. Failing to do so, Contractor shall assume all responsibility for correction of any errors.
 3. Provide framing to achieve true alignments as surfaces receiving finish materials.

4. It shall be the responsibility of Contractor to provide and install all wood blocking, furring strips, or grounds detailed or required to provide anchorage for all finishes, accessories, fixtures, etc., as required to complete all Work. All blocking and/or backing shall be securely bolted or otherwise anchored in place.
5. Form and scaffold lumber may be re-used in concealed locations in the structure, providing it is well cleaned and if the use conditions continue to meet grade and if approved by Engineer.

B. Stud Wall Framing:

1. Top plates shall be double, set single. Corners where stud wall or partitions meet shall be framed solid. Double top plates shall be lapped at corners. Lap splices and nailing in accordance with the Drawings.
2. All stud partitions and walls shall have horizontal solid blocking not less than 2x and of the same width as the stud, fitted and nailed into the studs at mid-height of stud, for studs over 8' in height, except as otherwise shown or specified. This blocking shall be spaced so that there shall be no concealed air spaces greater than 8' in any dimension.

3.2 PLYWOOD STRUCTURAL SHEATHING

A. General:

1. Plywood nailing shall be as required on the Drawings. All nails shall be common wire nails with full round heads; do not break skin of plywood. Do not overdrive; overdriving will be cause for rejection.
2. Blocking for plywood edges to be 2x material except where specifically noted as 3x.
3. Form plywood may be re-used for concealed sheathing framing, provided the lumber at the time of reuse is approved by Engineer, meets with the framing grade requirements specified herein, is in good condition, and is thoroughly cleaned with all nails removed.
4. Pneumatic nailing devices shall be adjustable so that nail heads do not penetrate skin of plywood. Contractor shall submit equipment and nails for approval by Engineer.

B. Wall Sheathing: Lay with face grain either parallel or perpendicular to stud. Exposed bottom edges shall be sealed as recommended by manufacturer. Block all unsupported sheet edges. Gun nailing is not allowed until proficiency is demonstrated to Engineer's satisfaction.

C. Where plywood is placed with 1/8" gap between sheets, shorten at least each fourth sheet of plywood by 1/2" to realign plywood with specified structural framing system as required.

3.3 ROUGH HARDWARE

- A. General: Nails, spikes, screws, fabricated sheet metal anchors, ties, hangers and any other materials shown or required for the attachment of wood to concrete, wood to steel, and wood to wood shall be furnished and installed as part of this Work.
- B. Framing Nailing: All framing nailing shall conform to minimum requirements of UBC and with details shown on the Drawings. Pre-drill-drill nail holes where wood tends to split.
- C. Bolts, Lag Screws and Washers:
 - 1. Bolts in wood shall be machine bolts conforming to ASTM A-307 unless otherwise noted and shall be of such length that not more than $\frac{1}{2}$ " of thread will bear against wood. Bolt holes in wood shall be $\frac{1}{32}$ " oversized. Holes in steel shall be $\frac{1}{16}$ " oversize.
 - 2. Provide square plate or malleable iron washer under nut and head where bearing is against wood; cut washer under nut where it is against steel. Washer will not be required under head of carriage bolts. Provide malleable iron washers where exposed.
 - 3. All nuts shall be tightened when placed and retightened at completion of the job or immediately before closing with final construction.

3.4 MISCELLANEOUS

- A. Install miscellaneous metal angles, bolts and other items required. Set in accordance with approved shop drawings. Secure into form work where embedded in concrete.
- B. Install accessory items not otherwise set under other Section after completion of painting and other finishing work in location shown or directed by Engineer. Set items plumb, level and well secured using proper fastening as applicable.
- C. Furnish and install wood backing for securing all fixtures, cabinet work, shelving, chalkboards, toilet accessories, etc. where required.

3.5 CLEAN UP

Remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 06101 – MISCELLANEOUS CARPENTRY

PART 1 – GENERAL

1.1 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing rough carpentry items, including the following:
 - 1. 3/8" Floor Underlayment Sheathing.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or Drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract apply to this Section.
 - 2. Coordinate installation of this work with the specification for Hazardous Material Abatement. This work shall be done in a contained area by trained and certified personnel.

1.2 PRODUCT HANDLING

- A. Keep materials under cover and dry. Protect against exposure to weather and contact with wet or damp surfaces.
- B. Stack panels; provide for air circulation within and around stacks and under temporary coverings.

PART 2 – PRODUCTS

2.1 FLOORING UNDERLAYMENT

- A. 3/8" APA Underlayment, Group 1, Exposure 1, B-C with Plugged inner plies
- B. Plywood Sheathing: Each panel of softwood plywood shall be identified with the APA grade trademark of the American Plywood Association, and shall meet the requirements of the U.B.C. Standard 25-9 for construction plywood.

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide fasteners with hot-dip zinc coating in accordance with ASTM A153 or stainless steel.
- B. Nails, Wire, Brads, Staples: FS FF-N-105.

- C. Bolts: ASTM A307, Grade A; with hex nuts and flat washers.
- D. Fasteners for Securing Non-Combustible Roof Sheathing: Size and type in accordance with FM requirements.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects which might impair quality of work, and units in sizes that would require an excessive number or poor arrangement of joints.
- B. Cut and fit miscellaneous carpentry accurately. Install members plumb and true to line and level.
- C. Securely attach carpentry work to substrate by anchoring and fastening as indicated and required. Minimum 1" penetration into floor structure. 8" edge nailing and 12" field nailing.
- D. Use fasteners of appropriate type and length. Install fasteners without splitting wood; predrill as required.

END OF SECTION

SECTION 07900 - SEALANTS

PART 1 - GENERAL

- 1.1 THIS SECTION includes all general sealing work required throughout the project.
- 1.2 QUALITY ASSURANCE:
 - A. Building Code: California Building Code most recent edition with current State and local amendments.
 - B. Energy Requirements: All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.
 - C. Comply with provisions of most recent edition of "Sealants and Caulking Spec Guide G07920" published by Construction Specifications Institute.
- 1.3 WARRANTY: Provide a 5-year warranty, in writing, to replace any or all joints failing within the warranty period at no cost to the Owners, labor and material inclusive.

PART 2 - PRODUCTS

- 2.1 Materials, General
 - A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - B. Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by the Architect from manufacturer's standard colors.
 - C. Exterior joints
 - 1. Between metal frames and cast concrete, brick, masonry use Mono (acrylic terpolymer) manufactured by Tremco Commercial Construction Sealants, 3735 Green Road, Beachwood, OH 44122, (800) 321-7906 or equal.
 - 2. Expansion and control joints in concrete, use Vulkem 45 (polyurethane) by Mameco or equal.
 - 3. Exterior sills, jambs, heads of windows, doors, openings, trim, etc., wood to wood connections, use Vulkem 116 or equal.
 - 4. Glass to wood, use Mono or equal.
 - 5. Glass to glass, glass to metal, or glass to concrete: use Spectrem 2 by Tremco or equal. Note: For maximum expansion conditions use Spectrem 1 by Tremco.
 - 6. Glazing tape: Tremco 440 (polyisobutylene)
 - D. Interior:

1. Tile to masonry, tile to tile: Hydroment/Chem-Calk 900 (urethane) manufactured by Bostik, Inc. Boston Street, Middleton, MA 01949 or equal.
 2. Tile to tile, horizontal joints in water exposed situations: Hydroment/Chem-Calk 550 or equal.
 3. Expansion joints: Sonolac (acrylic latex) manufactured by Sonneborn Building Products, A Division of Chemrex Inc., 7711 Computer Avenue, Minneapolis, MN 55435, (800) 433-9517 or equal.
 4. Acoustical caulking: Sonolac or equal.
 5. Sealing cracks, baseboards, window frames, plumbing fixtures to tile, wood, etc.: Lexel (copolymer rubber) as manufactured by Sashco Sealants Inc. 10300 East 107th Place, Brighton, Colorado 80601, (800) 767-5656 or equal.
- E. Concrete waterproofing: Clear Seal: Sonneborn Penetrating Sealer #20 or equal.

PART 3 - INSTALLATION

3.1 GENERAL:

- A. Use and install per manufacturer's instructions to achieve effective adhesion and secure the work against penetration by water.
- B. Clean joint surfaces and prime as recommended by manufacturer.
- C. Accurately apply in one continuous operation to full depths and widths of joints or pockets. Surface shall have a thoroughly neat, extruded appearance when complete.
- D. Joint Width: As shown or 1/4" minimum and 1" maximum. Joint depth approximately one-half of joint width with a minimum depth dimension of 1/4".
- E. Support sealants from back with construction as shown or with backer rod.
- F. Sealant work shall precede asphaltic work, or painting.
- G. Clean adjacent surfaces free from caulking and sealant smears.

3.2 INSTALLATION: For all manufactured products, follow manufacturer's installation instructions and details as specifically modified by the Drawings and Specifications using materials and methods described in the installation instructions. contractor shall provide any and all fasteners, hardware, mounting devices, brackets, valves, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.

3.3 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. In addition, provide a 5-year warranty, in writing, to replace any or all joints failing within the warranty period at no cost to the Owners, labor and material inclusive. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

SECTION 08210 - WOOD DOORS

PART 1 - GENERAL

- 1.1 THIS SECTION includes wood doors and frames.
- 1.2 QUALITY ASSURANCE:
 - A. Building Code: California Building Code most recent edition with current State and local amendments.
 - B. Energy Requirements: All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.
 - C. COMPLY with the most recent edition of the "Architectural Woodwork Standards" published by the Architectural Woodwork Institute.
Meet all requirements for Premium Grade Wood Doors.
 - D. COMPLY with requirements of NWMA I.S.I. for flush doors.
 - E. COMPLY with requirements of NWMA I.S.6 for Style and Rail Doors.
- 1.3 WARRANTY: All doors shall have manufacturer's one-year standard door warranty commencing with the date of substantial completion.

PART 2 - PRODUCTS

- 2.1 Provide doors as specified in the Door Schedule contained in the Drawings.
 - A. Fire rating: Provide manufacturers certification for fire ratings as specified in the plans or as required to meet prevailing codes.
 - B. Style and Rail layout: Flush.
 - C. Species: See door schedule.
 - D. Finish: See door schedule.

PART 3 - INSTALLATION

- 3.1 INSTALLATION:
 - A. Unless otherwise noted or specified, doors shall be installed in hollow metal 18 gauge steel frames Ceco BQ series or equal.
 - B. Install work in this section as specified in the most recent edition of the "Architectural Woodwork Standards" published by the Architectural Woodwork Institute, and provide, to the Architect, a Woodwork Institute Certified Compliance Certificate for Installation at the completion of project installation.
 - C. Condition doors to average prevailing humidity in installation area prior to hanging.

- D. Fit doors to frames and machine for hardware to extent not previously worked at factory.
 - E. Clearance: 1/8" at jambs, heads and meeting stiles, 1/2" from bottom of door to top of finish floor for interior doors and clearance required by threshold hardware at exterior doors.
- 3.2 ADJUST AND CLEAN: Rehang or replace doors which do not swing or operate freely. Refinish or replace doors damaged during installation.
- 3.3 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

SECTION 08710 - FINISH HARDWARE

PART 1 - GENERAL

- 1.1 THIS SECTION includes finish hardware where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.2 QUALITY ASSURANCE:
 - A. Building Code: California Building Code most recent edition with current State and local amendments.
 - B. Accessibility Requirements: All materials and workmanship shall comply with all the requirements for accessibility as set forth in the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Federal Americans with Disabilities Act in effect at the time of construction.
- 1.3 SUBMITTALS:

Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

PART 2 - PRODUCTS

- 2.1 GENERAL
 - A. Numbers indicating hardware items are those of the manufacturer listed, or as otherwise indicated. Hardware finish, unless otherwise noted to be Polished Chrome.
 - B. Furnish hardware with all necessary screws, bolts or other fastenings as recommended by the hardware manufacturer.
 - C. Examine drawings to determine proper hand and other location requirements for hardware.
- 2.2 Shelf standards and brackets: K-V 82-NAT standards with 182 brackets; K-V 333ZC shelf rests.
- 2.3 LOCKS, CYLINDERS AND KEYING
 - A. COUNTY STANDARD LATCHSETS

Stanley-Best 9K series, Lever style 15, finish 626, Storeroom function unless noted otherwise. Provide construction cores, final cores and keying by owner.
 - B. Provide all items identified in the Door Schedule in the Drawings.
 - B. In addition to providing all hardware specified in plans, provide the following items unless noted otherwise:
 - 1. All exterior doors:
 - a. Weather-stripping: Futura Door Weather Stripping, #WS-639 TC-80 in Copper, MacMurrey Pacific (415) 552-5500 or equal.

FINISH HARDWARE

08710-1

- b. Door bottom at other exterior doors: Macklanburg-Duncan or equal, bronze anodized extruded aluminum door bottom with integral drip and neoprene seal at bottom. .
 - c. Accessible Thresholds: Macklanburg-Duncan or equal, bronze anodized extruded aluminum accessibility code compliant threshold, full width of door frame.
 - d. Non-Accessible Thresholds: Macklanburg-Duncan or equal, bronze anodized extruded aluminum threshold, full width of door frame.
2. All swinging doors (interior and exterior):
- a. Hinges: 1-1/2 pair McKinney TA42714 4" five knuckle hinges, finish 626 or equal
 - b. Door stops: Baldwin #4045 or equal base mount door stop OR Baldwin #4010 or equal floor mount dome door bumper. Finish 626 Where base mount door stop or floor mount dome door bumper cannot be installed, use Hager #CD-212 series hinge pin door stop. Finish to match lockset.
3. As indicated - Electric Strike: Adams Rite 7110 Electric Strike or equal.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Mount hardware units at heights indicated in NWWDA I.S. 1.7-87 "Hardware Location for Wood Flush Doors," except lock/latch location shall be located to comply with Handicapped Accessibility Regulations.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on the substrate.
- C. Set units level, plumb and true to line and location.
- D. Fasteners:
 - 1. Furnish necessary screws, bolts, and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.
 - 2. Where necessary, furnish fasteners with toggle bolts, expansion shields, sex bolts, and other anchors approved by the Architect, according to the material to which the hardware is to be applied and according to the recommendations of the hardware manufacturer.
 - 3. Provide fasteners which harmonize with the hardware as to finish and material.
 - 4. Where butts are required to swing 180 degrees, furnish butts of sufficient throw to clear the trim.
- E. Keying:
 - 1. Factory key and master key locks and cylinders as directed by the Architect.

2. Furnish three keys for each lock and three master keys.

F. Adjust and Clean:

1. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
2. Final Adjustment: Prior to acceptance or occupancy of the work make final check and adjustment of all hardware. Clean operating items as necessary for proper function and finish of hardware and doors. Adjust door control devices.
3. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

- 3.2 WARRANTIES : At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

SECTION 09250 - GYPSUM BOARD

PART 1 - GENERAL

- 1.1 THIS SECTION includes gypsum wallboard and related work where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.2 QUALITY ASSURANCE:
 - A. Building Code: California Building Code most recent edition with current State and local amendments.
 - B. Comply with requirements of the most recent edition of GA-216 "Recommended Levels of Application and Finishing of Gypsum Board" published by the Gypsum Association, 810 First Street NE, #510, Washington, D.C. 20002
 - C. Comply with requirements of the most recent edition of GA-214 "Recommended Specifications of Gypsum Board Finish" published by the Gypsum Association, 810 First Street NE, #510, Washington, D.C. 20002.
- 1.3 SUBMITTALS:
Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

PART 2 - PRODUCTS

- 2.1 GYPSUM BOARD:
 - A. Type/Thickness: See Room Finish Schedule.
 - B. Manufacturer: US Gypsum, Georgia Pacific.
- 2.2 ACCESSORIES:
 - A. Corner and Edge Trim: Manufacturer's standard galvanized steel, beaded units with flanges for concealment in joint compound.
 - B. Joint Compound, Tape, Miscellaneous Materials: As manufactured or recommended by gypsum board manufacturer for the application indicated.
 - C. Screws: As recommended by gypsum board manufacturer.
 - D. Sealant: Waterproof compound made or recommended by gypsum board manufacturer.

PART 3 - EXECUTION

- 3.1 COMPLY with applicable requirements of referenced quality standards, except where more detailed or more stringent requirements are indicated by the manufacturer.
- 3.2 WALL/PARTITION BOARDS: Install vertically to avoid butt end joints wherever possible. At high walls or other conditions where butt end joints are unavoidable, install boards horizontally with end joints staggered over studs.
- 3.3 SCREWING: As recommended by manufacturer.

3.4 TRIM:

- A. Install metal corner beads at all exterior corners.
- B. Install metal edge trim wherever edge of gypsum board would otherwise be exposed or semi-exposed.

3.5 SEALING: Fully seal all edges and penetrations through gypsum board in bathrooms, kitchen and other areas subject to moisture or water. Clean and pre-treat surfaces to receive sealant in accordance with manufacturer's instructions.

3.6 FINISHING:

- A. All gypsum board surfaces to achieve Level 4 finish as per GA-214 specifications.
- B. Apply treatment at all joints, trim flanges, penetrations and fasteners as required to provide smooth flat, true surface for painting.

3.7 WARRANTY: During the first year of occupancy, the Contractor shall inspect the gypsum board finish for cracks, nail pops and other finish imperfections and shall repair and repaint all such imperfections in the finish at no cost to the Owner.

SECTION 09600 - COUNTY STANDARD FLOORING

PART 1 – GENERAL

1.1 DOCUMENTS

- A. The General Conditions, Supplementary Conditions and applicable portions of Division 1 of the Specifications are part of this Section.

1.2 SCOPE

- A. Mendocino County has selected specific flooring products and adhesives as county standards to ensure uniformity in our maintenance and replacement programs. Unless specifically stated, no other products will be accepted.

1.3 JOB CONDITIONS

- A. Inspection of Surfaces: Before installing flooring materials, Contractor shall inspect the surfaces to receive materials. Contractor shall notify the County, in writing, of any defects or conditions that will prevent a satisfactory resilient floor covering installation.

1.4 SUBMITTALS

- A. Submit samples for selection of colors and patterns. Samples shall be labeled, indicating color or pattern, gauge and manufacturer. Submit samples in accordance with General Conditions.
- B. Extra Material: Provide Owner with one box of tile for each 1,000 square feet of resilient tile or 5% of the quantity used from the same run and lot for each color used as installed in the building.
- C. Furnish Owner brochures of standard maintenance procedure.

1.5 GUARANTEE/WARRANTY

- A. Contractor shall, and hereby does warrant, and General Contractor shall, and hereby does guarantee that all Work executed under this Section of the Specifications be free from defects of materials and workmanship for a period of one (1) year from the date of final acceptance of this work.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Resilient tile shall be the county standard product, Armstrong Standard Excelon vinyl 12" x 12" x 1/8" Imperial Texture, Pearl White #51803 unless color selection is noted on the plans. No substitutions.
- B. Slip resistant tile shall be the county standard product, Armstrong Safety Zone Slip-retardant vinyl 12" x 12" x 1/8", Stone Beige #57005 where specified unless color selection is noted on the plans. No substitutions.
- C. Seamless flooring shall be the County standard Armstrong Connection Corlon Inlaid Sheet Vinyl. Color selection shall be 88713 unless noted otherwise No substitutions.
- D. Carpet shall be the county standard, Shaw Contract Group. Style Name: Charisma, Style Number 59561, Carpet Tiles, color; legend, unless color selection is noted on the plans. No substitutions.
- E. Resilient base shall be the county standard Burke Base Thermoset Rubber type TS wall base, 4" coved, 523 brown black. No substitutions.
- F. Edge strips shall be Mercer or equal, color as selected. Reducer to be Mercer Stock No. 73A.
- G. Underlayment as needed or required to assure a quality blemish-free installation per the manufacturer's recommendation.
- H. Adhesives. The following adhesive products have been selected as the county standard products for installing any of the above flooring products. No substitutions.
 - 1. Vinyl Tile adhesive shall be Mapei Ultrabond ECO 300 Professional Solid Vinyl Flooring Adhesive.
 - 2. Carpet adhesive shall be Mapei Ultrabond ECO 85 Standard Quick-Grab Carpet Adhesive.
 - 3. Resilient base adhesive shall be Mapei Ultrabond ECO 575 Premium Wall Base Adhesive.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Depressions and projections that may be visible in the finished work shall be filled and removed. Foreign matter that may destroy bond shall be removed.
- B. Flooring shall not be laid until a sufficient length of time has elapsed after the heat has been turned on to ensure that the moisture in or under the slab has vaporized sufficiently and that the installation will not be affected.
- C. Starting of work by flooring contractor will be considered as acceptance of existing conditions as suitable for its work.

3.2 INSTALLATION

- A. All materials shall be installed in strict conformance with manufacturer's recommendations.
- B. Edge strips are required in openings to rooms with flooring change.

3.2 CLEAN UP

- A. Remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior and exterior substrates.
 - 1. Steel.
 - 2. Shop primed steel.
 - 3. Galvanized metal.
 - 4. Wood.
 - 5. Gypsum board.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.

- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: **All interior paint products must meet approval of County Risk Management for odor and VOC content.** For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 3. VOC content.
 - 4. MSDS.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 degrees F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- D. Colors: As selected by Architect from manufacturer's full range.
- 2.2 METAL PRIMERS
- A. Exterior Primer, Alkyd, Anti-Corrosive for Metal: MPI #79.
 - B. Interior Primer, Alkyd, Quick Dry, for Metal: MPI #76.
- 2.3 WOOD PRIMERS
- A. Exterior Primer, Alkyd for Exterior Wood: MPI #5.
- 2.4 SOLVENT-BASED PAINTS
- A. Alkyd, Quick Dry, Metal, Semi-Gloss (Gloss Level 5): MPI #81.
 - B. Alkyd, Exterior, Wood or Metal, Semi-gloss, (Gloss Level 5): MPI #94.
 - C. Alkyd, Exterior Flat (Gloss Level 1): MPI #8.
- 2.5 EXTERIOR LATEX PAINTS
- A. Latex, Exterior, Flat (Gloss Level 1): MPI #10.
 - B. Latex, Exterior, Low Sheen (Gloss Level 3-4): MPI #15.
 - C. Latex, Exterior, Semi-gloss (Gloss Level 5): MPI #11
- 2.6 INTERIOR PRIMERS/SEALERS
- A. Primer Sealer, Interior, Institutional Low Odor/VOC: MPI #149.

- B. Primer, Latex, for Interior Wood: MPI #39.

2.7 INTERIOR LATEX PAINTS

- A. Latex, Interior, Institutional Low Odor/VOC, Flat (Gloss Level 1): MPI #143
- B. Latex, Interior, Institutional Low Odor/VOC Egg-shell (Gloss Level 3): MPI #145
- C. Latex Interior, Institutional Low Odor/VOC, Semi-gloss (Gloss Level 5): MPI #147

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- B. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- G. Wood Substrates:
 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 2. Sand surfaces that will be exposed to view, and dust off.
 3. Prime edges, ends, faces, undersides, and backsides of wood.
 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

PAINTING

- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed to view:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

- A. Steel Substrates:
 - a. Prime Coat: Primer, alkyd, anticorrosive for metal, MPI #79.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Topcoat: Alkyd, Quick Dry, Semi-gloss, MPI #81.
- B. Galvanized-Metal Substrates:
 - a. Prime Coat: Primer, galvanized metal, as recommended in writing by topcoat manufacturer for exterior use on galvanized-metal substrates with topcoat indicated.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Topcoat: Alkyd, exterior, flat (Gloss Level 5), MPI #8.

- C. Wood Substrates: Including wood trim, doors, and wood siding.
 - a. Prime Coat: Primer, alkyd for exterior wood, MPI #5.
 - b. Intermediate Coat: Latex, Exterior Matching Topcoat.
 - c. Topcoat: Latex, Exterior, Low Sheen, MPI #15.

3.6 INTERIOR PAINTING SCHEDULE, WATER BASED COMPOUND PAINT

- A. Steel Substrates:
 - a. Prime Coat: Primer, quick dry, for metal, MPI #76.
 - b. Intermediate Coat: interior, matching topcoat.
 - c. Topcoat: Alkyd, Quick Dry, Semi-gloss, MPI #81
 - d. Low VOC Topcoat: Latex, Interior, Institutional Low Odor/VOC Semi-gloss, MPI #147.
- B. Gypsum Board Substrates:
 - a. Prime Coat: Primer/Sealer Low Odor/VOC: MPI #149.
 - b. Intermediate Coat: Latex, Interior, Low Odor/VOC matching Topcoat.
 - c. Topcoat: Latex, Interior, Low Odor/VOC, Egg-shell, MPI #145 (unless otherwise noted)
- C. Interior Wood Substrates:
 - a. Prime Coat: Wood Primer, MPI # 39
 - b. Intermediate Coat: Latex, Interior, Low Odor/VOC matching Topcoat.
 - c. Topcoat: Latex, Interior, Low Odor/VOC, Semi-gloss, MPI #147.

END OF SECTION

SECTION 16000 - ELECTRICAL

PART 1 - GENERAL

- 1.1 THIS SECTION outlines the general requirements for the electrical system. The electrical system includes, but is not limited to, all wiring, devices, grounding, circuit protection, switches, outlets, panel boxes, meters, connectors, accessories and fixtures necessary for a complete installation with all equipment, appliances and controls connected and ready for use. The job entails new construction and interfacing with existing Work.
- 1.2 QUALITY ASSURANCE:
- A. Building Code: California Building Code most recent edition with current State and local amendments.
 - B. Electrical Code: California Electric Code most recent edition with current State and local amendments.
 - C. Energy Requirements: All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.
 - D. Comply with all applicable local codes and regulations unless stricter standards are indicated.
 - E. All equipment, materials, fixtures shall bear U/L label rating. All exterior components and those in bathroom areas shall bear U/L label rating for damp locations.
 - F. Accessibility Requirements: All materials and workmanship shall comply with the all requirements for accessibility as set forth in the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Federal Americans with Disabilities Act in effect at the time of construction.
- 1.3 SUBMITTALS:
- A. Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.
 - B. Submit electrical load calculations for review by Architect.

PART 2 - PRODUCTS

2.1 LOADCENTERS

- A. Manufacturer: Square-D, Westinghouse, ITE, or equivalent.
- B. Construction: Boxes shall be made from cold rolled code gauge sheet steel having multiple knockouts and shall be factory assembled into a single rigid structure. Hinged doors covering all circuit breaker handles shall be included in all trims. Doors shall have a manually operated spring latch.
- C. Finish: Finish shall be medium light gray ASA49 enamel.
- D. Bussing: Bus bars for the mains and cross connectors shall be of copper or tin plated aluminum in accordance with UL standards. Bussing shall be braced throughout to conform to industry standard practice governing short circuit stresses in load centers. Neutral bussing shall have a suitable lug for each outgoing feeder requiring a neutral connection of same ampacity as branch.
- E. Overcurrent Devices: Plug-on type circuit breakers. All breakers shall be full-size. No "half-size", or "wafer-size" breakers shall be allowed.

2.2 METER ASSEMBLIES

- A. General
 - 1. Meter Assemblies shall meet the enclosure requirements established by UL and shall be furnished with a UL label stating the switchboard is "Suitable for use as a Service Equipment" and shall meet the requirements of PG&E as service entrance equipment.
 - 2. Metering sections shall be provided with 5-jaw meter sockets for 120/240V 1 phase 3 wire service. All meter sockets shall be UL approved for "continuous duty".
 - 3. Shall be as manufactured by Square-D, Westinghouse, ITE, GE or equivalent.
 - 4. Underground Termination Facilities: Provide termination facilities in accordance with PG&E standards.

2.3 CONDUIT AND FITTING

A. Rigid Steel Conduit

1. Conduit, rigid steel: full weight, threaded, hot-dip galvanized, inside enameled, conforming to ANSI C80.1.

B. Electrical Metallic Tubing (EMT)

1. Conduit: Shall be formed of cold rolled strip steel, electrical resistance welded continuously along the longitudinal seam and hot-dip galvanized after fabrication. Conduit shall conform to ANSI C90.3 specifications and shall meet UL requirements.

C. Rigid Non-Metallic Conduit

1. Conduit: Schedule 40 PVC, Carlon or equal.
2. All fittings solvent welded.

D. Surface Mounted Conduit

1. Conduit: Surface Metal Raceway, Legrand Wiremold 700 series or equal for low voltage applications.
2. All fittings and boxes to match raceway materials.

2.4 WIRE AND CABLE

A. General

1. Acceptable manufacturers: General Electric Co., Southwire, Triangle, PWC Inc., or equivalent.
2. Conductor material: All wire and cable shall be insulated copper conductors for all wire sizes.
3. Insulation: Insulation shall be THWN-THHN for wire sizes through size 1/0 AWG. For larger sizes insulation shall be THWN, XHHW, THW or as required to suit application.
4. Fixture wire: Type AF
5. Metallic Sheathed Cable: Type MC with ground.

6. Telephone and computer network cable to be Category 6 type communications cable.

8. Minimum conductor size:

Power and lighting branch circuits:	#12 AWG
Small appliance circuits:	#12 AWG
Signal and control circuits under 100 volts:	#14 AWG

Provide low voltage wiring as required in the National Electrical Code.

2.5 OUTLET BOXES AND COVERS

- A. Standard Outlet Boxes: Galvanized, one-piece, drawn steel, knock-out type of size and configuration best suited to the application indicated on the plans. Minimum box size, 4 inch square by 1-1/2 inch deep.
- B. Switch Boxes: Two inch by 3 inches long, galvanized steel switch boxes shall be used only for the installation of single switches. Install multiple switches in standard gang boxes with raised device covers suitable for the application indicated.
- C. Nonmetallic Outlet Boxes: PVC type nonmetallic boxes, and nonmetallic raised covers as manufactured by Carlon or equivalent may be used in lieu of standard steel boxes in conformance with the requirements of the National Electrical Code.

2.6 SWITCHES AND RECEPTACLES

A. General

- 1. All general purpose 15 and 20 ampere, 125-250 volt receptacles and 120-277 volt switches shall conform to NEMA WD-1 and applicable UL tests.

B. Receptacles:

- 1. Ground fault circuit interrupter receptacle: NEMA type 5-15R residential grade, LEVITON MFG. CO. #6599-W or equivalent.
- 2. Duplex receptacles; NEMA type 5-15R residential grade, LEVITON #5096-W or equivalent. NEMA type 5-20R for damp locations.
- 3. Floor receptacles: 1-gang rectangular floor box Carlon # E976RFB and #E9761 cover or equivalent with stainless steel finish.

- C. Switches: Fifteen and Twenty ampere, 120-277 volts, fast make-slow break, quiet type switch with silver cadmium alloy contacts, binding head terminal screws, back and side wired. All switches shall be of color approved by Architect.

- 1. Single pole, single throw, residential grade, LEVITON #53501-W or equivalent.
- 2. Three-way, residential grade, LEVITON 53503-W or equivalent.
- 3. Dimmer light switch, UL listed, built-in TV/radio interference filter and choke filter, LEVITON 'DECORA' series suitable for type of lamp.

2.7 DEVICE PLATES

- A. Flush Device Plates: residential areas, plates shall be smooth plastic, LEVITON #8600 series or equal, of color approved by Architect.

- 1. Outlets installed within the building on exterior walls shall have device plates provided with full-size 1/8" thick rubber neoprene close cell gaskets, with knockouts for receptacles or switches.

- B. Surface Mounted Devices, indoor: Galvanized metal or fit box.

- C. Outdoor, Weatherproof: PVC construction, corrosion resistant, heavy duty, hinged cover flap, and gasket.

2.8 PROTECTIVE DEVICES

- A. Circuit Breakers: Molded case, bolt-on, thermal magnetic type, 40 degrees C. Ambient temperature compensated, fixed mounting, with quick-make, quick-break switching mechanism mechanically trip-free from the operating handle and conforming to applicable codes.

- B. Ratings: Refer to drawings and prepare panel schedules for trip frame and poles required. Minimum short circuit rating for 120/240 volt breakers is 22,000 A.

2.9 IDENTIFYING DEVICES

- A. Panelboard Directories: Shall be typewritten, arranged in numerical order and shall show the number where the circuit is located. The room numbers used shall be verified with the Owner and shall not necessarily be those used in the drawings. Mount directories in a 6"x8" metal frame under glass inside each panelboard.

- B. Wire and Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wrap around strip. Brady B191 series, Thomas & Betts WSI series, or equivalent.

2.10 TELEPHONE/CATV SERVICE BOXES

- A. Provide recessed, mounted protector box as manufactured by Benner-Nawman, model BN1020 and BN1120W, constructed of galvanized steel, with weather resistant screwed on lid.
- B. Provide box with riser conduit and ground wire per Pac Bell requirements.

2.11 GROUNDING

- A. Enclosures of equipment, raceways, and fixtures shall be permanently and effectively grounded. Provide code sized (unless otherwise indicated) copper, insulated green equipment ground with non-metallic conduit runs. Equipment ground shall originate at panelboard ground bus and shall be bonded to all switch and receptacle boxes and electrical equipment enclosures.
- B. Building services shall be grounded using concrete encased electrode installed in footings, per NEC Article 250. Bonding shall be made to cold water pipe and gas pipe.

2.12 LIGHTING FIXTURES: See Lighting Fixture Schedule.

2.13 ALARM SYSTEM: Provide complete smoke detector system and fire alarm to meet all requirements of applicable codes.

PART 3 -- EXECUTION

3.1 CONDUIT AND RACEWAY APPLICATIONS

- A. Rigid Steel Conduit: For all exposed conduit exposed to mechanical damage.
- B. Electrical Metallic Tubing (EMT): For concealed interior conduit.
- C. PVC Conduits: Schedule 40 PVC may be used underground with 3" sand under and 6" sand over when serving lighting circuits and power secondary circuits. PVC conduit may be used exposed at meter assemblies where protected from damage.

3.2 CONDUIT INSTALLATION

- A. General
 - 1. Conduit system shall be concealed unless exposed work is clearly called for on the drawings.

2. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing “pennies” to seal open ends.
3. In all empty conduits or ducts, install a 200-pound tensile strength polyethylene pulling rope.
4. Conduit systems shall be electrically continuous throughout. Install code size, insulated, copper, green grounding conductor in all conduit runs as required by code, or as indicated on drawings.

B. Layout

1. Locations of conduit runs as indicated on site and electrical plans.
2. Where practical, install conduits in groups in parallel, vertical or horizontal runs and at elevations that avoid unnecessary offsets.
3. Exposed conduit shall be run parallel or at right angles to the centerlines of columns and beams.
4. Conduits shall not be placed closer than 12 inches from a parallel hot water or steam line or 3 inches from such lines crossing perpendicular to the runs.

C. Supports

1. All raceway systems shall be secured to the building structures using specified fasteners, clamps and hangers spaced according to code requirements. Secure surface raceway to studs or blocking. Adhesive mounting is not permitted.
2. Support single runs of conduit using one hole pipe straps. Where run horizontally on walls in damp or wet location, install “clamp backs” to space conduit off the surface.

3.3 CABLE AND WIRE INSTALLATION

A. General

1. Conductors shall not be installed in conduit until all work of any nature that may cause injury is completed. Care shall be taken in pulling conductors that insulation is not damaged. UL approved non-petroleum base and insulating type pulling compound shall be used as needed.
2. All cables shall be installed and tested in accordance with manufacturer’s requirements and warranty.

B. Splicing and Terminating

1. All aspects of splicing and terminating shall be in accordance with cable manufacturer's published procedures.
2. Make up all splices in outlet boxes with conductors as specified herein with separate tails of correct color to be made up to splice. Provide at least six (6) inches of tails packed in box after splice is made up.

C. Sheathed Cable

1. Nonmetallic Sheathed Cable shall not be permitted on this project
2. Metallic Sheathed Cable may be used shall be used for branch circuits from load centers or junction boxes
3. Cables shall comply with NEC Section 300-4 where installed through studs, rafters and similar members.

3.4 INSTALLATION OF BOXES AND WIRING SERVICES

A. General

1. All outlets shall finish FLUSH with building walls and ceiling, except where exposed work is called for. There shall be no gap between box and wall or ceiling material. Any opening between box and wall or ceiling shall be caulked airtight at party wall boxes shall be sealed with approved acoustic sealant.
2. Install raised device covers on all outlet boxes as required to finish flush with surface. Covers shall be of a depth to suit the wall or ceiling finish.
3. Exposed outlet boxes and boxes in damp and wet locations shall be cast metal with gasketed cast metal cover plates.

B. Box Layout

1. Outlet boxes shall be installed at the locations and elevations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.
2. Outlet boxes in stud walls and partitions shall not be mounted back-to-back nor shall through-wall boxes be permitted.

C. Mounting Heights: Mounting heights of devices as measured from the top of the faceplate shall be as follows:

Device	Height (Inches)
Convenience receptacles	12
Convenience receptacles above counters or at lavatories unless otherwise noted.	44
Switches, light + 46" at kitchen	48
Telephone Outlet	12

3.5 INSTALLATION OF MANUFACTURED ITEMS

For all manufactured products, follow manufacturer's installation instructions and details as specifically modified by the Drawings and Specifications using materials and methods described in the installation instructions. Contractor shall provide any and all fasteners, hardware, mounting devices, brackets, valves, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.

3.6 COORDINATE installation and connection of the work with other affected trades.

3.7 TEST, ADJUST and balance system for proper operation

3.8 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

3.9 INTERFACE WITH EXISTING WORK: The work involves remodeling of an structure and adding on to it. Prior to submitting a bid, it is the Contractor's responsibility to examine the existing site and structures, and to verify the construction details as well as all other existing conditions which must mesh with new work. Include in the bid price a sum to cover costs of items necessary to perform work. No allowance will be made to a bidder because of a lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examinations.

3.10 EXISTING SERVICES

- A. Active Services: When encountered in work, protect, brace, support existing active gas, electric, other services where required for proper execution of work. If existing active services are encountered that require relocation make request in writing for determination. Do not proceed with work until written directions are received. Do not prevent or disturb operation of active services that are to remain.
- B. Inactive Services: When encountered in work, remove, cap, or plug inactive services. Notify utility companies or municipal agencies having jurisdiction; protect or remove these services as directed.

3.11 CUTTING, PATCHING, RESTORING

- A. Unless otherwise specified, each contractor shall do all cutting, drilling, patching, restoring that may be required in connection with his work, he shall restore work of other contractors damaged by him.
- B. No contractor shall do any cutting that may impair strength of building construction. No holes, except for small screws, may be drilled in beams or other structural members without prior approval.
- C. Patch and/or trim with materials that match existing to correct unsightly conditions caused by remodeling.

SECTION 16700 – TELEPHONE & DATA SYSTEMS

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Design, materials, labor, equipment, testing, and documentation for local area network (LAN) structured cabling work in accordance with the following published standards, hereinafter referred to as the “Standards”:
 - 1. ANSI/TIA/EIA 568B, “Commercial Building Telecommunications Cabling Standard”.
 - 2. ANSI/TIA/EIA 569, “Commercial Building Standard for Telecommunications Pathways and Spaces”.
 - 3. EIA/TIA TSB-67, “Transmission Performance Specifications for Field Testing of UTP Cabling Systems”.
 - 4. ANSI/TIA/EIA 606, “Administration Standard For The Telecommunications Infrastructure of Commercial Buildings”.
 - 5. TIA/EIA 607, “Commercial Building Grounding and Bonding Requirements for Telecommunications”.
 - 6. ANSI/TIA/EIA-A-5.
 - 7. EIA/TIA TSB-95.
- B. The scope of the Structured Cabling work includes the following:
 - 1. Remove and replace network data cabling to modular the office system including:
 - a. Document and label existing network layout and pathways prior to removal.
 - b. New data cabling and terminations upon completion of the flooring new installations.
 - 2. New Pathways as required including conduits, junction boxes, cable trays, ducts, wireways, cable supports, and cabling management systems.
 - 3. Telecommunication outlets and data jacks.
 - 4. Cross-connect fields, patch-panels, and cable terminations at the MDF and IDFs in telecommunications rooms and closets as required.
 - 5. Documentation and labeling.

6. Cable testing and reports.

1.2 RELATED WORK

- A. Related Sections: The completion of the Work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or Drawings necessary for a complete installation of the Work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 16000 - Electrical.

1.3 WORK NOT INCLUDED

- A. Hubs, switches, routers, transceivers, and other active network equipment.
- B. Servers and workstation equipment.
- C. Patch cables, baluns, and adapters.

1.4 SUBMITTALS

- A. Cable Diagram: Indicating location of telecommunication outlets, routing of cable, location of MDF and IDFs, patch panel schematic, typical face plate pin out detail, and identification/labeling standard.
- B. Backbone and horizontal cabling including but not limited to the following:
 - 1. Unshielded twisted pair (UTP) cables.
- C. Connectors and terminations used for UTP cabling.
- D. Wall mount and floor mounted distribution equipment racks, frames, bracing, and anchors.
- E. Surface raceway, cable tray, and cable management systems.
- F. Cross-connect punch-down blocks, UTP modular patch-panels, and components.
- G. Telecommunication outlet jacks, boxes, bezels, modules, and cover-plates.

PART 2 – PRODUCTS

2.1 RACEWAYS, PATHWAYS, AND BOXES

- A. Provide conduit, wireway, cable-trays, junction boxes, and outlet boxes as indicated on the Drawings. Materials shall be in accordance with Specification Section 16000 in addition to specific requirements of the Standards.
- B. In attic, plenum or other concealed spaces where conduit or trays are not required, provide cable support "J" hooks: Eaton B-line or equal.
- C. Provide pull-lines in both empty and partially occupied data and telecomm raceways. Partially occupied raceways are considered to be those that are filled to less than 40% of the cross sectional area of the raceway. Pull-line sizes and types are as follows:
 - 1. Conduits 1-1/4" and smaller: 3/16" polyester pre-measured printed tape, Greenlee Textron #434.
 - 2. Conduits 1-1/2" and larger: 1/4" Kevlar pre-measured printed tape, Greenlee Textron #39243.
 - 3. Cable trays longer than 10' in length: Rig continuous traveling pull-lines of 1/4" polypropylene between access points so as to allow multiple sequential cable installations over the life of the Project.
- D. Provide rough-in outlet boxes for data and telecomm outlets in size 4-1 1/16" square by 2-1/8" deep with single gang plaster rings. Select special knockout provisions to match the conduit entries indicated on the Drawings.

2.2 TERMINAL BACKBOARDS

- A. 3/4" exterior grade plywood, finished on one side. Furnish in 4' x 8' sheets and cut to fit the available space. Finish with two coats of white fire retardant paint.

2.3 EQUIPMENT RACKS AND CABINETS

- A. Freestanding (floor) mounted: Standard EIA 19" aluminum rack with vertical cable management between sections. Chatsworth GF Series or equal. For each two sections of rack, provide an adjustable steel channel mounting brace or lateral ladder rack section for anchorage to the wall or ceiling.
- B. Wall Mounted: 24" Heavy Duty EIA 19" rack in vented steel locking enclosure by Tripp Lite or equal. Provide mounting bracket and proper anchorage to wall.

2.4 PATCH PANELS AND CROSS-CONNECTS

- A. All UTP components shall be rated to CAT-6A including cable, outlets, terminations, and patch panels.
- B. Unshielded twisted pair (UTP) components:
 - 1. Cat 6A UTP termination panels, 48 port, rack-mounted: Panduit #CP48BL.

2. Cat 6A UTP termination modules, T568B (RJ45 type): Panduit #CJ588-X (color per scheme).
- C. Cable management components:
1. Vertical cable management, 4" x 5" plastic wiring duct, front and rear: Panduit #WMPVS20 (on sides of racks) and #WMPVC20 (between adjacent racks).
 2. Horizontal cable management, 3" x 3" plastic wiring duct on front, 2" x 4" plastic wiring duct on rear, 2 rack space unit: Panduit #WMP1 (required between patch panels and at top and bottom).
 3. Cable ties: Velcro type, Panduit HLT or HLS series (color at Contractor's discretion).

2.5 UNSHIELDED TWISTED PAIR (UTP) CABLE

- A. Category 6A UTP cable: Unshielded, 4 twisted-pair, non-plenum type, extended performance, tested to 500MHz.
- B. Belden or equal.
- C. Color for cable shall be red for A and blue for B.

2.6 TELECOMMUNICATIONS OUTLETS AND DATA JACKS

- A. Where individual wall data outlets are indicated, provide 2-port, single-gang or 4-port double-gang outlets with bezels, adapters, faceplates, and Category 6A, RJ45 modules. The actual quantity and configuration of activations shall be as scheduled on the Drawings.
 1. Faceplate bezel: Panduit #CBEIW.
 2. Flat inserts: Panduit #CHF2IW.
 3. Sloped inserts: Panduit #CHS2IW.
 4. Blank inserts: Panduit #CH2IW.
 5. Modular jacks, T568B (RJ45 type): Panduit #CJ588-X (color per scheme).
- B. Where data outlets in surface wireway or modular furniture are indicated, provide 4-port, single-gang outlets with bezels, adapters, faceplates, and Category 6A, RJ45 modules. The actual quantity and configuration of activations shall be as scheduled on the Drawings.
 1. Duplex style frame for duplex receptacle style wireway covers: Panduit #CFFP4IW.
 2. Snap-in faceplates for "Industry Standard" furniture and wireway openings: Panduit #CHF2IW.
 3. Modular jacks, T568B (RJ45 type): Panduit #CJ588-X (color per scheme).

- C. Provide surface mounted boxes for outlets installed using surface mounted conduit or wireway. Size the box for the largest required conduit or wireway entry. Single gang outlets with accessories and faceplates with a similar appearance to flush-mounted telecommunications outlets. Boxes shall be Panduit PJBX36IW.
- D. Single data outlets that must be concealed in under-floor duct or attached inconspicuously to furniture or casework shall be fastened with low profile, two module, surface mount boxes. In no case shall cable data or telecom cabling be directly terminated without physical protection and support.
 - 1. Outlets box: Panduit #CBXJ2IW-A.
 - 2. Modular jacks, **T568B** (RJ45 type): Panduit #CJ588-X (color per scheme).
- E. Water Resistant Faceplates:
 - 1. 4-port Panduit Mini-Com # CFPWR4.
- F. Verify the color selection of data and telecommunications devices in the finished environment with Architect prior to installation.

PART 3 – EXECUTION

3.1 RACEWAYS, PATHWAYS, AND BOXES

- A. Chose concealed pathways and flush mounted “remodel” boxes in any applications where stud bays are accessible for cable routing. Unless noted on the drawings, express permission by the County is required for use of surface mounted wireway and outlet box installations.
- B. In ceiling, attic, plenum or other concealed spaces where conduit or trays are not required, provide cable support from structural elements on “J” hooks at 6’ intervals with cables bundled in common groupings. Do not lay cables across T-bar or sheetrock ceilings.
- C. Install conduit, wireway, cable-trays, junction boxes, and outlet boxes as indicated on the Drawings. Installation methods shall be in accordance with Section 16000 in addition to the specific requirements of the Standards.

3.2 TERMINATIONS AND SPLICES

- A. Perform terminations and splices of backbone and horizontal cabling at each MDF, IDF, and station outlet. Splices and terminations shall be performed only by competent technicians proficient in latest standardized procedures.
- B. Category 6A UTP cabling terminations shall be performed using the insulation displacement contact (IDC) method. Take special care to observe jacket cut-back and pair twist requirements to preserve the performance of data cabling.
- C. Route, lace, and support both UTP cabling in accordance with the Standards. Observe published bending radius and pulling tension limitations during installation.

- D. The entire UTP channel shall be installed, terminated, and tested to meet or exceed CAT-6A standards.
- E. Provide a minimum of 3' slack for UTP cable at each MDF/IDF and 1' slack at data outlets to allow for adds/moves/changes. Slack shall be coiled in a service loop above the ceiling.

3.3 TERMINAL BACKBOARDS AND EQUIPMENT RACKS

- A. Fasten backboards securely to the structural wall framing. Provide blocking between wall studs or metal framing prior to application of wall finishes where substantial support cannot be obtained for the wall framing alone. Install the board with the finished side out and secure with #12 x 3" all-purpose screws spaced at not more than 2' apart.
- B. Anchor freestanding equipment racks to the building floor with 3/8" x 3" concrete expansion wedge anchors fastened through the base plate. Provide a minimum of four (4) anchors per rack. In addition racks over 47" high shall be tied back to the building structure at the top for additional seismic support.

3.4 TELECOMMUNICATIONS OUTLETS AND DATA JACKS

- A. Provide flush, large, double gang, back-boxes with single gang plaster rings for mounting of telecommunications outlets in finished walls.
- B. Unless otherwise indicated, wire Category 6A, UTP data jacks to the TIA 568B wiring configuration.

3.5 TESTING AND DOCUMENTATION

- A. Testing for UTP cable shall follow TSB-95 and shall include the following: Return Loss, ELFEXT, Far-end crosstalk, Power sum far-end crosstalk, Power sum near-end crosstalk, Delay, and Delay Skew. Testing shall include both Basic Link and Level II tests. Horizontal UTP cable shall meet the performance criteria as stipulated in the table below and as amended by the latest applicable Standards. Replace, re-splice, or re-terminate cables that do not meet the specified performance criteria. Retest and document the replacement cables.
 1. Characteristic impedance: 100 ohms "15% from 1 MHz to 100 MHz.
 2. Mutual capacitance: 17 pF maximum per 100 meters.
 3. Attenuation is given as the maximum allowable attenuation in dB per 100m for the worst pair in the cable.
 4. NEXT (near end cross talk) is given as the minimum allowable NEXT loss in dB for the worst pair in the cable.

Category 5e Horizontal Cable Performance Table

Frequency (MHz)	Attenua- tion	NEXT (dB/100m)	ACR (dB/100m)	PS-NEXT (dB/100m)	PS-ACR (dB/100m)	SRL (dB)
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	(dB/100m)					
0.772	1.8	76	74.2	74.0	72.2	-
1.0	2.0	74.3	72.3	72.3	70.3	25.0
4.0	3.8	65.3	61.5	63.3	59.5	25.0
8.0	5.3	60.8	55.5	58.8	53.5	25.0
10.0	6.0	59.3	53.3	57.3	51.3	25.0
16.0	7.6	56.2	48.6	54.2	46.6	25.0
20.0	8.5	54.8	46.3	52.8	44.3	25.0
25.0	9.5	53.3	43.8	51.3	41.8	24.5
31.25	10.7	51.9	41.2	49.9	39.2	24.0
62.5	15.4	47.4	32.0	45.4	30.0	22.5
100.0	19.8	44.3	24.5	42.3	22.5	21.5
155	25.2	41.4	16.2	39.4	14.2	20.6
200	29.0	39.8	10.8	37.8	8.8	20.0
250	32.8	38.3	5.5	36.3	3.5	19.5
300	36.4	37.1	0.7	35.1	-	19.1
350	39.8	36.1	-	34.1	-	18.8
400	43.0	35.3	-	33.3	-	18.5
500	48.9	33.8	-	31.8	-	18.0
550	51.8	33.2	-	31.2	-	17.8

Testing parameters: Temperature of cable shall be between 20° - 30° Celsius at the time of testing.

- B. Horizontal UTP cable connections shall meet the performance criteria as stipulated in the latest applicable Standards. Replace, re-splice, or re-terminate cables that do not meet the specified performance criteria. Retest and document the replacement connectors.

3.6 IDENTIFICATION AND CABLING MANAGEMENT

- A. Permanently and clearly identify individual cables, fibers, and grounding conductors at outlets, terminations, and cross connects in accordance with TIA/EIA 606 standards.
- B. Develop a record keeping system for the Project that tracks the location, use, and status of telecommunications and LAN infrastructure components and equipment.
- C. Prepare a report that cross references the linkages between the various components and equipment.
- D. Prepare a computer- and paper-based administration system that documents the above elements A, B, and C. Provide three (3) copies of the system to Architect.

END OF SECTION