



COUNTY OF MENDOCINO

**SOCIAL SERVICES TRAINING CENTER
TENANT IMPROVEMENT PROJECT**

841 Low Gap Road
Ukiah, California 95482

BID DOCUMENTS

PROJECT LOCATION:
COUNTY OF MENDOCINO
Central Services Building
841 Low Gap Road
Ukiah, CA 95482

INFORMATION:
COUNTY OF MENDOCINO
851 Low Gap Road
Ukiah, California 95482
Request for Bid #45-16

JAIL KITCHEN FREEZER ADDTION

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SECTION 000200

NOTICE INVITING BIDS

Notice is hereby given that sealed bids will be received at 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 Conference Room, on Tuesday October 25th, 2016 at which time they will be publicly opened and read aloud in the Facilities and Fleet Conference Room, at 851 Low Gap Road, Ukiah, California for the following project:

45-16 – Social Services Training Center Tenant Improvement Project

License required for this Project is: "B" License

Plans and documents may be seen or obtained at the Facilities and Fleet Division Office, 851 Low Gap Road, Ukiah, CA 95482. Total fee per set of plans and specifications is \$80.00, which fee is non-refundable. Exact change, company check or money order only. Electronic Plans and Documents may be seen or downloaded from the Mendocino County Web Page for Bidding Opportunities – Construction:

Bids shall be made up 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 will be held on Wednesday October 12th, 2016 at 9:00 a.m. at the Project site, 841 Low Gap Road, 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:

<http://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 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.

SECTION 001000

INSTRUCTIONS TO BIDDERS

PART 1 – GENERAL

1.1 BIDS RECEIVED

- A. Sealed bids for the Mendocino County BID No. 45-16 Social services Training Center Tenant Improvement Project will be received at 851 Low Gap Road, Ukiah, California, until 2:00 p.m. as determined by the clock on the wall of the Conference Room therein, on Tuesday, October 25th, 2016 and then publicly opened and read aloud in the Facilities Conference Room, at 851 Low Gap Road, Ukiah, 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 "B" License.
- 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 - FEES

- 1. Plans and documents may be obtained at the Facilities and Fleet Division office, 851 Low Gap Road, Ukiah, California. Total fee per set of plans and specifications is \$80.00, which fee is non-refundable. Exact change, company check or money order only. Electronic Plans and Documents may be seen or downloaded from the Mendocino County Web Page for Bidding Opportunities – Construction: <http://www.co.mendocino.ca.us/gs/central/rfps.htm#construction>.

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. **Mandatory pre-bid conferences will be held on Wednesday, October 12th, 2016 at 9:00 a.m. at the site, 841 Low Gap Road, Ukiah, California.**
- B. Following the meeting, a site review will be conducted to acquaint Bidders with the Project.

- C. Failure to attend one of the pre-bid conferences will disqualify a non-attending prime contractor 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]*

☒ (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 Ninety (90) 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 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 007000, Chapter 36 - Materials and Substitutions attached hereto. 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 IMPACT REPORT

Bidder agrees to perform its work in conformance with any environmental impact reports that may be applicable to the project.

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

Social Services Training Center
Tenant Improvement Project
September 28, 2016

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 001200

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): _____

Check one: ☐ Corporation ☐ Partnership ☐ Sole Proprietor

Contact Person: _____

Address: _____

Phone: _____ Fax: _____

If the firm is a sole proprietor or partnership:

Owner(s) of Company: _____

Contractor's License Number(s):

PART I. ESSENTIAL REQUIREMENTS FOR QUALIFICATION

The Contractor will be immediately disqualified if the answer to any of questions 1 through 5 is “no”.¹

The Contractor will be immediately disqualified if the answer to any of questions 6, 7, 8 or 9 is “yes”². If the answer to question 8 is “yes”, and if debarment would be the sole reason for denial of qualification, any qualification issued will exclude the debarment period.

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. Contractor has attached its latest copy of a reviewed or audited financial statement with accompanying notes and supplemental information.³
☐ Yes ☐ No

NOTE: A financial statement that is not either reviewed or audited is not acceptable. A letter verifying availability of a line of credit may also be attached; however, it will be considered as supplemental information only, and is not a substitute for the required financial statement.

5. Contractor has attached a notarized statement from an admitted surety insurer (approved by the California Department of Insurance) and authorized to issue bonds in the State of California, which states that Contractor's current bonding capacity is sufficient for the project for which it seeks qualification.
☐ Yes ☐ No

NOTE: Notarized statement must be from the surety company, not an agent or broker.

6. Has Contractor's license been revoked at any time in the last five (5) years?
☐ Yes ☐ No
7. 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

¹ A “no” answer to Question 4 will not be disqualifying if the Contractor is exempt from complying with Question 4, for reasons explained in footnote 3.

² A contractor disqualified solely because of a “yes” answer given to questions 6, 7, or 9 may appeal the disqualification and provide an explanation of the relevant circumstances during the appeal procedure.

³ Public Contract Code Section 20101(e) exempts from this requirement a contractor who has qualified as a small business pursuant to Government Code Section 14837(d)(1), if the bid is “no more than 25 per cent of the qualifying amount provided in Section 14837(d)(1)”. As of January 1, 2001, the qualifying amount is \$10 million, and 25 percent of that amount, therefore, is \$2.5 million.

8. 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:

9. 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

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 #

- 1d. Identify every construction firm that any person listed above has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years.
NOTE: For this question, "owner" and "partner" refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.

Person's Name	Construction Firm	Date of Person's Participation with Firm

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 #

- 1d. Identify every construction company that any partner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years.
NOTE: For this question, "owner" and "partner" refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.

Person's Name	Construction Firm	Date of Person's Participation with Firm

For firms that are sole proprietorships:

- 1a. Date of commencement of business: _____
 1b. Social security number of company owner: _____
 1c. Identify every construction firm that the business owner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years. _____
NOTE: For this question, "owner" and "partner" refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.

Person's Name	Construction Firm	Date of Person's Participation with Firm

For firms that intend to make a bid as part of a joint venture:

- 1a. Date of commencement of joint venture: _____
- 1b. Provide all of the following information for each firm that is a member of the joint venture that expects to bid on one or more projects:

Name of Firm	% Ownership of Joint Venture

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

Year	Gross Revenue

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

7. 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.

8. Was Contractor's firm in bankruptcy at any time during the last five (5) years? (This question refers only to a bankruptcy action that was not described in answer to question 7 above.)
☐ 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, and a copy of the Bankruptcy Court's discharge order, or of any other document that ended the case, if no discharge order was issued.

Licenses

9. List all California construction license numbers, classifications and expiration dates of the California contractor licenses held by Contractor's firm:

10. If any of Contractor's firm's license(s) are held in the name of a corporation or partnership, list below the names of the qualifying individual(s) listed on the CSLB records who meet(s) the experience and examination requirements for each license:

11. Has Contractor's firm changed names or license numbers in the past five (5) years?
☐ Yes ☐ No

If "yes", explain on a separate signed page, including the reason for the change.

12. Has any owner, partner, or (for corporations) officer of Contractor's firm operated a construction firm under any other name in the last five (5) years?
☐ Yes ☐ No

If "yes", please explain on a separate signed sheet.

Disputes

13. 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.

14. 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, and which is listed in response to question 1c or 1d on this form.
☐ 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.

16. 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.

17. 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).

18. 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).

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19. At any time during the last five (5) years, has any surety company made any payments on Contractor's behalf as a result of a default, to satisfy any claims made against a performance or payment bond issued on Contractor's behalf, in connection with a construction project, either public or private?
☐ Yes ☐ No

If "yes", explain on a separate signed page the amount of each such claim, the name and telephone number of the claimant, the date of the claim, the grounds for the claim, the present status of the claim, the date of resolution of such claim if resolved, the nature of the resolution, and the amount, if any, at which the claim was resolved.

20. In the last five (5) years, has any insurance carrier, for any form of insurance, refused to renew the insurance policy for Contractor's firm?
☐ Yes ☐ No

If "yes", explain on a separate signed page. Name the insurance carrier, the form of insurance, and the year of the refusal.

Criminal Matters and Related Civil Suits

21. 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.

22. 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.

23. 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

24. Bonding capacity: Provide documentation from surety identifying the following:

Name of bonding company/surety: _____

Name of surety agent, address, and telephone number:

25. If Contractor's firm was required to pay a premium of more than one percent (1%) for a performance and payment bond on any project(s) on which the firm worked at any time during the last three (3) years, state the percentage that the firm was required to pay. (An explanation for such percentage rate may be provided at Contractor's discretion.)

26. List all other sureties (name and full address) that have written bonds for Contractor's firm during the last five (5) years, including the dates during which each wrote the bonds:

27. During the last five (5) years, has Contractor's firm ever been denied coverage by a surety company, or has there ever been a period of time when your firm had no surety bond in place during a public construction project when one was required?

☐ Yes ☐ No

If "yes", provide details on a separate signed sheet indicating the date when Contractor's firm was denied coverage, the name of the company or companies which denied coverage, and the period during which no surety bond was in place.

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

28. 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 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.

29. 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.

30. 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.

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

32. 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 1.00 or higher, Contractor may, at its discretion, attach a letter of explanation.

33. Within the last five (5) years, has there ever been a period when Contractor had employees but was without workers' compensation insurance or state-approved self-insurance?

☐ Yes ☐ No

If "yes", please explain the reason for the absence of workers' compensation insurance on a separate signed page. If "no", please provide a statement from Contractor's current workers' compensation insurance carrier that verifies periods of workers' compensation insurance coverage for the last five (5) years. (If Contractor has been in business less than five (5) years, provide a statement from the workers' compensation insurance carrier verifying continuous

workers' compensation insurance coverage for the period that Contractor has been in the construction business.)

Prevailing Wage and Apprenticeship Compliance Record

34. Has there ever been more than one occasion during the last five (5) years in which Contractor was required to pay either back wages or penalties for its failure to comply with the *state's* prevailing wage laws?

NOTE: This question refers only to Contractor's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.

☐ Yes ☐ No

If "yes", attach a separate signed page describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed, the number of employees initially underpaid, and the amount of back wages and penalties Contractor was required to pay.

35. During the last five (5) years, has there been more than one occasion in which Contractor has been penalized or required to pay back wages for failure to comply with the *federal* Davis-Bacon prevailing wage requirements?

☐ Yes ☐ No

If "yes", attach a separate signed page describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed, the number of employees initially underpaid, and the amount of back wages and penalties Contractor was required to pay.

36. 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:

37. If Contractor operates its own State-approved apprenticeship program:

- (a) Identify the craft(s) in which Contractor provided apprenticeship training in the past year.
- (b) State the year in which each such apprenticeship program was approved, and attach evidence of the most recent California Apprenticeship Council approval(s) of Contractor's apprenticeship program(s).
- (c) State the number of individuals who were employed by Contractor as apprentices at any time during the past three (3) years in each apprenticeship and the number of persons who, during the past three (3) years, completed apprenticeships in each craft while employed by Contractor:

38. At any time during the last five (5) years, has Contractor been found to have violated any provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works?

NOTE: Contractor may omit reference to any incident that occurred prior to January 1, 1998, if the violation was by a subcontractor and Contractor, as general contractor on a project, had no knowledge of the subcontractor's violation at the time it occurred.

☐ Yes ☐ No

If "yes", provide the date(s) of such findings, and attach copies of the Department's final decision(s).

PART III. RECENT CONSTRUCTION PROJECTS COMPLETED

39. Contractor shall provide information about its six most recently completed public works projects and its three largest completed private projects within the last three (3) years.⁴ Names and references must be current and verifiable. Use separate sheets of paper that contain all of the following information:

- Project Name
- Location
- Owner
- Owner Contact (name and current phone number)
- Architect or Engineer
- Architect or Engineer Contact (name and current phone number)
- Construction Manager (name and current phone number)
- Description of Project, Scope of Work Performed
- Total Value of Construction (including change orders)
- Original Scheduled Completion Date
- Time Extensions (number of days)
- Actual Date of Completion

I, the undersigned, certify and declare that I have read all the foregoing answers to this qualification questionnaire and know its contents. The matters stated in the questionnaire answers are true of my own knowledge and belief, except as to those matters stated on information and belief, and as to those matters I believe them to be true. I declare under penalty of perjury under the laws of the State of California that the foregoing is correct.

Dated: _____
Contractor

⁴ Contractor may, using the same format, provide information about other projects that it has completed that are similar to the project for which it wishes to bid.

SECTION 003060

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 003070

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) ss.

_____, being first duly sworn, deposes
and says that he or she is _____ of

_____ 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

SECTION 003080

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 003100
BID FORM FOR
SOCIAL SERVICES TRAINING CENTER TENANT IMPROVEMENT PROJECT
FOR MENDOCINO COUNTY

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 Ninety (90) 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:

_____ Dollars (\$_____)

CONTINGENCY ALLOWANCE: Rot repair and Unforeseen Conditions –
Ten Thousand Dollars (\$ 10,000)

TOTAL BASE BID (INCLUDING ALLOWANCE)

_____ Dollars (\$_____)

ALTERNATE BIDS:

DEDUCTIVE ALTERNATE No. 1: New Enclosed Patio and Patio Roof

Deduct _____ Dollars (\$_____)

DEDUCTIVE ALTERNATE No. 2: New Carpet in Four Existing Offices

Deduct _____ Dollars (\$_____)

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 _____

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

Address _____

Name of State where 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.

CONTRACTORS LICENSE NO. _____ EXPIRATION DATE _____

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

DIR Registration #: _____

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: _____

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 _____

Corporate Seal

END OF SECTION

SECTION 004300

SUBCONTRACTORS LISTING FOR

SOCIAL SERVICES TRAINING CENTER TENANT IMPROVEMENT PROJECT

FOR MENDOCINO COUNTY

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, 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.

[illegible]This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

END OF SECTION

SECTION 005000

AGREEMENT FOR LUMP SUM BID

THIS AGREEMENT, made on the _____ day of _____ in the year _____, 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 for the installation and completion of the Mendocino County Sheriff's Administration Building HVAC Remodel 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 Ninety (90) 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. Notice Inviting Bids
2. Instructions to Bidders
3. Agreement
4. Contractor's Guarantee
5. Close-Out Items including all Warranties
6. General Conditions
7. Maintenance Materials
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:

_____ Dollars (\$_____).

This sum constitutes the bid for the following project components: BASE BID PLUS ALTERNATES.
This sum includes the following alternate bids:

Alternate No. 1 Enclosed Patio
Alternate No. 2 New Floor Covering at Central Services

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, the parties hereto have executed this Agreement as of the day and year first above written.

COUNTY OF MENDOCINO

DEPARTMENT FISCAL REVIEW:

DEPARTMENT NAME: Executive Office,
Facilities

DEPARTMENT HEAD _____ DATE _____

Budgeted: ☐ Yes ☐ No

Budget Unit:

Line Item:

Grant: ☐ Yes ☐ No

Grant No.: _____

CARMEL J. ANGELO, Chief Executive Officer

By: _____
PURCHASING AGENT

INSURANCE REVIEW:

RISK MANAGER

By: _____
ALAN D. FLORA, Risk Manager

CONTRACTOR/COMPANY NAME

By: _____ Date _____

NAME AND ADDRESS OF CONTRACTOR:

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

COUNTY COUNSEL REVIEW:

APPROVED AS TO FORM:

KATEARINE L. ELLIOTT,
County Counsel

By: _____
Deputy

FISCAL REVIEW:

By: _____
Deputy CEO/Fiscal

Signatory Authority: \$0-25,000 Department; \$25,001- 50,000 Purchasing Agent; **\$50,001+ Board of Supervisors**
Exception to Bid Process Required/Completed ☐ _____

END OF SECTION

SECTION 005010

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 005100

CONTRACTOR GUARANTEE FOR

SOCIAL SERVICES TRAINING CENTER – TENANT 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 006500

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. 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 approved 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 details 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 Director of General Services 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 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:

- 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, Courthouse, 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.

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.

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.

All contractors, including subcontractors, must have a Mendocino County Business License (MCBL), as required by Mendocino County Code Chapter 6.04, to work on this contract. At the time of contract award, all contractors who do not already have a MCBL shall apply for one, which shall be obtained prior to performance of any work by that contractor. Any subcontractor that does not have, or fails to obtain a MCBL is not permitted to perform work pursuant to this contract. The contractor/bidder bears the burden of the time and expense of finding and using a subcontractor who possesses a valid MCBL, and any change in subcontractor shall not affect or alter the responsibilities or obligations of the contractor/bidder to the County

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

On the twenty-fifth (25th) day of each month, the Contractor shall submit to the County an application for payment, using the forms supplied in Section 00505, showing an itemized statement for work that has been performed. The County within thirty (30) days of receipt of application, shall issue to the Contractor a certificate for ninety percent (90%) 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, 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 AND SUBSTITUTIONS

- 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 review 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 in triplicate, 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. The Contractor shall use one of the

blue line contract sets issued for construction for "Record" drawings. The set used must be complete, clean, and in good condition.

- 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 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 1 and 2 in all subcontracts to perform work under the Contract.

SECTION 008110

UNFORESEEN PHYSICAL CONDITIONS

PART 1 - 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. 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

- 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 Article 20 of 007000 – General Conditions 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.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

Social Services Training Center
Tenant Improvement Project
September 28, 2016

HIDDEN CONDITIONS REPORT (HCR)

Mendocino County {Project Name} 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:

<input type="checkbox"/> Site Work	<input type="checkbox"/> Structural	<input type="checkbox"/> Architectural	<input type="checkbox"/> HVAC
<input type="checkbox"/> Plumbing	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Electrical	<input type="checkbox"/> 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.

END OF SECTION

SECTION 008510

DRAWING INDEX

T1.1	TITLE SHEET
T1.2	NON-RESIDENTIAL MANDATORY MEASURES
T1.3	CONSTRUCTION WASTE
A0.1	SITE PLAN
A1.1	AS BUILT AND DEMO FLOOR PLAN
A1.2	NEW FLOOR PLAN W/ CANOPY
A1.3	FURNITURE, FIXTURE AND FINISHES
A1.4	ELEVATIONS
S1.0	CANOPY STRUCTURAL PLAN
ADA1	DISABLED ACCESSIBILITY DETAILS
M.1	MECHANICAL PLAN
E.1	(E) LIGHTING & (E) REFLECTED CEILING PLAN
E.2	AS BUILT AND NEW POWER PLAN
EC1	TITLE 24 – ENERGY COMPLIANCE

SECTION 010100
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. The General Conditions and Division 1 - General Requirements apply to the Work of all Sections.
- B. Contractor is hereby specifically directed to notify and apprise all subcontractors and other parties engaged in the Work as to the Contents of the General Conditions and Division 1 - General Requirements.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work shall be performed at a Project site located at the Mendocino County Central Services Building, 841 Low Gap Road, Ukiah, County of Mendocino.
- B. The Work of this Contract comprises construction of the Social Services Training Center Tenant Improvement Project as per attached plans and per the Scope of Work below:

Scope of Work:

- 1. The project consists of remodeling the demountable (Ultrawall) partitions, providing a new HVAC system, structured cabling for the new training facilities, ADA restroom upgrades and all appurtenant work required under the Contract Documents. A new enclosed and partially covered slab on grade patio will be included as an Alternate bid. The work shall include but not be limited to:
 - Demolition of existing partitions, bathroom fixtures, HVAC ductwork and equipment and obsolete data and communications cabling
 - Installation of new Demountable (Ultrawall) partitions and wall infill.
 - Installation of new structured cabling for data and communications
 - Installation of new line voltage circuits for equipment and work stations
 - Installation of new HVAC systems and Delta Controls
 - Installation of bathroom fixtures and accessories to meet ADA
 - Installation of new flooring and other finishes as shown

Alternate No. 1 Work shall include but not be limited to:

- Demolition, rough and finish grading for the patio
 - Slab and grade beam Foundation
 - Metal panel screen walls and patio covering
 - Hollow Metal Door and Frame
- 2. Additional requirements of all parties to the Contract are included in the Contract Forms and General Conditions of the Contract part of the Project Manual.
- 3. If certain features or systems are not fully shown or called for in the Contract Documents, their construction shall be of the same character and quality as for similar conditions that are shown, called for, or reasonably inferred.
- 4. Contractor shall provide all labor, equipment, and materials that are required to provide a complete properly operating and safe site. The extent of the work as indicated on the Drawings and as described in the Specifications shall include all that may be reasonably inferred to be required for proper execution or installation of work and for complete systems.

5. Should the General Conditions or Contract Documents contradict themselves, Contractor shall provide the more stringent or higher quality or quantity unless otherwise accepted by County.
6. The Drawings shall be recognized as diagrammatic in nature and not completely descriptive of all requirements for construction. Whatever work may be specified, and not drawn, or drawn and not specified, is to be executed as fully as if described in both these ways; and should any workmanship or material be necessary which is not either directly or indirectly noted in these specifications, or shown on the Drawings, but is nevertheless necessary for the purpose of properly carrying out the obvious intention thereof, Contractor is to understand the same to be implied, and is to provide for the same in its bid, as fully as if it were particularly described or delineated.

1.3 TYPE OF CONTRACT

- A. Contractor shall construct the Work under a single fixed-price Contract incorporating segregated lump sum prices for various optional portions of the Work.
 1. Where the term "Contractor" is used in the Specification, the General Contractor is referred to.
 2. Where the terms "Plumbing Contractor," "Electrical Contractor," etc., are used, it has been for convenience only and in no way affects the overall responsibility of the General Contractor.

1.4 PRECEDENCE OF DOCUMENTS

- A. In the case of discrepancy or ambiguity in the Contract Documents the following order of precedence shall prevail:
 1. Modifications in inverse chronological order and in alphanumeric order.
 2. Signed Agreement and terms and conditions referenced in the Signed Agreement.
 3. Supplemental Conditions.
 4. General Conditions.
 5. Division 1 specifications.
 6. Drawings and Division 2 through 16 specifications.
 7. Written numbers and figures, unless obviously incorrect.
 8. Figured dimensions over scaled dimensions.
 9. Large format drawings over small-scale drawings.
- B. Any conflict between the Drawings and Division 2 through 16 specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are not the same or are not determinable, then in favor of the specifications.
- C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete the Work required, then the actual quantity shall take precedence.

1.5 USE OF PREMISES

- A. General: Comply with requirements in General Conditions and Section 010400 Coordination.

- B. Area available for Contractor's use for work and storage, if any, is limited to the area designated on the Drawings.
- C. Fire Department Access: Contractor's use of premises shall not limit required Fire Department access.

1.6 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.

1.7 PERMITS FOR WORK

Project will be completed under an existing County of Mendocino Building Department Building Permit. Contractor is responsible for scheduling and passing all required building inspections and securing final acceptance.

1.8 USE AND OCCUPANCY BY COUNTY DURING CONSTRUCTION

County shall use and occupy portions of the building during construction. In accordance with section 010400 – Coordination, and prior to starting work, the contractor shall provide the County a detailed schedule of the areas of work and building locations and equipment operation affected by the work; in no event shall work begin until:

- A. The County has provided written approval for the work plan,
- B. The Contractor has fully coordinated the work in the occupied portions of the building to limit the disruption to County operations.
- C. The Contractor has identified any work areas requiring the County to vacate specific portions of the building, and temporary staff relocations have been implemented and fully coordinated.

While working in occupied areas, the contractor shall:

- D. Provide the County with daily updates of progress of the work and coordinate all upcoming disruptions to the operations of the County.

1.9 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.

1.10 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.
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.
- D. Form:
1. When an interpretation or clarification of the Contract Documents is required from County, Contractor shall make the request on a copy of the RFI form included in the end of this section or on a form approved by the County.
 3. Contractor shall limit the subject to one design discipline to expedite reply and attach supplementary information where necessary.
 4. County will reply or give summary of reply on the same form and include supplementary information where necessary.
 5. The completed form shall be the written record of each RFI.
- E. Uses:
1. The RFI form shall be used for interpretation or clarification of the Contract Documents only.
- 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 1.07.

END OF SECTION

REQUEST FOR INFORMATION (RFI)

Mendocino County Social Services Training Center TI Project

RFI No. _____

Submitted By: _____ Date: _____

	<i>Ctr to PM</i>	<i>PM to Arch</i>	<i>Arch to PM</i>	<i>PM to Ctr</i>
Date Sent:	_____	_____	_____	_____

Date Received:	_____	_____	_____	_____
----------------	-------	-------	-------	-------

Type of Information Requested:

<input type="checkbox"/> Site Work	<input type="checkbox"/> Structural	<input type="checkbox"/> Architectural	<input type="checkbox"/> HVAC
<input type="checkbox"/> Plumbing	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Electrical	<input type="checkbox"/> Other

Spec. Section: _____ Paragraph(s): _____

Drawing Sheet: _____ Detail(s): _____

Information Requested: _____

Reply: _____

By: _____ Firm: _____ Date: _____

The reply is a clarification or an interpretation of the Contract Documents. No change in the Contract Sum or Time is authorized. The Contractor shall notify the County in the event the Contractor believes the response to the RFI will result in additional costs. The Contractor shall comply with the requirements of Article 20 of 007000 - General Conditions regarding notice and submittal of an RFC.

SECTION 010400

COORDINATION

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Provision of coordination of the Work of the Contract.
- B. The project will be completed within a building that will remain in use by County departments on a daily basis. The Contractor shall coordinate his work to maintain the security and operational capabilities of the facility and to minimize the impact of his work on the day to day operation of county staff working in the building.
- C. Prior to the Bid, the General Contractor shall review the Construction Documents and verify each subcontractor has obtained and reviewed all drawings and specifications that relate to each subcontractor's scope of work, including the work of any other subcontractor whose scope of work may affect any other subcontractor.
- D. 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 Technical Specification Sections, apply to this Section.
 - 2. Section 007000 - General Conditions, Article 6.

1.2 GENERAL COORDINATION

- A. Contractor shall be responsible for all project coordination.
- B. Contractor shall coordinate with the County representative on a daily basis the progress of the work affecting county work areas in the building. Contractor shall identify work phases that require the County to move out of work areas and the durations required in each area. Coordinate the progress in each location with the County representative on a daily basis. The Contractor shall provide a schedule of the work involving the temporary disruption of employee work areas, hallways and public areas. Coordinate the progress in each location with the County representative on a daily basis. Provide and regularly update signage and construction barrier tape to clearly define active work areas and protect the public and county employees in the building. Do not begin work in occupied areas without confirmation that county staff has been advised.
- B. Contractor shall coordinate schedules, submittals, and work of the various trades to ensure efficient and orderly sequence of installation of construction, with provisions for accommodating items to be installed later. Contractor shall coordinate the work among the Specifications and Drawings. Work shown on any drawing or specification is required by the Contract irrespective of the trade subdivision. Contractor shall require each trade subcontractor to review all other subdivisions of the documents for related work and shall coordinate the subcontracts accordingly.
- C. Contractor shall require all parties involved in the performance of the Work to cooperate in the overall coordination of the work under the direction of Contractor. Each party, when requested to do so, shall furnish information concerning its portion of the work, and shall respond promptly and reasonably to the decisions and requests of persons designated with coordination, supervisory, administrative, or similar authority.

- D. Contractor shall coordinate matching finish, texture, color, etc. for the new work on existing components in the Project.
- E. Contractor shall coordinate work of like materials by submitting product samples to County for review of acceptable ranges of finish textures and color variation.
- F. Contractor shall coordinate completion and clean up Work in various locations to minimize the hazards and disruptions to county operations.

1.3 SUBCONTRACT COORDINATION

Contractor shall:

- A. Coordinate the Work and not delegate responsibility for coordination to any Subcontractor.
- B. Anticipate the interrelationship of all Subcontractors and their relationship with the Work and the operations of the County.
- C. Resolve differences or disputes between Subcontractors and County staff concerning coordination, interference, or extent of work or time required with designated county representatives.
- D. Coordinate the work of Subcontractors so that their portions of the work are performed in a manner that minimizes interference with the progress of the Work and the operations of the County.

1.4 ADMINISTRATION

- A. General: Contractor shall prepare a written memorandum on required coordination activities. Items such as required notices, reports and attendance at meetings shall be included. Contractor shall distribute this memorandum to each trade performing work at the project site and prepare similar memoranda for separate contractors where interfacing of their work is required.
- B. Coordination Meetings: Contractor shall conduct general project coordination meetings with Subcontractors and county representatives at least weekly at regularly scheduled times convenient for all parties involved. These meetings are intended to ensure that all parties are advised of the progress of the work and its impact on the County's operations.
- C. Superintendent: Contractor shall provide a full-time Superintendent experienced in administration and supervision of building construction. This Superintendent shall be authorized to act as general coordinator of interfaces between units of work. This Superintendent shall be on site, continuously during the construction period. Construction coordination shall be his/her principal duty.
 - 1. For the purpose of this provision, "interface" is defined to include scheduling and sequencing of work, sharing of access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspections, tests, and temporary facilities and services.

END OF SECTION

SECTION 011000

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. The Alternate proposals as described herein shall state the net sum to be **deducted from the lump sum** in the event that the Alternate proposal is accepted. Dollar amounts for Alternate proposals shall be inserted in the "BID FORM" where noted.
- B. The Board reserves the right to accept or reject any or all Alternate proposals.
- C. Include in each Alternate proposal all changes in cost resulting in the work of all trades affected thereby. Work shall be performed in accordance with drawings and specifications affected unless otherwise specified.
- D. Each bidder shall determine to its own satisfaction the full extent to which the Work is affected by each Alternate proposal and shall make full and proper allowance therefore in preparation of its proposal.

1.2 ALTERNATES

- A. Deductive Alternate No. 1: New Enclosed Patio and Patio Roof as shown on the drawings.
 - 1. Delete the asphalt demolition, grading, excavations, concrete footings, concrete patio, steel posts and metal panel enclosure, steel columns and metal panel roof structure and hollow metal door and frame and appurtenant work required to complete the new enclosed patio as shown on the drawings. Leave the existing asphalt parking lot unchanged.
- B. Deductive Alternate No. 2: New Carpet in four existing Offices (Offices 1,2,5 & 6)
 - 2. Delete the new carpeting and base shown for offices 1, 2, 5 and 6. Protect existing carpet and base, remove and replace as required to complete base bid work.

END OF SECTION

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of work in other contracts.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

- B. Related Requirements:

1. Section 008110 "Unforeseen Physical Conditions"
2. Section 010100 "Summary of Work" for limits on use of Project site.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least [10] ten days prior to the time cutting and patching will be performed. Include the following information:
 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 3. Products: List products to be used for patching and firms or entities that will perform patching work.

4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Communication systems.
 - h. Fire-detection and -alarm systems.
 - i. Conveying systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of

- connections before equipment and fixture installation.
- 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
- 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements the General Conditions.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and

90 inches in unoccupied spaces.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.

- D. Protection: Protect in place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 010400 "Coordination."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 4. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-

- plane surface of uniform appearance.
- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 COORDINATION OF WORK IN OTHER CONTRACTS

- A. General: Work on this building will include work under two additional contracts that will be performed concurrently with this contract.
 - 1. The roof repair and rehabilitation project will be under way before this contract begins. Advise the contractor immediately of any new roof penetrations required to complete the work of this contract.
 - 2. The access control hardware contract will be concurrent with this project and will require the access control contractor to run wires and install devices during the rough-in and finish phases of the project. Advise the County at least one week prior to the start of any close in activities.
- B. The contractor shall cooperate with the other Contractors working within the project site.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with Division 01 waste disposal requirements.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 024119 - SELECTIVE

DEMOLITION 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:

- 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.

- B. Related Requirements:

- 1. Section 011000 "Summary of Work" for restrictions on use of the premises, Owner- occupancy requirements, and phasing requirements.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 COORDINATION

- A. Verify with County extent of demolition and structure and utilities to be retained.
 - 1. Arrange selective demolition schedule so as not to interfere with Owner's operations.
 - 2. Inspect and discuss condition of construction to be selectively demolished.

3. Review structural load limitations of existing structure.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations of protections and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 1. Interruption of utility services. Indicate how long utility services will be interrupted.
 2. Coordination for shutoff, capping, and continuation of utility services.
 3. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- F. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area.
Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

- C. Notify County of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and

NFPA 241. PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 2. Arrange to shut off utilities with utility companies.
 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 4. Disconnect, demolish, and remove, plumbing, and HVAC and electrical systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain fire watch during and for at least 24 hours after flame-cutting operations.
 6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by The County, items may be removed to a suitable, protected storage location during selective demolition, cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 031000

CONCRETE FORMING AND ACCESSORIES

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formwork for cast-in place concrete.
 - 2. Form accessories.
 - 3. Form stripping.
- B. Related Sections:
 - 1. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 347 - Guide to Formwork for Concrete.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347, ACI 301, and ACI 318.
- B. For wood products furnished for work of this Section, comply with AF&PA.

PART 2 PRODUCTS

2.1 WOOD FORM MATERIALS

- A. Form Materials: At discretion of contractor and meets contract requirements. There should not be any "Green" lumber used for formwork.

2.2 FORMWORK ACCESSORIES

- A. Bituminous Joint Filler: ASTM D1751.
- B. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- B. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Architect/Engineer.

3.2 INSTALLATION

- A. Earth Forms:
 - 1. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 - 2. Trim sides and bottom of earth forms.
 - 3. Construct wood edge strips at top of each side of trench to secure reinforcing and prevent trench from sloughing.
 - 4. Form sides of footings where earth sloughs.
 - 5. Tamp earth forms firm and clean forms of debris and loose material before depositing concrete.
- B. Formwork - General:
 - 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
 - 2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
 - 3. Camber forms where necessary to produce level finished soffits unless otherwise shown on Drawings.
 - 4. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
 - 5. Complete wedging and bracing before placing concrete.
- C. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 301 and ACI 318.
- D. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.

3.3 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Do not coat forms for concrete indicated to receive "scored finish". Apply form coatings before placing reinforcing steel.

3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- E. Construction Joints:

1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.
4. Arrange joints in continuous line straight, true, and sharp.

F. Embedded Items:

1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, water stops, and other features.
2. Do not embed wood or uncoated aluminum in concrete.
3. Obtain installation and setting information for embedded items furnished under other Specification sections.
4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
5. Verify conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318 for size and location limitations.

G. Screeds:

1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
2. Slope slabs to drain where required or as shown on Drawings.
3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.

H. Cleanouts and Access Panels:

1. Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris, and waste material.
2. Clean forms and surfaces against which concrete is to be placed. Remove chips, saw dust and other debris. Thoroughly blow out forms with compressed air just before concrete is placed.

3.5 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.

3.6 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and removal has been approved by Architect/Engineer.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.

3.7 ERECTION TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301, ACI 318.

3.8 FIELD QUALITY CONTROL

- A. Section 01 41 00 – Regulatory Requirements, Field inspecting, testing, adjusting, and balancing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- C. Notify Architect/Engineer after placement of reinforcing steel in forms, but prior to placing concrete.
- D. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION 031000

SECTION 033000

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 REFERENCE

- A. Published specifications, standards, tests, or recommended methods of trade, industry, or governmental organizations apply to Work of this Section where cited by abbreviations noted below (latest editions apply).
 - 1. California Code of Regulations. Title 24, 2007 edition, also known as California Building Code (CBC), with amendments.
 - 2. American Society for Testing and Materials (ASTM).
 - 3. American Concrete Institute's:
 - a. "Specification for Structural Concrete for Buildings" (ACI 301).
 - b. "Recommended Practice for Cold Weather Concreting" (ACI 306).
 - c. "Recommended Practice for Hot Weather Concreting" (ACI 305).
 - d. "Recommended Practice for Measuring, Mixing and Placing Concrete" (ACI 304).
 - e. "Building Code Requirements for Reinforced Concrete" (ACI 318).
 - 4. State of California, Business and Transportation Agency Division of Highways' "Materials Manual," (CMM).

1.3 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Footings.
 - 2. Slabs-on-grade.

1.4 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Test Reports
- C. The Contractor's Testing Laboratory's certificate of compliance.

D. The Contractor shall submit:

1. Certified copies of mix designs for each concrete class specified including compressive strength test reports.
2. Certification that materials meet requirements specified.
3. Samples only as requested by the Architect.
4. Certification from vendor that samples originate from and are representative of each lot proposed for use.

E. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

F. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

C. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete,"
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.3 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT OF STRUCTURAL BUILDING CONCRETE

A. Reinforcing bars and accessories: Per Structural Notes.

2.2 CONCRETE MATERIALS

A. Concrete Mix Design and specifications per Structural Notes.

2.3 MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type II ,Use the following cementitious materials, of the same type, brand, and source, throughout Project: The Portland cement provided for foundations work shall be suitable for the "moderately corrosive" soils identified in Section 7.8 - "Corrosion Assessment" in the geotechnical report.
- B. Normal-Weight Aggregates: ASTM C 33. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
 - 1. Maximum Coarse-Aggregate Size:
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating, limit of 350 g/L VOC emissions.
 - 1. Products:
 - a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
 - b. BASF Construction Chemicals - Building Systems; Kure 200.
 - c. ChemMasters; Safe-Cure Clear.
 - d. Or Equal.

2.5 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.2 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete directly on top of vapor retarder.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least **6 inches (150 mm)** into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- G. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

H. Curing

1. Curing Compounds: Curing compounds may be used in the event that project requirements or conditions prevent moist curing. Curing compounds shall comply with ASTM C-309.

I. Field Quality Control

1. Examination for Defects: Do not conceal crystalline waterproofing treated concrete before it has been observed by Architect / Engineer, waterproofing manufacturer's representative and other designated entities. Concrete shall be examined for structural defects such as faulty construction joints, cold joints and cracks. Such defects to be repaired in accordance with manufacturer's repair procedures.

J. Backfilling

1. Backfilling: Normal backfilling procedures may be used after concrete has been cured for at least seven days. If backfill takes place within seven days after concrete placement, then backfill material shall be moist so as not to draw moisture from the concrete. In no event shall backfilling take place before concrete has gained sufficient strength to withstand the applied load.

K. Finishing

1. Finishing Formed Surfaces: Rough-Formed Finish, Surface not exposed to public view. As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
2. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.3 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
 1. Apply float finish to surface of slab

3.4 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

3.5 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

3.6 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.

- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension to solid concrete. Limit cut depth to 3/4 inch (19 mm). Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 5. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

END OF SECTION 033000

SECTION 055100

METAL FABRICATIONS

PART 1 – GENERAL

1.1 SUMMARY

- A. Provide the following miscellaneous metal fabrications as indicated on the Drawings but not limited to, and as necessary for complete and proper installation for the following:
 - 1. Exterior patio fence posts, rails and panels.
 - 2. Miscellaneous metal studs, hat channel backing plates, and other items as required to install the work.
 - 3. Exterior sign supports.
- 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. 033000 Cast-in-Place Concrete

1.2 QUALITY ASSURANCE

- A. American Institute of Steel Construction (AISC):
 - 1. "Specifications for the Design, Fabrication, and Erection of Structural Steel Buildings," including "Commentary on the AISC Specification."
 - 2. "Specification for the Design of Cold-Formed Steel Structural Members."
- B. American Welding Society (AWS):
 - 1. D1.1: "Structural Welding Code."
 - 2. D1.3: "Structural Welding Code - Sheet Steel."
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM A6: "General Requirements for Delivery of Rolled-Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use."
 - 2. ASTM A123: "Standard Specifications for Zinc (Hot-Dip Galvanized Coatings on Iron and Steel Products."
- D. Welding procedures, welders, welding operations, and tackers shall be qualified in accordance with the AWS "Standard for Welding Procedure and Performance Qualifications," B2.1.
 - 1. Comply with AWS publication "Welding Zinc Coated Steel" for galvanized

products.

E. Design Criteria:

1. Work shall be designed to support normally imposed loads and conform to AISC requirements.
2. Built-up parts shall not exhibit warp.
3. Weather-exposed joints shall be formed to drain or exclude moisture and water.

1.3 SUBMITTALS

A. Procedures: In accordance with Section 01300.

B. Product Data: Manufacturer's specifications, load tables, dimension diagrams, anchor details, and installation instructions for products to be used in the fabrication of work, including paint and grout products.

C. Shop Drawings: Submit large-scale drawings for the fabrication and erection of assemblies which are not completely shown by manufacturer's data sheets.

1. Include plans and elevations and include details of sections and connection; show anchorage and accessory items.
2. Provide setting drawings, templates, instructions, and directions for installation of anchorage devices.
3. Indicate shop and field welds by AWS "Symbols for Welding, Brazing and Non-destructive Examination," A2.4.

D. Calculations:

1. Where materials of fabrications are indicated to comply with design or code required loadings, include structural computation, material properties and other information for structural analysis.
2. Structural computations shall be signed and sealed by a Structural Engineer licensed in the State of California.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect steel members from corrosion.

B. Store packaged materials in their original unbroken packages or containers.

1.5 SITE CONDITIONS

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where necessary.

1.6 SEQUENCING AND SCHEDULING

A. Scheduling, Sequencing:

1. Ensure timely fabrication of items to be embedded or enclosed by other work.
2. Furnish information and assistance required for locating embedded items and be responsible for proper location.
3. Obtain information from plumbing, mechanical and other trades relating to any required openings in this work prior to commencing fabrication.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Steel Shapes, Bars, and Plates: ASTM A36.
- B. Architectural and Miscellaneous Steel: ASTM A283, grade optional.
- C. Steel Tubing: Cold formed ASTM A500, Grade B; or hot rolled, ASTM A501.
- D. Hot-Rolled Carbon-Steel Bars: ASTM A575, grade as selected by fabricator.
- E. Expansion Bolts: Hilti Kwik-Bolt ICBO Report No. 4627, Rawl, or approved equal reverse cone, self-wedging, expansion type.
- F. Powder Actuated Devices (PAD): Tempered steel pins with special corrosion-resistant finish. Hilti Fastening Systems, Rawl, or approved equal.
- G. Typical Unfinished Bolts, Nuts, and Washers: Low carbon steel standard fasteners externally and internally threaded, ASTM A307, malleable washers.
- H. Cold Rolled Steel, 18-gauge and Lighter: ASTM A611.
- I. Fasteners:
 - 1. Provide zinc-coated fasteners with galvanizing complying with ASTM A153 for exterior use or where built into exterior walls.
 - 2. Select fasteners for the type, grade, and class required for the installation of metal-fabrication items.
 - 3. Provide tamperproof fasteners where specified.
- J. Nonshrink Grout: US Grout Corporation "Five Star," Sonneborn "SonogROUT," or Master Builders "Masterflow 713;" nonmetallic, nonstaining, premixed grout.
- K. Welding Materials: AWS D1.1, type required for materials being welded.
- L. Prime Paint: Primer containing no chlorinated solvents, lead, or chromates, and meet or exceed the performance of MIL-P-28577B or Tnemec Series 18 or Frazee.
 - 1. Primer paint shall be compatible with required finish coat.
 - 2. Coordinate primer selection with finish paint requirements specified in Section 09900.

3. Pretreat galvanized surfaces to receive paint finish with conversion coating.
- M. Galvanizing-Repair Paint: High-zinc-dust-content paint for regalvanizing welds in galvanized steel.

2.2 FABRICATION, GENERAL REQUIREMENTS

- A. Use materials of size and thicknesses shown or required to produce adequate strength and durability in the finished product for the intended use.
- B. Work to dimensions shown or as required.
 1. Fit and shop assemble in largest practical sections for delivery.
- C. Use the type of materials shown or specified for the various items of work.
- D. Form exposed work true to line and level with accurate angles and surfaces and straight, sharp edges.
 1. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Welding: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
 1. Use electric shielded-arc process according to AWS D1.1 and UBC 27-6.
 2. Maintain shape and profile of item welded.
 3. Prevent heat blisters, run-throughs, and surface distortions.
 4. Welds Normally Exposed to View in Finished Work: Make uniform and grind smooth.
 5. Watertight Welds: Make continuous, free of voids, or cracks.
 6. Exposed Welds: Remove burrs, flux, welding oxide, air spots, and discoloration; grind smooth, polish, or otherwise finish to match material welded.
 7. Field welding of interior items or exterior items encased in concrete will be permitted; field welding of exposed exterior items will not be permitted.
- F. Provide anchorage devices and fasteners where necessary for securing metal fabrications to in-place construction, including threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts, lag bolts, and other connectors as required.
- G. Except as otherwise indicated, use Phillips flathead (countersunk) screws or bolts for exposed fasteners.
 1. Fabricated and space anchoring devices as required to provide adequate support for intended use of work.
- H. Finish Schedule:
 1. Ferrous Metal, Interior Items:
 - a. Concealed: Clean, chemically etch, and shop-apply one prime-coat.

- b. Exposed: Clean, treat with hot phosphate, chemically etch, and shop-apply one prime coat.
 - 2. Ferrous Metal, Exterior Items:
 - a. Concealed: None.
 - b. Exposed: Clean and paint.
- I. Shop Painting: Shop-prime work, except those members or portions of members to be embedded in concrete; surfaces and edges to be field welded; and galvanized surfaces, unless otherwise indicated.
 - 1. Minimum Cleaning Requirements: In accordance with Structural Steel Painting Council (SSPC) SP3 "Power Tool Cleaning."
 - 2. After surfaces are properly cleaned, provide one shop coat at the rate of application as recommended by paint manufacturer.
 - 3. Coat surfaces with primers compatible with finish coats specified in Section 09900.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which metal fabrication items are to be installed.
 - 1. Notify Architect of conditions detrimental to the proper and timely completion of the Work.
 - 2. Do not proceed with the Work until conditions are satisfactory.

3.2 PREPARATION

- A. Furnish setting drawings, diagrams, templates, instructions, and directions for installation of anchorages which are to be embedded in concrete construction.
 - 1. Coordinate delivery of items to the Project site.

3.3 INSTALLATION

- A. Obtain Architect's review prior to site cutting or making adjustments which are not part of scheduled work.
- B. Set work accurately in location, alignment, and elevation; plumb, level, true, and free of rack; measured from established lines and levels.
- C. Make provision for erection stresses by temporary bracing; keep work in alignment.
- D. Replace items damaged in course of installation.
- E. Supply items requiring to be cast into or embedded in other materials to appropriate trades.
- F. Perform field welding in accordance with AWS D1.1.
 - 1. Grind joints smooth.

2. Do not weld, cut, or abrade surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.
3. Protect and clean areas surrounding welds.

G. Touch-up Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting.
2. Apply by brush or spray to provide a minimum dry-film thickness of 2.0 mils.
3. Touch up galvanized surfaces as specified above.

END OF SECTION

SECTION 09600

COUNTY STANDARD FLOORING PRODUCTS

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 106150
DEMOUNTABLE PARTITIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Partition framing system.
- B. Prefinished gypsum panels.
- C. Partition insulation and acoustical sealant.
- D. Frames for doors and glazing.
- E. Trim and accessories.
- F. Doors, glass, and hardware installed in partition.
- G. Non-Demountable infill of (E) partitions.

1.2 RELATED DOCUMENTS

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

1.3 SYSTEM DESCRIPTION

- A. Partition system shall have components which can be disassembled, relocated, and substantially reused. System shall consist of vertical gypsum board panels, floor runner, top rail, splice, studs, trim, and accessories. Partition shall be 3-3/8 inches thick (unless noted otherwise) and provide 1-7/8 inches wide cavity for distribution of utilities. Adjust list below to suit Project.

1.4 REFERENCES

- A. California Code of Regulations. Title 24, 2007 edition, also known as California Building Code (CBC).
- B. AA - Aluminum Association.
- C. ASTM C36 - Gypsum Wallboard.
- D. ASTM C960 - Predecorated Gypsum Board.
- E. ASTM E72 - Conducting Strength Tests of Panels for Building Construction.
- F. ASTM E84 - Surface Burning Characteristics of Building Materials.

- G. ASTM E90 - Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building
- H. Partitions.
- I. ASTM E119 - Fire Tests of Building Materials.
- J. ASTM E413 - Determination of Sound Transmission Class.
- K. FS CC-W-408A - Wall Covering-Vinyl Coated
- L. FS HH-I-521 - Insulation Blankets, Thermal (Mineral Fiber, for Ambient Temperatures).
- M. UL - Underwriter's Laboratories, Inc. Fire Resistance Directory.
- N. WHI - Wernock Hersey International Certification Listings.
- O. Federal Test Method Standard No. 406, Method 1074.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. OWNER PROVIDED MATERIALS: ULTRAWALL Partition System by Ultrawall LLC, Toll free number, 1.877.ULTRAWALL, (1.877.858.7292). Fax number, 1.877.858.7298. Website address: <http://www.ultrawall.com>, e-mail: info@ultrawall.com END OF SECTION 061000.

SCHEDULE OF OWNER PROVIDED MATERIALS:

- 60 EA P1 - 2x9 Bone Panels
- 12 EA ATR-323 x 10' Drive In Trim - Bronze
- 1 EA 3' x 7' RH Frame - Bronze
- 4 EA ACR-311 10' Outside Corner - Bronze
- 2 EA AGL 340 - Glazing Rail - 10' - Bronze
- 2 EA AGL 345 - Glazing Base - 10' - Bronze
- 30 EA STL-360 - 8'6" H Studs
- 24 EA STL-361 - 10' Bottom Strut
- 7 EA ARL - 300 - Top Track - 10' Bronze

- B. CONTRACTOR PROVIDED MATERIALS – Contractor is responsible for providing all remaining materials to complete the new walls and infills shown. Installation materials shall be as shown on the plans and in the Ultrawall technical details included in the documents. Contractor supplied materials shall include but not be limited to:
 - 1. Door and Window Infill Materials
 - 2. Furred walls, soffits or chases.

3. Fasteners
4. Baseboard and Trim Materials
5. ULtrawall Panels, Studs, Track or other components required to complete the work shown, but not included in the above schedule of materials provided by the owner.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that building conditions are ready to receive partitions. Take floor-to-ceiling measurements to ensure correct installation of full- height frames.
- B. Beginning of installation means acceptance of existing conditions.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in accordance with approved designs.
- B. Install rigid, plumb, with horizontal lines leveled, neat in appearance, and free from defects.
- C. Extend partitions from floor to finished ceiling except where otherwise indicated.
- D. Secure partitions to floor and ceiling using fastening devices which will not excessively mar finished surfaces.
- E. Use concealed fasteners except where otherwise shown in manufacturer's product data or required by conditions.
- F. Coordinate installation of mechanical, electrical, and other work placed on or within partition.
- G. Layout partition centerlines on ceiling and on floor. Install ceiling runner, then floor runner. Check for plumbness before fastening floor runner. Install strut studs at door openings and wall terminations.
- H. Panels: Install vertically with butt panel joints.
- I. Bracing: Provide concealed supports if required to assure lateral stability of partitions.
- J. Partition Insulation: Install tight within spaces, around openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- K. Acoustical Gaskets and Sealant: Seal cut-outs in panels, penetrations through partitions, and intersections with adjacent construction. Use gaskets where practical; use sealant at other locations and in fire rated partitions.
- L. Doors and Hardware: Install as specified, adjust for proper operation.

3.3 CLEANING AND PROTECTION.

- A. Clean partitions.
- B. Protect against damage. Repair or replace damaged components.

END OF SECTION 106150

SECTION 22 00 00 - PLUMBING PART

1 - GENERAL

1.1 SCOPE

- A. The General Conditions, Supplementary Conditions and Division 1 - General Requirements are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Work under this Section includes, but is not necessarily limited to:
1. All labor materials, tools, appliances and equipment that are required to furnish and install the complete installation shown on the Drawings for this Section of the work and/or specified in the following Specifications, including that which is reasonable inferred.
 2. Natural gas piping including connection to all new gas fired equipment.
 3. Condensate drain piping.
 4. All hanger and supports for piping systems from the building structure.
 5. Repair of all damage done to premises as a result of this installation and removal of all debris left by those engaged in this installation.
 6. Removal of existing bathroom fixtures, supply and installation of new ADA bathroom fixtures.
 7. Modification of existing supply, vent and waste piping to complete installation of new ADA bathroom fixtures.
 8. Be responsible for all damage to any part of the premises caused by leaks or breaks in pipe or equipment furnished or installed under this Section of the Work for a period of one (1) year after date of acceptance of the Work.
 9. Cleanliness of all exposed materials and equipment at time building is turned over to the Owner.
 10. All insurance and taxes required and applicable shall be included. The Owner will pay for permit fees.
 11. All rigging, hoisting, transportation and associated work necessary for placement of all equipment in the final location shown.
 12. Fire stopping of all piping through rated assemblies.
- B. Related Work in Other Sections
1. Interior and exterior painting: Prime and finish painting.

1.3 GENERAL REQUIREMENTS

- A. Visit the site of the work, compare it with the Drawings and Specifications as to the conditions under which Work is to be performed, ascertain and check all conditions and elevations and take all measurements which may affect the Work.
- B. Obtain all permits and licenses necessary for the completion of the Work and notify all interested authorities when this Work is ready for any necessary or required inspections. Deliver to the Owner a certificate of all inspections and acceptances issued by the jurisdictional authorities, approving the complete plumbing installation. The Owner will pay for all fees and permits.
- C. All work shall be in strict accordance with the latest rules of any local or State ordinances and codes, UPC, building codes, and the NFPA. No extra charge will be paid for furnishing items required by the regulations but not specified herein or shown on the Drawings. Rulings and interpretations of the agencies shall be considered as part of the regulations if commonly known to the trade prior to the submittal of bids.
- D. Do not permit or cause any Work to be covered or enclosed until it has been inspected, tested and approved. Should any of the Work be enclosed or covered before inspection and test, the Contractor shall, at his own expense, uncover the Work; and, after it has been inspected, tested and approved, make all repairs with such materials as may be required to restore his Work and that of the other Work to its original and proper condition.
- E. Be responsible for damage to any of this work before acceptance. Securely cover all openings, apparatus, fixtures, and appliances, both before and after setting into place, to prevent obstructions in the pipes and breakage or disfigurement of equipment. Should the equipment become damaged, restore it to its original condition and finish before final acceptance without change in Contract cost.
- F. Shop Drawings Submittals - Submit six (6) copies to the Architect for approval, within a reasonable time after award of Contract or when called for in ample time to prevent delay in construction, all materials specified hereinafter.

PART 2 - MATERIALS

2.1 MATERIALS

- A. Equipment and Materials: All materials shall be new.
- B. Pipe and Fittings
 - 1. ABS Pipe and Fittings: ASTM D 2661 schedule 40 ABS pipe and fittings with solvent cement joints. Solvent cement shall be in accordance with ASTM D 2235. Piping shall be installed in accordance with IAPMO IS 5-2006 and the California Plumbing Code. Comply with all applicable material storage and handling standards, installation guidelines, and safety precautions.
 - 2. Malleable Iron fittings: ANSI B16.3, galvanized, 150 PSI.

3. Copper Tubing: ANSI H23, Type "M" hard drawn water service tubing, as hereinafter indicated.
 4. Fittings for Copper Tubing: ANSI B16.22, wrought copper sweat type.
 5. Unions: For steel pipe shall be malleable iron or steel ground joint pattern, 150 PSI. For copper pipe shall be 150 PSI ground joint cast bronze unions with sweat connections.
 6. Solder for Copper Tubing Joints: Shall be 95/5. Charred and collapsed pipe and fittings due to excessive heating will not be permitted and shall be removed from the job site.
 7. Dielectric Insulating Unions: EPCO, or equal, dielectric nut-type or flange-type unions with gasket material suitable for service and temperature in which they are required.
 8. Threaded-to-Solder Adapter: As specified for solder-type fittings.
- C. Gas Cocks: DeZurik Series 400, or equal, eccentric plug valve complete with 125 PSI cast iron body, flanged connection, and wrench. Valve should be AGA approved for gas service.
- D. Strainers: Strainers (sediment separators) shall be Watts model 777, or approved equal, screwed bronze strainers with 20 mesh stainless steel screen with seat gasket, built for a pressure of 125 PSI at 450° F.
- E. Pipe Hangers and Supports
1. Superstrut, or approved equal.
 2. Piping Supported from Above: M-750 side beam brackets bolted through wood structural members and U-577 swing connector bolted to wood decks, all with C-711 hangers.
 3. Continuous Span (Parallel Piping) Hangers: Superstrut, 12-gauge, steel channels with nuts, pipe clamps, pipe straps, driven-in end caps, and all supporting devices and accessories.
 4. Pipes Supported from Wall or Floor: Superstrut A-1200, 12-gauge channel complete with pipe clamp and all nuts and bolts and end caps. Bolt channel to wall or floor.
 5. Hanger Rods: Shall be sized in accordance with the manufacturer's directions.
 6. Provide 26 gauge x 6" long galvanized steel shields around insulation at all pipe hangers.
 7. Pipe supports above the roof shall be Mifab or approved equal UV resistant rubber support with attached galvanized metal channel.
 8. Provide support as required by the Uniform Plumbing Code and as required for proper support free of sways and bending. Provide isolators to separate pipes from hangers. All pipes must be isolated from the structure.

F. Bathroom Fixtures

1. Wall Hung Lavatory: Shall be American Standard Comrade or equal, wall hung, vitreous china, rear overflow ADA compliant sink. Nominal dimension 20" x 18-1/4". Color shall be white.
2. Lavatory Faucet: Shall be American Standard Colony Soft or equal, two-handle widespread lavatory faucet with lever handles and metal speed connect pop-up drain.
3. Toilet: Shall be Kohler K-3837-0 White Devonshire or equal, 1.28 GPF two-piece, vitreous china, elongated, comfort height toilet. Toilet Seat shall be open front solid polypropylene seat with lid.

G. Rated Pipe Penetrations: 3M or equal U.L. listed assemblies. Seal all rated wall, floor, shaft, roof, and other penetrations.

H. Escutcheon Plates: Chromium-plated steel floor, wall, and ceiling plates with set-screw to hold firmly in place.

I. Flashing and Counterflashing: For all pipe penetrations exposed to weather areas shall be furnished and installed by this Section shall be Glenco, or approved equal, 4-lb. sheet lead with 12" skirt.

J. Pipe Sleeves: Adjust-O-Crete, 24 gauge, electro-galvanized sheet metal adjustable sleeve. Provide at all concrete penetrations.

PART 3 - EXECUTION

3.1 PIPING

A. General

1. Carry all horizontal lines of pipe on specified hangers properly spaced and set to allow the pipe to adjust for expansion and contraction.
2. Conceal all piping above ceilings, in furred walls and partitions and pipe spaces when possible. Check all piping runs beforehand with all other trades. Run piping to maintain proper clearance for maintenance and access. Run piping in strict coordination with mechanical ducts and equipment, all electrical conduit and equipment, structural, and architectural conditions. Where work of other trades prevents installation of the piping as shown on the Drawings, reroute piping at no extra cost. **Verify all inverts and pitches of lines before starting work.**
3. All piping shall be installed free from traps and air pockets.
4. Support all pipe from the building structure so that there is no apparent deflection in pipe runs. Fit piping with steel sway braces and anchors to prevent vibration and/or horizontal displacement under load when required. Do not support piping from, or brace to, ducts, other pipes, conduit, or any materials except building structure. Piping or equipment shall be rigid and immobile and shall not be supported or hung by wire rope, plumber's tape or blocking of any kind. Double wrap copper pipe with heavy vinyl tape where pipe comes in

contact with ferrous materials or concrete.

5. Support Piping From Structure By Hangers Spaced As Follows: Horizontal piping shall be supported by pipe hangers as hereinbefore specified. Hangers shall be spaced as indicated in the Uniform Plumbing Code. Each branch over 4 feet long shall have at least one hanger. Provide pipe anchors and sway braces to basic building structure where required for rigidity.
6. Furnish and install dielectric insulating unions or insulating flanges as hereinbefore specified at all connections of ferrous and nonferrous piping.
7. Install unions adjacent to threaded equipment and at other points where required for disassembly.
8. No valve and no piece of equipment or trim shall support the weight of any pipe. Install all valves, vents, traps, cleanouts and other trim in accessible locations.
9. Whenever changes in sizes of piping occur, make such changes with reducing fittings, as the use of face bushings will not, in general, be permitted. Install eccentric reducing fittings where necessary to provide free drainage of lines.
10. Where exposed pipes pass through walls, ceilings, or floors, fit pipes in all finished rooms and conspicuous locations with escutcheon plates. Escutcheon plates must be securely held in position allowing enough clearance to care for expansion and shall be sufficient size to cover the opening around the pipe.

B. Gas Piping

1. Gas Piping Above Grade: Schedule 40, galvanized steel pipe with galvanized malleable iron fittings.

C. Condensate Drain Piping: Type "M" copper with sloped drainage fittings.

3.2 CLEANING

- A. Clean piping and fitting with soap and water. Remove marks and labels. Remove paint, concrete, plaster and other foreign materials.
- B. Clean all drains of dirt and debris.
- C. Thoroughly clean and flush all systems of all pipe contaminates such as cuttings, filings, lubricant, rust, scale, grease, solder, flux, welding residue, debris, etc., and thoroughly flush out with clear clean water until clean in the opinion of the inspector.

3.3 TESTING

- A. Natural Gas Piping: Test and prove tight in accordance with the Plumbing Code.
- B. Condensate Drain Piping: Hydrostatically test and prove tight under a pressure of 50 PSI at the highest point.
- C. All tests shall be maintained for 2 hours or until complete and acceptable in the opinion of the inspector.

3.4 AS-BUILT DRAWINGS

- A. At completion of the work, turn over to the Architect one (1) complete set of reproducible drawings incorporating the original drawings and all changes made to the original drawings. Reproducible prints of the original drawings will be provided by the Architect. Make all changes to these reproducible drawings to provide a complete and accurate description and record of all the work as installed.

3.5 GUARANTEE

- A. At completion of the work, furnish the Owner a written guarantee, in triplicate, that work has been performed in accordance with Plans and Specifications and guarantee to replace or repair, to the satisfaction of the Owner, any portion of the new work that fails within a period of one (1) year after final acceptance, provided such failure is due to defects in material or workmanship. Also agree to replace or repair, with like workmanship and materials, any part of the building or equipment installed by other trades but damaged in installing this work

END OF SECTION

SECTION 230000
MECHANICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 - General Requirements are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION

A. Work Included:

1. Demolition, removal and proper disposal of existing HVAC equipment and duct systems not shown to remain.
2. All labor, materials, tools, appliances and equipment that are required to furnish and install the complete installation shown on the Drawings for this Division of the work and/or specified in the following Specification, including that which is reasonably inferred.
3. All work involved in making stands and supports for all equipment requiring them.
4. Cooperation with other crafts in putting the installation in place at a time when space required is accessible.
5. Repair of all damage done to premises as a result of this installation and removal of all debris left by those engaged in this installation.
6. Cleanliness of all exposed materials and equipment at time building is turned over to the Owner.
7. All insurance and taxes required and applicable are included. The Owner will pay for permit fees.
8. Supervision of painting of materials and equipment installed by this Division.
9. Preparation of Operation and Maintenance Manuals.
10. Preparation of As-Built drawings.
11. Adjusting and testing of air flow, controls, and equipment.

1.3 REQUIREMENTS

- A. Examination of Premises: Examination of premises shall be made to make a comparison with the Drawings and Specifications and to examine the conditions under which work is to be performed. Ascertain and check all conditions which may affect this work. No allowance shall subsequently be made for any extra expense which may

be required due to failure or neglect to make such examination.

B. Drawings

1. The Drawings which constitute a part of this Contract indicate the general arrangement of ducts and locations of apparatus. Should it be necessary to deviate from arrangement indicated in order to meet structural conditions, such deviations shall be made without expense to the Owner.
2. Extreme accuracy of data given herein and on the Drawings is not guaranteed.
The Drawings and Specifications are for the assistance and guidance of the Contractor, and exact locations, distances and levels will be governed by the building site. The Contractor shall take his Contract with this understanding.
3. In any case where there appears to be a discrepancy in the Drawings and Specifications, the Contractor shall figure the most expensive alternative and after award of the Contract shall secure directions from the Architect.

C. Manufacturer's Directions: Manufacturer's directions shall be followed in all cases where manufacturers of articles used in this Contract furnish directions covering points not shown on the Drawings and specified herein.

D. Regulations: All work and materials shall be in full accordance with the latest rules of the National Board of Fire Underwriters, any local or state ordinances, the State of California Industrial Accident Commission's Safety Orders, and the regulations of the State Fire Marshal, and with any prevailing rules and regulations pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous locations. Regulations included in building codes, plumbing codes and all other codes having jurisdiction shall also be followed. Whenever the Drawings and Specifications require larger sizes or higher standards than are required by the regulations, the Drawings, and Specifications shall govern; wherever the Drawings and Specifications shall violate the Regulations, the Regulations shall govern.

E. Permits, Fees, and Inspections: All permits, fees, and inspections required by local authorities shall be arranged for by this Division. The Owner will pay for these services. Insofar as they conflict with these requirements, the GENERAL CONDITIONS do not apply to this installation. Properly signed certificates of all final inspections required by local authorities must be furnished to the Owner before the work will be accepted.

F. Quietness of Operation: Quietness of operation of all mechanical equipment is a requirement of this installation. Properly adjust, repair or replace any equipment producing objectionable noise in any of the occupied areas of the building.

G. Cutting and Patching: Perform all cutting required by this installation only, including all holes in wall, floors and ceiling. Cutting of structural members and patching shall be done under another Division of the work.

H. Cooperation with other crafts in putting the installation in place at a time when space required is accessible, and in such a manner that all other work in the space may be installed as shown on the Drawings. The general arrangement and location of ductwork, apparatus, etc. is shown on the Drawings or herein specified. Minor changes may be necessary to accommodate other work that may conflict with this work, such as electrical, plumbing, etc. Install this in harmony with these, making any minor changes that may be necessary without cost to the Owner.

- I. Equipment and materials shall be of the make specified elsewhere in these Specifications or as shown on the Drawings. All materials and equipment shall be full weight, new, standard in every way (unless otherwise stated) and the best of their respective kinds.

1.4 OPERATION AND MAINTENANCE MANUALS:

- A. Furnish to the Owner three (3) complete separately bound, sets of operating instructions, including manufacturer's literature of all equipment and controls, covering all items of instruction, operation and maintenance. Final inspection will not be made until these instructions are received. The following items are suggested but not totally inclusive.
 - 1. Rooftop packaged air conditioning units
 - 2. Air Filters
 - 3. Temperature Control Diagrams and Devices

1.5 AS-BUILT DRAWINGS: At completion of the work, turn over to the Architect one (1) complete set of Sepia drawings incorporating the original drawings and all changes made to the original drawings. Sepia prints of the original drawings will be provided by the Architect. Make all changes to these Sepia drawings to provide a complete and accurate description and record of all the work as installed.

1.6 GUARANTEE: At completion of the work, furnish the Owner a written guarantee, in triplicate, that work has been performed in accordance with Plans and Specifications and guarantee to replace or repair, to the satisfaction of the Owner, any portion of the new work that fails within a period of one (1) year after final acceptance, provided such failure is due to defects in material or workmanship. Also agree to replace or repair, with like workmanship and materials, any part of the building or equipment installed by other trades but damaged in installing this work.

PART 2 - PRODUCTS

2.1 AIR DIFFUSERS AND REGISTERS

- A. Supply Diffusers and Return Air Registers (T-Bar Ceilings): Titus, PAR, or approved equal, perforated face 24" x 24" module and border as required. Neck size as shown on the Drawings. Color as selected by the Architect.
- B. NC levels shall not exceed 30.
- C. The diffuser and register manufacturer shall be a member of the Air Diffusion Council or all performance data shall be tested in an approved Air Diffusion Council Laboratory.

2.2 DAMPERS

- A. Single Blade Volume Dampers: Dampers shall be as per Sheet Metal and Air Conditioning Contractors' National Association Manual, Fifth Edition, Figure 2-11B. Install branch volume dampers in all supply and return branch lines.
- B. Dampers shall operate smoothly throughout the entire 90 degrees turning range. Full "open" and "closed" positions shall be clearly indicated, after all painting is finished. Single-leaf dampers shall have no more than 5% open area for edge and end clearance when tightly closed. Dampers shall be rigid on operating rods and shall not produce any objectionable vibration or noise in normal operating positions. Operating quadrants shall be located so that they are in accessible locations.

2.3 FLEXIBLE CONNECTIONS AT FANS: Ventfabrics 24-gauge metal edge, 30 oz. ventglass, or

equal, neoprene-coated fiberglass fabric connection.

- 2.4 FLEXIBLE DUCT: Flexmaster type 6, or approved equal, class 1 acoustical flex duct with 1", 3/4 lb. density fiberglass insulation, and polyethylene vapor barrier. Flexible duct shall not exceed 7'-0" and must be installed free from kinks and sharp bends. Flexible duct may be substituted for last 7 feet of duct where space allows.
- 2.5 AIR FILTERS: 2" thick disposable filter with a class 2 UL rating, double carrier board frame, expanded metal exit grid, cotton-cellulose pleated media, and 24 to 30 percent average efficiency based on the ASHRAE standard 52-76 test method. Filters shall have a minimum MERV rating of 30.
- 2.6 DUCT SEALANT TAPE: Hardcast model AFG-1402 Foil-Grip pressure-less tape, or approved equal, with aluminum foil backing and butyl rubber adhesive.
- 2.7 AIR HANDLING FURNACE AND AIR CONDITIONING SPLIT SYSTEMS: Trane, or approved equal, pad mounted split system electric cooling and gas fired heating units. Units shall fit into space provided with proper clearance for maintenance, codes, and operation. The unit shall be UL listed and shall come complete with cabinet, gas flue diverter option, refrigeration system, control panel, coils, fans and motors, starters, safety controls, economizers, air filters, and pressure controls.
- A. Cabinet: Galvanized steel, bonderized and coated with baked enamel. Provide 1" thick fiberglass insulation with neoprene coating.
 - B. Refrigeration System: Complete with hermetic compressors with vibration isolators, crankcase heaters, three leg over current and overtemperature protection, coil freezestats, and short cycle controls with manual reset. Compressors shall have a 5 year warranty.
 - C. Coils: Complete with copper tubes and mechanically bonded aluminum fins.
 - D. Cooling Controls: Unit shall have an easily accessible terminal board for easy connection to an electronic programmable room thermostat and economizer. Units shall come complete with low and high pressure stats, motor overloads, all timing devices required, and all compressor controls specified herein before.
 - E. Heat Exchanger: Shall be coated with a thick aluminum alloy and shall be warranted for 5 years.
 - F. Heating Controls: Shall consist of all required limit switches, intermittent pilot ignition, a pilot sensor, indoor fan relay, redundant gas valves, combustion view port, and a centrifugal switch.
 - G. Fans and Motors: Indoor blowers shall be forward-curved, centrifugal, with adjustable V-belt drive fan. Outdoor blower shall be direct drive propeller type fans with motors.
 - H. Air Filters: Shall be 2" thick, replaceable type.
 - I. Economizer: Complete with mixed air thermostat and required dampers, including a barometric damper, filter, screens, and controls.
 - J. The air conditioning unit model number, size and capacity shall be as scheduled on the drawings.

PART 3 - EXECUTION

3.1 SHEET METAL DUCTS AND MISCELLANEOUS SHEET METAL WORKS

- A. All new transfer air ducts shall be made up of galvanized sheet steel per SMACNA guidelines and complying with the UMC and all state and local codes. Wherever there is sufficient space, flexible ductwork may be used. Flexible ducts shall be installed without sharp bends and offsets. The maximum turning radius shall be 1 1/2 duct diameters. Ducts shall be supported in accordance with SMACNA standards and as required to eliminate sagging.
- B. Dampers and Extractors: Fit each branch supply, return and exhaust duct in building #3 with a volume damper. Small branch ducts may have single-blade butterfly dampers. Install fire dampers with access panels where shown and where required by government authorities.
- C. Flexible Connections at Fans: Width of flexible connections shall be sufficient to allow one (1) inch of free space between flanged metal collars connected. Fasten to flanged duct and fan connections with bolts. Space bolts approximately 3" apart. Seal connections with mastic as specified for duct seams.
- D. Duct Supports: As required by SMACNA standards and code for proper support.

3.2 INSULATION

- A. Air Ducts: Shall be insulated on the outside with Fiberglas Pink Duct Wrap, or approved equal, 2" thick fine inorganic glass fiber material with an integral vapor barrier and a density or not less than 1 lb. per cubic foot. Attach to ducts with steel wire on 1 lb. per cubic foot. Attached to duct with steel wire on 12" maximum centers at each lap joint. Lap all joints not less than 6". Where space limitations will not permit lap joints, butt and seal joints with 8 oz. canvas glued with Arabol adhesive. Where flexible ducts are used they shall be insulated with 1 inch thick insulation.
- B. All insulation shall be classified by Underwriters' Laboratories to have a flame-spread rating of 25; fuel contributing rating of 50; and smoke-developed rating of 50.

3.3 PAINTING SUPERVISION

- A. All equipment under this Division of the work shall be given a factory prime coat of paint.

3.4 ADJUSTING AND TESTING

- A. Before the test run is started, the Contractor shall thoroughly clean all ducts and equipment, adjust the duct system air outlets and inlets for air quantities shown on the Drawings, using the dampers provided in the ducts as far as possible. Adjust the air conditioning units, and controls. After the system and controls are tested and adjusted for a normal operating condition, notify the Architect and operate the system for one (1) eight-hour day to demonstrate acceptability. Furnish all necessary labor and materials to operate the systems. Should any part of the system or any material or workmanship fail in this test, it shall be rectified and the system made ready for a new test and inspection. The Architect shall then be notified that a new inspection will be called for. The cost of the rectifying of the defective work and/or materials and of the second test and inspection shall be borne by the Contractor, as shall the costs of any further tests and inspection, if required.

3.5 BALANCING OF FLOW SYSTEMS

- A. Testing and balancing shall be performed in complete accordance with AABC Standards for Field Measurements and Instrumentation form No. 81266, Volume One, as published by the Associated Air Balance Council. Instruments used for testing and balancing of air and hydronic systems must have been calibrated within a period of six (6) months prior to balancing. All final test analysis reports shall include a letter of certification listing instrumentation used and last date of calibration. Three (3) copies of the complete test reports shall be submitted to the Architect prior to final acceptance of the project.

1. Ventilating Systems

- a. Adjust the air flow at each diffuser or supply register or other outlet and at each return on exhaust register to the quantities shown on the Drawings. When the quantities are not definitely shown, balance to quantities as directed by the Architect.
- b. In general, the following procedure shall be followed.
 - (1) With supply fan operating, adjust fan speeds to obtain 105% of the design air quantities. This procedure to be carried out with all doors and windows closed.
 - (2) Adjust branch ducts to proper flow quantities as nearly as possible using dampers provided.
 - (3) Adjust each supply outlet and each return inlet to the quantity shown on the Drawings using the dampers provided in the ducts.

Volume controls provided in the diffusers and registers shall be used on the last pass only.
 - (4) Adjust fan speed to obtain 105% of specified capacity and trim to specified capacity with volume control. Repeat the two (2) paragraphs above for as many times as is required to obtain a perfect balance.
- c. Install perforated plates in the ductwork where required for balancing and in order to minimize unacceptable noise at registers due to adjustment of the opposed blade dampers.

2. Instruments for balancing system, such as anemometers, velometers, and pressure sensing instruments, shall be furnished by the Contractor. Certified copies of instrument calibration data for each instrument used shall be available to the Inspector at any time during balancing work.
3. Upon request by the Architect, the Contractor shall provide personnel, instruments, ladders, and all gear necessary for checking and verifying any of the test or balance data.

3.6 TEMPERATURE CONTROL SYSTEM

- A. This division of the work shall supervise, calibrate, and install the entire temperature control system. The entire control system shall be guaranteed for one (1) year and service shall be provided without cost to the owner during this period.

- B. Provide a complete wiring diagram of the entire control system, including terminal connections to all equipment, starters, relays, switches, and controllers. Provide all transformers and relays required for the control system. Mount all controls securely and neatly.
- C. All temperature control devices shall be furnished and installed under this Division of the work. The temperature controls work shall be done by ESI or Sacramento and shall be Delta Controls, no exceptions.
- D. All temperature control conduit, wiring, and connections shall be furnished and installed under this Division of the work.
- E. Temperature Control System: Shall be an electric/electronic system of automatic controls complete with all room thermostat, relays, switches, controllers, and other accessories required to produce the desired performance of the mechanical systems as indicated on the Drawings and as specified. Details of workmanship used shall conform to the requirements of the manufacturer. All controls mounted exterior to the building shall be watertight construction suitable for operation exposed to weather. Control manufacturer shall be Delta. The complete installation of all controls work shall be the complete responsibility of this Division including all wiring connections. The temperature control work shall be done by ESI of Sacramento.
- F. Sequence of Operation
 - 1. Air Conditioning/Air Handling Unit Controls (AH-1, 2 & 3): The air conditioning units shall be energized by a new Delta wall mounted programmable thermostat. The thermostat shall be wired to the relocated Delta controllers to provide contact closures to the terminal board at the air conditioning units as required to control the heating, cooling, and economizer functions. The economizer functions shall be as installed by the air conditioning equipment manufacture and shall include minimum outside air settings, mixed air sensors set at 55 degrees to limit the outside air damper travel, outside air sensors to limit the economizer functions to times when the outside air temperature is below 70 degrees, etc.
- G. Furnish "As-Built" temperature control diagrams of the entire control system and written description of sequence of operation. Mount diagrams in plastic envelopes in location as directed by the owner.
- H. Furnish install, and connect all control wiring for all voltages as necessary to perform the control functions described herein and/or shown on the Drawings. All wiring shall be in conduit or as required by the Uniform Electrical Code and shall conform to the Workmanship and Wiring Methods Section of the Electrical Specifications.
- I. The Contractor, before permitting operation of any equipment which is furnished, installed or modified under his Contract, shall review all wiring connections which have an influence on his equipment or work and shall verify that these connections are correct. He shall also satisfy himself that the overload protection devices installed are of the correct type, rating, and setting to properly protect his equipment.
- J. The Contractor, by giving permission for the operation of equipment furnished, installed or modified, under his Contract, shall assume responsibility for the correctness of the electrical connections and protective devices.

3.7 FINAL INSPECTION

- A. Notify the Architect after systems and controls are tested and adjusted to specified operating conditions. When directed, operate systems for one (1) eight-hour day to demonstrate acceptability. Furnish necessary labor and material to operate the system and to instruct Owner's personnel in the proper operation and maintenance of all equipment.
- B. No work shall be covered up or enclosed until it has been inspected, tested and approved by the Architect and public authorities having jurisdiction over the work.

END OF SECTION

SECTION 260519

ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Wire and Cable (600V)
 - a. American Wire Company
 - b. Belden
 - c. General Wire and Cable Corporation
 - d. Okonite Company
 - e. Rome Cable Corporation
 - f. Cerrowire
 - g. American Insulated Wire
 - h. AFC Cable Systems
 - i. Essex

j. Simplex Wire and Cable Company

2. Solderless Lugs and Grounding Connections

- a. Burndy Engineering Company, Inc.
- b. O.Z. Gedney Company, Inc.
- c. Penn Union Electric Corporation
- d. Thomas and Betts Company, Inc.

2.2 CONDUCTORS AND CABLES

- A. Copper Conductors: Comply with NEMA WC 70.
- B. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN and XHHW.

2.3 CONNECTORS AND SPLICES

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Hubbell Power Systems, Inc.
 - 3. O-Z/Gedney; EGS Electrical Group LLC.
 - 4. 3M; Electrical Products Division.
 - 5. Tyco Electronics Corp.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- C. 600-volt class, insulation color coded, minimum No. 12 AWG for branch circuits, No. 14 AWG for control circuits.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- B. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.

- C. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.
- D. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- E. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
- F. Class 1 Control Circuits: Type THHN-THWN, in raceway.
- G. Class 2 Control Circuits: Type THHN-THWN, in raceway.
- H. Insulation type:
 - 1. Standard locations: #12 to #1 AWG: THWN for wet locations and THHN for dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils). All wire sizes used shall be based on a 75 degree insulation rating, unless specifically used with 90 degree rated breakers and devices.
 - 2. High temperature and non-standard locations: Provide wire type and insulation category suitable for area of use as defined in NEC table 310-13.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Install all wiring (low voltage and line voltage) in conduit unless noted otherwise in the drawings, but do not pull into conduit until plastering and taping have been completed and conduits and outlets have been thoroughly cleaned and swabbed as necessary to remove water and debris.
- B. Conceal conduit in finished walls, ceilings, and floors, unless otherwise indicated.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- F. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- G. Approximately balance branch circuits about the neutral conductors in panels.
- H. Connections to devices from "thru-feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.
- I. Neutral conductor identified by white outer braid, with different tracers of "EZ" numbering tags used where more than one neutral conductor is contained in a single raceway.
- J. Neatly arrange and "marlin" wires in panels and distribution panelboards with "T and B Ty-rap" or approved equal plastic type strapping.

- K. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages; wire color-coded as follows:

Voltage	Phasing	A	B	C	N
120/208	3PH-4W	Black		Red	Blue White
208	3PH-3W	Black		Red	Blue --
277/480	3PH-4W	Brown		Orange Yellow	White
480	3PH-3W	Brown		Orange Yellow	--
120/240	3PH-4W	Black		Red	Blue White
240	3PH-3W	Black		Red	Blue --

- L. The equipment grounding conductor shall be insulated copper; where it is insulated, the insulation shall be colored green.
- M. Label each wire of each electrical system in each pull box, junction box, outlet box, terminal cabinet, and panelboard in which it appears with "EZ" numbering tags indicating the connected circuit numbers.
- N. Properly identify the "high leg" of 4-wire delta connected systems (in each accessible location) as required by NEC 215-8 and 230-56.

3.4 INSTALLATION OF DICONNECTIONS, CONNECTORS, AND LUGS

- A. Equipment Disconnects: All disconnects shall be located to allow proper code required clearance in each area. Locations shown on drawings are diagrammatic only. The contractor shall coordinate exact locations in the field (with other trades) prior to rough-in to insure proper clearances.
- Motor Disconnect Switches and Safety Switches: General Electric Company Heavy Duty Type "THD", cover interlocked with operating handle so that cover cannot be opened with switch in closed position and switch cannot be closed with cover in open position. 240V or 480V rating, single or multi-pole as required or as noted on drawings, in Nema 1 enclosure indoors or Nema 3R enclosure outdoors unless otherwise noted. Provide dual element motor circuit fuses sized as recommended by equipment manufacturer (for final equipment actually installed).
 - Code required disconnects: Provide a local disconnect in addition to the branch circuit protection device for all equipment as required by code (whether shown or not). Disconnects shall consist of a motor rated switch (or disconnect) for all motor loads less than 3/4HP or other suitable disconnect sized to match branch circuit conductors and load current of equipment, with number of poles as required.
- B. Lugs and Connectors: Thomas and Betts "lock-tite", for No. 4 and larger wire; "Scotchlock" fixed spring type with insulator for No. 6 and smaller wire.
- All splices made up with wire nut connectors shall be solidly twisted together with electricians pliers before connector is installed to ensure a proper connection in the event of wire nut failure. No exceptions.
 - Connectors listed or labeled for "no wire twisting required" are not an acceptable substitute for actual wire twisting.
 - Utilize porcelain type connectors in all high temperature environments (above 105 degrees Celsius).

- C. Splice Insulation: "Scotch" electrical tape with vinyl plastic backing or rubber tape with protective friction tape for interior work.
 - 1. Provide watertight cast splices for all conductors in site pull boxes or wet locations.

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Division 26 Section "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Division 07 Section "Penetration Firestopping."
- B. Fire stopping: 3M Fire Protection Products or equal.
 - 1. Fire-rated and smoke barrier construction: Maintain barrier and structural floor fire and smoke resistance ratings including resistance to cold smoke at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound vibration absorption, and at other construction gaps.
 - 2. Systems or devices listed in the UL Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance, and that the system be symmetrical for wall penetrations. Systems or devices must be asbestos free.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- C. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- D. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

SECTION 280510

CONDUCTORS AND CABLES FOR DATA, SAFETY AND SECURITY

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:
 - 1. Unshielded Twisted Pair (UTP) cabling.
 - 2. Identification products.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. IDC: Insulation displacement connector.
- C. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control and signaling power-limited circuits.
- D. Open Cabling: Passing telecommunications cabling through open space (e.g., between the studs of a wall cavity).
- E. RCDD: Registered Communications Distribution Designer.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate layout and installation of data, electronic safety and security cabling with Owner's telecommunications and LAN equipment and service suppliers.
- B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Installation data for UTP and optical-fiber cables as specified in TIA 569-C-1.
 - 2. For coaxial cable, include the following installation data for each type used:
 - a. Nominal OD.

- b. Minimum bending radius.
- c. Maximum pulling tension.

B. Shop Drawings:

- 1. Cabling administration drawings and printouts.
- 2. Wiring diagrams to show typical wiring schematics, including the following:
 - a. Single line diagram.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified layout technician, installation supervisor, and field inspector.
- B. Source quality-control reports.
- C. Field quality-control reports.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Test cables upon receipt at Project site.
 - 1. Test each pair of UTP cable for open and short circuits.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 UTP CABLE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Belden CDT Networking Division/NORDX.
 - 2. Superior Essex Inc.
 - 3. West Penn Wire.
- B. Description: 100-ohm, four-pair UTP, covered with a blue thermoplastic jacket.
 - 1. Comply with ICEA S-90-661 for mechanical properties.
 - 2. Comply with TIA-568-C.1 for performance specifications.
 - 3. Comply with TIA-568-C.2, **Category 6.**
 - 4. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:
 - 5. Communications, General Purpose: Type CM or Type CMG.

2.3 48 RACK MOUNTED DATA PATCH PANEL

- A. Manufacturers: Subject to compliance with requirements, Leviton, USOC or approve equal.
- B. Description: 48 Port Computer Patch Panel Rack-mount including wall bracket.

PART 3 - EXECUTION

3.1 INSTALLATION OF HANGERS AND SUPPORTS

- A. Open Cabling is permitted only in concealed ceiling spaces with acoustical lay in ceiling tiles or ceiling access panels.
 - 1. All open cabling shall be supported on J-hooks from roof structure, or on T-Grid supported Cable hangers. Cables shall not be left on tiles.
 - 2. Comply with section 280520 Pathways for Data, Safety and Security for surface and concealed wall raceways.

3.2 WIRING METHOD

- A. Install wiring in metal pathways and wireways.
 - 1. Minimum conduit size shall be ½ inch. Control and data-transmission wiring shall not share conduits with other building wiring systems.
 - 2. Comply with requirements in Section 280520 "Pathways for Data, Safety and Security."
- B. Install cable, concealed in accessible ceilings, walls, and floors when possible.
- C. Wiring on Racks and within Enclosures:
 - 1. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM's "Cabling Termination Practices" chapter. Cable ties shall not be excessively tightened such that the transmission characteristics of the cable are altered.
 - 2. Install lacing bars and distribution spools.
 - 3. Separate power-limited and non-power-limited conductors as recommended in writing by manufacturer.
 - 4. Install conductors parallel with or at right angles to sides and back of enclosure.
 - 5. Connect conductors associated with intrusion system that are terminated, spliced, or interrupted in any enclosure onto terminal blocks.
 - 6. Mark each terminal according to system's wiring diagrams.
 - 7. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Comply with NECA 1 and NFPA 70.
- B. Conductors: Size according to system manufacturer's written instructions unless otherwise indicated.

- C. Do not install conductors and cables that are wet, moisture damaged, or mold damaged.
- D. Install UTP, optical-fiber, and coaxial cables and connecting materials after spaces are complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- E. General Requirements for Cabling:
 - 1. Comply with TIA-568-C.1.
 - 2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
 - 3. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels. Leave a minimum of 6 inches (150 mm) of slack at outlet terminations and coil loosely into box after termination on outlet fitting.
 - 4. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches (760 mm) and not more than 6 inches (150 mm) from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
 - 5. Maintain minimum cable bending radius during installation and termination of cables.
 - 6. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
 - 7. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
 - 8. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions. Do not exceed manufacturer's rated cable-pulling tension.
 - 9. Riser Cable: Riser cable support intervals shall be in accordance with manufacturer's recommendations.
 - 10. Comply with Section 280544 "Sleeves and Sleeve Seals for Electronic Safety and Security Pathways and Cabling."
- F. UTP Cable Installation: Install using techniques, practices, and methods that are consistent with **Category 6** rating of components and that ensure **Category 6** performance of completed and linked signal paths, end to end.
 - 1. Comply with TIA-568-C.2.
 - 2. Install 110-style IDC termination hardware unless otherwise indicated.
 - 3. Do not untwist UTP cables more than 1/2 inch (12 mm) from point of termination to maintain cable geometry.
- G. Open-Cable Installation:
 - 1. Install cabling with horizontal and vertical cable guides in telecommunication spaces with terminating hardware and interconnection equipment.
 - 2. Suspend copper cable not in a wireway or pathway a minimum of 8 inches (200 mm) above ceilings by cable supports not more than **60 inches (1525 mm)** apart. Cable supports shall be fastened to structural members.
 - 3. Cable shall not be run in contact with pipes, ducts, or other potentially damaging items. Cables shall not be run through structural members or use structural members, pipes, ducts, or equipment as a support.
- H. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-C recommendations for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.
2. Separation between open communication cables or cables in nonmetallic pathways and unshielded power conductors and electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches (127 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches (300 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches (600 mm).
3. Separation between communication cables in grounded metallic pathways and unshielded power lines or electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches (64 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches (150 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches (300 mm).
4. Separation between cables in grounded metallic pathways and power lines and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches (75 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches (150 mm).
5. Separation between Cables and Electrical Motors and Transformers, 5 kVA or hp and Larger: A minimum of 48 inches (1200 mm).
6. Separation between Cables and Fluorescent Fixtures: A minimum of 5 inches (127 mm).

3.4 FIRESTOPPING

- A. Comply with requirements in Section 078413 "Penetration Firestopping."
- B. Comply with TIA-569-C, "Firestopping" Annex A.
- C. Comply with BICSI TDMM, "Firestopping Systems" Article.

3.5 GROUNDING

- A. For communication wiring, comply with J-STD-607-A and with BICSI TDMM's "Grounding, Bonding, and Electrical Protection" chapter.
- B. For low-voltage wiring and cabling, comply with requirements in Section 280526 "Grounding and Bonding for Electronic Safety and Security."

3.6 IDENTIFICATION

- A. Identify system components, wiring, and cabling complying with TIA-606-B.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: **Engage** a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:
 - 1. Visually inspect UTP jacket materials for NRTL certification markings. Inspect cabling terminations to confirm color coding for pin assignments, and inspect cabling connections to confirm compliance with TIA-568-C.1.
 - 2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
 - 3. Test UTP cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross connection.
 - a. Test instruments shall comply with or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
- D. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION 280510

SECTION 280520

PATHWAYS FOR POWER, DATA, SAFETY AND SECURITY

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:
 - 1. Metal conduits, tubing, and fittings.
 - 2. Nonmetallic conduits, tubing, and fittings.
 - 3. Boxes, enclosures, and cabinets.
 - 4. Surface raceway.

1.3 DEFINITIONS

- A. ARC: Aluminum rigid conduit.
- B. GRC: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface pathways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Republic Conduit.
 - 2. Thomas & Betts Corporation, A Member of the ABB Group.
 - 3. Western Tube and Conduit Corporation.
- B. General Requirements for Metal Conduits and Fittings:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- 2. Comply with TIA-569-B.
- C. EMT: Comply with ANSI C80.3 and UL 797.
- D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
 - 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 - 2. Fittings for EMT:
 - a. Material: **Steel**
 - b. Type: **Setscrew**.
 - 3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 467, rated for environmental conditions where installed, and including flexible external bonding jumper.

2.2 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets:
 - 1. Comply with TIA-569-B.
 - 2. Boxes, enclosures and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet-Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, **ferrous alloy** Type FD, with gasketed cover.
- D. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

2.3 SURFACE RACEWAY

- A. Manufacturers: Legrand-Wiremold or equal.
- B. General Requirements for Surface Raceway:
 - 1. Comply with TIA-568-B.
 - 2. Comply with UL E90378
- C. Wiremold 2300 surface raceway.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

- A. Outdoors: Apply pathway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: **EMT**.
 - 2. Concealed Conduit, Aboveground: **EMT**.
 - 3. Underground Conduit: RNC, **Type EPC-40-PVC direct buried**.
 - 4. Boxes and Enclosures, Aboveground: NEMA 250, **Type 3R**.
- B. Indoors: Apply pathway products as specified below unless otherwise indicated:
 - 1. Concealed in Interior Walls and Partitions: **EMT**.
 - 2. Concealed in Ceilings: **EMT or Open Cabling**.
 - 3. Exposed, as shown or where raceway cannot be concealed in wall: **Surface Raceway**.
 - 4. Boxes and Enclosures: NEMA 250, Type 1.
- C. Minimum Pathway Size: **1/2-inch**
- D. Pathway Fittings: Compatible with pathways and suitable for use and location.
 - 1. EMT: Use **setscrew metal** fittings. Comply with NEMA FB 2.10.
 - 2. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
 - 3. Surface Raceway: Use only compatible fittings provided by raceway manufacturer.
- E. Do not install aluminum conduits, boxes, or fittings.

3.2 INSTALLATION

- A. Comply with NECA 1, NECA 101, and TIA-569-B for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum pathways. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies and number of floors.
- B. Keep pathways at least 6 inches away from parallel runs of flues and steam or hot- water pipes. Install horizontal pathway runs above water and steam piping.
- C. Complete pathway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- E. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications wiring conduits for which only two 90-degree bends are allowed. Support within 12 inches of changes in direction.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- G. Support conduit within 12 inches of enclosures to which attached.
- H. Install Surface Raceways plumb and level. Secure base to wall with fasteners 12" on center.
- I. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT for pathways.

2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
 3. Notch ceiling angle to extend surface raceway 1" above ceiling, minimum.
- J. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.
- K. Install pathways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- L. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to conduit assembly to assure a continuous ground path.
- M. Cut conduit perpendicular to the length. For conduits of 2-inch (53-mm) trade size and larger, use roll cutter or a guide to ensure cut is straight and perpendicular to the length.
- N. Install pull wires in empty pathways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground pathways designated as spare above grade alongside pathways in use.
- O. Install devices to seal pathway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all pathways at the following points:
1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where an underground service pathway enters a building or structure.
 3. Where otherwise required by NFPA 70.
- P. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.
- Q. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- R. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.4 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 280520

SECTION 312316

EXCAVATION

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating for slab on grade

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 - 2. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
 - 3. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- B. Local utility standards when working within 24 inches of utility lines.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with City of Richmond, California, Public Works standards
- B. Maintain one copy of document on site.

PART 2 EXECUTION

2.1 PREPARATION

- A. Call USA service at 811 not less than two working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company as necessary to remove and/or relocate utilities.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control points, existing structures, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

2.2 EXCAVATION - GENERAL

- A. Underpin adjacent structures which may be damaged by excavation work.

- B. Excavate subsoil to accommodate building foundations per Structural Plans and Specifications.
- C. Excavate to working elevation for concrete work.
- D. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity.
- E. Slope banks with machine.
- F. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- G. Trim excavation. Remove loose matter.
- H. Remove lumped subsoil, boulders, and rock.
- I. Notify Architect/Engineer of unexpected subsurface conditions.
- J. Correct areas over excavated with Engineer.
- K. Remove excess and unsuitable material from site.
- L. Repair or replace items indicated to remain damaged by excavation.

2.3 EXCAVATION FOR BUILDING FOUNDATIONS

- A. Refer to Structural Plans and notes.

2.4 EXCAVATION FOR SLABS ON GRADE

- A. Refer to Structural Plans and notes.

2.5 FIELD QUALITY CONTROL

- A. Request visual inspection of bearing surfaces by Architect/Engineer before installing subsequent work.

2.6 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION 312316

SECTION 321216

ASPHALTIC CONCRETE PAVING

PART 1 - GENERAL

- 1.1 SCOPE: Provide all labor, materials and equipment to patch and repair existing asphalt paving at new concrete patio with hot mix asphalt concrete paving.
- 1.2 REFERENCE
 - A. Perform all work in accordance with all applicable laws, codes and regulations required by state and local jurisdictions.
 - B. Reference to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.

PART 2 - MATERIALS

- 2.1 PRIME COAT: Liquid asphalt (SC-70) in conformance with Section 93 of the Standard Specifications.
- 2.2 TACK COAT: Diluted SS-1 or SS-1H Emulsion, or an undiluted RS-1 Emulsion, and conform to Section 94 of the Standard Specifications.
- 2.3 PAVING ASPHALT: AS-4000 in conformance with Section 92 of the Standard Specifications.
- 2.4 AGGREGATES: Coarse and fine aggregates, Type B. 3/4" aggregates for asphalt concrete surfacing walks and related surfaces.

PART 3 - EXECUTION

- 3.1 CLASS II AGGREGATE BASE: Spread, placed and compacted in conformance with Section 26 of the Standard Specifications and Subgrade Preparation Section of Specifications herein.
- 3.2 PRIME COAT: Before placing asphalt concrete on an untreated base, apply a liquid asphalt prime coat to the base course in accordance with provisions set forth in Section 39 of the Standard Specifications. Apply prime coat at the rate of 0.25 gallon per square yard, or as directed by the City Engineer.
- 3.3 TACK COAT: Before placing asphalt concrete, apply an asphalt emulsion tack coat (paint binder) to all vertical surfaces of existing pavement, curbs, construction joints, existing pavements and headerboards; all in accordance with Section 39-4 of the Standard Specifications. Apply at the rate of 0.10 gallon per square yard.

- 3.4 ASPHALT CONCRETE: Proportion, mix and place in conformance with the applicable provisions of Section 39 of the Standard Specifications.
- 3.5 TOLERANCE: The finished asphalt pavement, where not controlled by adjacent structures or features, may vary not to exceed 0.10' above or below the planned grade, providing it is uniform and free from sharp breaks. The cross-section of the finished pavements shall be free from ridges and valleys, and be within 0.05' above or below the theoretical section at any point on the cross-section. The thickness of the finished pavement shall be not less than 0.01' less than the planned thickness of any point.
- 3.6 CLEAN-UP: Upon completion of the asphalt concrete paving, the Contractor shall remove all surplus construction materials, earth and debris so that the entire job site is left in a neat and orderly condition. Clean all splash off concrete, header-boards, equipment, and all adjacent appurtenances.

END OF SECTION 321216