



COUNTY OF MENDOCINO

FACILITIES DIVISION

**WILLITS WISC PARKING LOT PAVING &
LIGHTING PROJECT**

470 EAST VALLEY STREET

WILLITS, CALIFORNIA 95490

BID DOCUMENTS

JULY 21, 2017

PROJECT LOCATION:
COUNTY OF MENDOCINO
Willits WISC Facility
470 East Valley Street
Willits, CA 95490

INFORMATION:
COUNTY OF MENDOCINO
Facilities & Fleet Division
851 Low Gap Road
Ukiah, California 95482

SECTION 00002

PROJECT DIRECTORY

Project: Willits WISC Parking Lot Paving & Lighting Project
470 East Valley Street, Willits, CA 95490

Owner: County of Mendocino
851 Low Gap Road
Ukiah, CA 95482

County Project Manager: John C. Johnson
Facilities & Fleet Division
851 Low Gap Road
Ukiah, California 95482
Phone: (707) 234-6073
johnsonj@co.mendocino.ca.us

SECTION 00005

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SECTION 00020

NOTICE INVITING BIDS

Notice is hereby given that sealed bids will be received at the Facilities and Fleet Division Office, County of Mendocino, 851 Low Gap Road, Ukiah, California 95482 until the hour of 2:00 p.m., as determined by the clock on the wall of the Facilities and Fleet Division Office, on Thursday, August 17, 2017 at which time they will be publicly opened and read aloud in the Facilities and Fleet Division Office, County of Mendocino, 851 Low Gap Road, Ukiah, California for the following project:

WILLITS WISC PARKING LOT PAVING & LIGHTING PROJECT

License Required for this Project is: "A" License

Electronic Plans and Documents may be seen at, or downloaded from the Mendocino County Web Page for Bidding Opportunities – Construction:

<http://www.co.mendocino.ca.us/gs/central/rfps.htm>

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 non-mandatory pre-bid conference will be held on Thursday, August 10, 2017 at 11:00 a.m. near the Project site, at 472 East Valley Street, Willits, California 95490.

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 00100

INSTRUCTIONS TO BIDDERS

PART 1 – GENERAL

1.1 BIDS RECEIVED

- A. Sealed bids for the Mendocino County **Willits WISC Parking Lot Paving & Lighting** Project will be received at the Facilities and Fleet Division Office, County of Mendocino, 851 Low Gap Road, Ukiah, California, until 2:00 p.m. as determined by the clock on the wall of the Facilities and Fleet Division Office, on Thursday, August 17, 2017 and then publicly opened and read aloud in the Facilities and Fleet Division Office, County of Mendocino.
- B. Late bids will not be accepted. It is Bidder's responsibility to assure that its bid is delivered and received at the location noted above on or before the date and hour set for the bid opening.

1.2 LICENSE REQUIREMENT

- A. The license required for this Project is "A" License.
- B. Pursuant to Mendocino County Code Section 6.0 – Business Licenses and Regulations, prior to contract award, the contractor shall supply a copy of their current County of Mendocino business license.

1.3 SECURING OF PLANS AND DOCUMENTS - FEES

Electronic Plans and Documents may be seen at, or downloaded from the Mendocino County Web Page for Bidding Opportunities – Construction:

<http://www.mendocinocounty.org/government/executive-office/open-rfp-quotes-bids>

1.4 BIDS

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

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

1.5 PRE-BID CONFERENCE AND SITE ACCESS

- A. **A non-mandatory pre-bid conference will be held on Thursday, August 10, 2017 at 11:00 a.m. near the site, at 472 East Valley Street, Willits, California 95490.**
- B. Following the meeting, a site review will be conducted to acquaint Bidders with the Project.

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 one hundred eighty (180) 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 Seventy (70) 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 01630 - Product Options 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

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

END OF SECTION

SECTION 00120

QUALIFICATION APPLICATION

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

CONTACT INFORMATION

Firm Name (as it appears on license): _____

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):

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

DIR Registration Number: _____

Mendocino County Business License No: _____

PART I. ESSENTIAL REQUIREMENTS FOR QUALIFICATION

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

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

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

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

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: _____

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

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

Name	Position	Years with Co.	% Ownership	Social Security #

For firms that are partnerships:

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

Name	Position	Years with Co.	% Ownership	Social Security #

For firms that are sole proprietorships:

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

B. History of the Business and Organizational Performance

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

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

☐ Yes ☐ No

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

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

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

☐ Yes ☐ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

Year	Gross Revenue

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

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

☐ Yes ☐ No

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

Disputes

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

☐ Yes ☐ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

12. In the last five (5) years, has any claim *against* Contractor's firm concerning the firm's work on a construction project been *filed in court or arbitration*?
- ☐ Yes ☐ No

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

13. In the last five (5) years, has Contractor's firm made any claim against a project owner concerning work on a project or payment for a contract and *filed that claim in court or arbitration*?
- ☐ Yes ☐ No

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

Criminal Matters and Related Civil Suits

14. Has Contractor's firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?
- ☐ Yes ☐ No

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

15. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a crime involving federal, state, or local law related to construction?
- ☐ Yes ☐ No

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

16. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?
- ☐ Yes ☐ No

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

Bonding

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

☐ Yes ☐ No

Name of Bonding Company: _____

Name, Address, Telephone# for Surety Agent: _____

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

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

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

☐ Yes ☐ No

If "yes", attach a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was/were issued, and the amount of the penalty paid (if any). If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.

19. Has the Federal Occupational Safety and Health Administration cited and assessed penalties against Contractor's firm in the last five (5) years?

NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.

☐ Yes ☐ No

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

20. Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either Contractor's firm or the owner of a project contracted to Contractor in the last five (5) years?

NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.

☐ Yes ☐ No

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

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

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

Current year: _____

Previous year: _____

Year previous to previous year: _____

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

Prevailing Wage and Apprenticeship Compliance Record

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

SECTION 00306

ANTITRUST CLAIM ASSIGNMENT

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

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

SECTION 00307

NON-COLLUSION AFFIDAVIT

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

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

State of California)
)
County of Mendocino) 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 00308

PUBLIC CONTRACT CODE QUESTIONNAIRE

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

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

☐ Yes ☐ No

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

SECTION 00310

BID FORM FOR

Willits WISC Parking Lot Paving & Lighting

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 Seventy (70) 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 (\$_____)

ADDITIVE ALTERNATES *[if applicable]*:

“LOW BID WILL BE DETERMINED BY THE TOTAL AMOUNT OF THE BASE BID AND ANY CHOSEN ALTERNATES THAT ARE ACCEPTED.”

Additive Alternate #1:

Add _____ 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.

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

Name of Organization_____

Type of Organization_____
(Corporation, Partnership, etc.)

Address_____

Name of State where incorporated_____

CONTRACTORS LICENSE NO. _____ EXPIRATION DATE_____

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

DIR Registration #: _____

☐ Contractor is currently licensed to do business in the County of Mendocino. Mendocino County Business License
#: _____

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 00500

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 **WILLITS WISC PARKING LOT PAVING & LIGHTING** Project, in accordance with the contract documents, including the Addenda thereto, all as adopted by COUNTY.

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

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

1. Invitation to Bid
2. Instructions to Bidders
3. Agreement
4. Contractor's Guarantee
5. Close-Out Items including all Warranties
6. Substitution Warranty
7. Coordination
8. Mock-Ups
9. Construction Temporary Facilities
10. Maintenance Materials
11. Drawings & Specifications
12. General and Technical Conditions of the Specifications
13. 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 (referenced hereunder to specifications section). This sum includes the following alternate bids:

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.

DEPARTMENT FISCAL REVIEW:

DEPARTMENT HEAD _____ DATE _____

Budgeted: ☐ Yes ☐ No

Budget Unit: _____

Line Item: _____

Grant: ☐ Yes ☐ No

Grant No.: _____

COUNTY OF MENDOCINO

By: _____
JOHN MCCOWEN, Chair
BOARD OF SUPERVISORS

ATTEST:

CARMEL J. ANGELO, Clerk of said Board

By: _____
Deputy

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

CARMEL J. ANGELO, Clerk of said Board

By: _____
Deputy

INSURANCE REVIEW:

RISK MANAGER

By: _____
ALAN D. FLORA, Risk Manager

EXECUTIVE OFFICE REVIEW:

APPROVAL RECOMMENDED

By: _____
CARMEL J. ANGELO, Chief Executive Officer

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

CONTRACTOR/COMPANY NAME

By: _____

NAME AND ADDRESS OF CONTRACTOR:

American Asphalt Repair & Resurfacing Co.

24200 Clawiter Road

Hayward, CA 94545

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:

KATHARINE L. ELLIOTT,
County Counsel

By: _____
Deputy

FISCAL REVIEW:

By: _____
Deputy CEO/Fiscal

SECTION 00501

WORKERS' COMPENSATION CERTIFICATION

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

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

Dated _____

Contractor Signature _____

SECTION 00510

CONTRACTOR GUARANTEE FOR

WILLITS WISC PARKING LOT PAVING & LIGHTING

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 00700
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 Facilities and Fleet Division Manager or his/her designee, or the County Executive Officer or his/her designee.
- C. "Contractor" - The person or persons, partnership, corporation, or combination thereof, private or municipal, who have entered into a contract with the County, as party or parties of the second part or his/her or their legal representatives.
- D. "Specifications" - The directions, provisions and requirements contained in these Specifications as supplemented by the Supplementary Conditions. Whenever the term "These Specifications" is used in this book, it means the provisions as set forth in this book.
- E. "Paragraph" - The particular section of subdivision herein designated by a number.
- F. "Laboratory" - The designated laboratory authorized by the County to test materials and work involved in the Contract.
- G. In the case of conflict between the Standard Specification and these Specifications, these Specifications shall take precedence over and be used in lieu of such conflicting portions:
 - A.W.S. American Welding Society
 - A.S.T.M. American Society for Testing Materials
 - A.S.A. American Standard Association
 - N.B.F.U. National Board of Fire Underwriters
 - N.B.S. National Bureau of Standards
 - A.S.M.E. American Society of Mechanical Engineers
 - A.R.I. American Refrigeration Institute
 - N.E.M.A. National Electrical Manufacturers Association
 - U.L. Underwriter's Laboratories
 - E.T.L. Electrical Testing Laboratories
 - A.C.I. American Concrete Institute
 - F.A. Federal Specifications
 - A.I.S.C. American Institute of Steel Construction
- H. The County and the Contractor are those named as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and the masculine gender.
- I. When the words "Approved", "Satisfactory", or "Equal", "As Directed", etc. are used, approval by the County is understood.
- J. All Federal, State laws and local laws shall govern the construction of the Contract and all rules, ordinances and requirements of authorized officials shall be complied with.

- K. It is understood that any reference to the Specifications or designation of the American Society for Testing Materials, Federal Specifications or other standard, code, or order, refers to the most recent or latest amended specification or designation.

2. EXAMINATION OF PLANS AND SPECIFICATIONS

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

3. DRAWINGS AND SPECIFICATIONS

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

4. CONDUCT OF WORK

- A. The County reserves the right to do other work in connection with the project by contract or otherwise. Contractor shall at all times conduct his work so as to impose no hardship on the County or others engaged in the work. Contractor shall adjust, correct, and coordinate his work with the work of others so that no discrepancies shall result in the whole work.
- B. The Contractor shall provide at his own cost and risk all labor, material, water, power tools, machinery, scaffolding, and framework for the execution of the work. Equipment shall be adequate and as approved.

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

- C. Where work of one trade joins or is on other work, there shall be no discrepancy when same is completed. In engaging work with other materials, marring or damaging same shall not be permitted. Should improper work of any trade be covered by another which results in damage or defects, the whole work affected shall be made good without expense to the County.
- D. The Contractor must anticipate relation of all parts of the work and at the proper time furnish and set anchorage, blocking or bonding as required. Anchorage and blocking necessary for each trade shall be a part of same, except where stated otherwise.
- E. Assistance required by the County in obtaining measurements or information on the work shall be furnished accurately and fully without cost to the County.

5. OWNERSHIP OF DRAWINGS

All plans and specifications shall remain the property of the County and shall be returned to the office of the County 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.

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.

END OF SECTION

SECTION 00851

DRAWING INDEX

Civil Drawings

C000	Cover Sheet
C110	Pavement Plan
C115	Add. Alternate Pavement Plan
C120	Striping Plan
C300	ADA Plan & Details
E200	Site Lighting Plan

SECTION 01010

SUMMARY OF THE 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. Work included:
 - 1. Work described herein and as shown on the Drawings, shall consist of the removal and off-haul of the top 4" or less of an existing base rock parking lot, finish grading, moisture conditioning and compaction, pavement of parking lot with ½" HMA (4" thick), pavement striping and markings, construction of four ADA compliant ramps and associated sidewalk, and replacement of existing site bollard lights with pole lights for the Willits WISC facility in Willits, California.
 - 2. The total work area is approximately 26,000 SF.
 - 3. The scope of work can be generally described as, but is not limited to, the following.
 - a. Site Preparation; demo of existing sidewalk at ramp locations, excavation for new sidewalk, removal and off haul of top 4" or less of base rock at existing parking lot, finish grading, moisture conditioning and compaction of base rock.
 - b. Remove existing bollard site lights and replace with new pole site lighting at seven (7) locations as indicated on Contract Drawings per the Specifications.
 - b. Pave parking lot with 4" of ½" HMA as indicated on Contract Drawings per these Specifications.
 - c. Form and pour four (4) new ADA compliant 5" thick concrete access ramps and associated sidewalk, over compacted base rock (6" thick) within the defined work area.
 - d. Establish reference points, layout, and apply parking delineation and other markings as indicated on Contract Drawings and in these specifications.
 - e. Completion of work during the 2017 Calendar Year. Cleanup and disposal of spoils off site.
- B. Location: 470 East Valley Street, Willits, CA 95490.
- C. Related work:
 - 1. Contractor shall provide all labor, equipment, and materials that are required to provide a complete operating and safe site. The extent of 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 system(s).

2. Should the General Conditions or Contract Documents contradict themselves, Contractor shall provide the more stringent or higher quality or quantity unless otherwise accepted by the County.
3. 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 and 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 intention thereof, Contractor is to understand the same is 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 STANDARDS

- A. Caltrans "Standard Specifications" dated 2010.

1.4 WORK AREA AND USE OF PREMISES

- A. The contractor shall have controlled access to the site. Contractor shall perform work such that no more than one half of the work area at a time is taken out of public use. Pedestrian access to the building entrances and adjacent businesses shall be maintained during business hours. Work shall be adequately cordoned off to direct public from the street or parking lot, and direction shall be provided around the work area, to the building entrances.
- B. The Contractor shall use every precaution to insure the protection of and prevent damage to existing facilities on or adjacent to the construction area. Damage to existing facilities due to construction activities shall be repaired by the Contractor at no additional cost to the Owner.
- C. Bidders shall assume that they can use one area inside of the work area for staging, as shown on Sheet C100 of the drawings. Maintain the area clean and without damage to the surfaces or adjacent curbs and structures.

1.5 EXAMINATION

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

1.6 PERMITS FOR WORK

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

1.7 LISTING OF RELATED WORK

Listings of related work or sections in the various Sections are not necessarily complete listings. They are provided for information and convenience only and are intended to highlight related or similar work which is specified in other Sections. Related work listings and omissions from such listings are not intended to control Contractor in dividing the work among subcontractors or in establishing the extent of the work to be performed by any trade.

1.8 REQUEST FOR INFORMATION (RFI)

- A. Requirement: It is Contractor's responsibility to review Contract Documents a minimum of thirty (30) days in advance of the work to be executed, and to request information so that County will have sufficient time to respond to Requests for Information prior to the start of actual construction of that part of the Work to which the RFI relates. Contractor shall be responsible for all delays, disruptions and other related impacts as a result of untimely RFI's submitted to County.
- B. Contractor shall coordinate all requests for information to prevent duplication. Requests for information that are duplicative, uncoordinated with each other, or do not allow for a reasonable time for response will be returned to Contractor.
 - 1. Contractor shall promptly notify County in writing of any discrepancies, and shall not proceed with the Work until such discrepancies have been resolved.
 - 2. Failure to notify County shall not relieve Contractor of its responsibility for resulting damage and/or defect, and for the cost of any corrective work that may be required due to Contractor's failure to notify.
- C. Contractor shall prioritize RFI's and request a response based on its most current and accepted CPM schedule.
- D. Form:
 - 1. When an interpretation or clarification of the Contract Documents is required from County, Contractor shall make the request on a copy of the RFI form included in the end of this section or on a form approved by the County.
 - 2. Contractor shall fill in all applicable information on the form.
 - 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.

2. Contractor shall not use the RFI form for the following; County will not reply and will reject the

RFI:

- a. Product or material substitution.
- b. Questions relating to construction means, methods, techniques, sequences, procedures or safety precautions. (These are Contractor's responsibilities exclusively.)
- c. Questions relating to construction schedule, coordination between trades, or division of work among subcontractors. (These are also Contractor's responsibilities exclusively.)
- d. Questions on contract administration procedural matters, unless they require interpretation or clarification of the Contract Documents.
- e. Dimensions or quantities which are shown on the Contract Documents, or which can be measured from the building, or calculated from the information contained in the Contract Documents.
- f. Confirmation of interpretations or clarifications previously provided by County.

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.

REQUEST FOR INFORMATION (RFI)

Willits WISC Parking Lot Paving & Lighting

RFI No. _____

Submitted By: _____ Date: _____

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

μ Mark this circle if the RFI can be answered by Contractor's review of the documents. Reply with location(s) where the information can be obtained.

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 s

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Provide such field engineering services as are required for proper completion of the Work, including but not limited to:
 - a. Establishing and maintaining lines and levels.
 - b. Layout of traffic markings as described herein.
 - c. Establishment of Control Points, and similar items provided by the Contractor as part of his means and methods of construction.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.
2. Additional requirements for field engineering also may be described in other Sections of these Specifications.
3. Contractor shall set and protect control points, suitable for reference after patching and sealing; and shall reestablish layout for traffic markings and parking delineations in the same location as they currently exist.

1.2 QUALITY ASSURANCE

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

1.3 SUBMITTALS

- A. Not applicable.

1.4 PROCEDURES

- A. In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
1. Locate and protect control points before starting work on the site.
 2. Preserve permanent reference points during progress of the Work.
 3. Do not change or relocate reference points or items of the Work.

1.5 SPECIAL CONDITIONS

- A. All other field engineering requirements including restaking or replacing control points damaged by the Contractor or his subcontractors shall be paid for by the Contractor.
- B. Procedure prior to starting work:
1. Prior to occupying the site make arrangements for the establishment of control points to take place.

1.6 PAYMENT

- A. Compensation for this Section shall be considered to be included in pay items for associated items of work and no additional compensation will be allowed.

END OF SECTION

SECTION 01100

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. The Alternate proposals as described herein shall state the net sum to be added to the lump sum in the event that the Alternate proposal is accepted. Dollar amounts for Alternate proposals shall be inserted in the "Form of Proposal."
- 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. Alternate No. 1: 4,500 SF of Removal and Off haul of existing base rock, Finish Grading, and Paving of the service access road with 4" thick ½" Hot Mix Asphalt, which services the Willits WISC facility located at 472 & 474 East Valley Street in Willits, CA 95490 per the Specifications and Project Drawings.
 - 1. Removal and Off haul, Preparation, Finish Grading, Moisture Conditioning and Compaction, provide and install Hot Mix Asphalt Paving of additional area (4,500 SF) as identified in the Project Drawings per procedures called out in these Specifications.

END OF SECTION

SECTION 01340

SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
3. See General Conditions for submittal of schedules, cost breakdown, subcontractors list, etc.

C. Work not included:

1. Unrequired submittals will not be reviewed by the Project Administrator.
2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Project Administrator.

1.2 QUALITY ASSURANCE

A. Coordination of submittals:

1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
3. All material submittals shall be numbered in sequence of submittal. Resubmittals shall receive a new number.
4. Materials shall not be shipped or transported to the job site prior to the review of submittals by the Project Administrator, and compliance with the Contract Documents has been verified.
5. The Contractor shall assume full responsibility for coordinating and verifying schedules, quantities, and dimensions shown on Contract Drawings. The Project Administrator assumes no responsibility for checking schedules, quantities, or dimensions.

B. Substitutions:

1. The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when substantiated by the Contractor's submittal of required data within 5

calendar days after the Notice to Proceed. Only one substitution request will be considered for each specified item. Unless noted otherwise in a specific Section of the Specifications after 5 calendar days after the Notice to Proceed it will be assumed all items are to be as specified in these documents and substitutions may not be accepted by the Project Administrator. It shall be the Contractor's responsibility to notify the Project Administrator in writing, of any deviations in the submittals from the requirements of the Contract Documents.

2. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this Work by the Project Administrator.

C. Time for review of substitutions:

1. In the interest of time, substitutions are not encouraged unless absolutely unavoidable. When submitting an item for substitution for a specified item, submit all pertinent data required to enable the Project Administrator to make an accurate and timely evaluation. Incomplete submittals or insufficient data will be cause for the submittal to be rejected.
2. Requests for extension of the time directly or indirectly related to approval of substituted items will not be granted.
3. Additional review time by the Project Administrator caused by a substitution shall in no way be charged as a delay to the Project.
4. It shall be the sole responsibility of the Contractor to avoid delays through the process of substitution.

D. "Or equal":

1. Where the phrase "or equal," or "as approved equal," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be considered as equal unless the item has been specifically so reviewed by the Project Administrator and deemed in conformance with design intent and quality established for this Work.
2. The decision of the Project Administrator shall be final.
3. If submittals on "or equal" items are not made within the prescribed time or are incomplete, then the item or material originally specified shall be supplied.

1.3 SUBMITTALS

- A. Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.
- B. Submittals shall include all technical and performance data on the product or material required for the Project Administrator to make a fair evaluation, including physical samples if deemed necessary by the Project Administrator.
- C. Incomplete submittals will be returned to the Contractor and will not be reviewed by the Project Administrator. The Contractor shall be solely responsible for any delays caused by making incomplete submittals.
- D. For purposes of uniformity, only one make and/or brand of material will be accepted for each type of material used.

1.4 PAYMENT

- A. Compensation for this Section shall be considered to be included in pay items for associated items of work and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.1 SUBMITTALS REQUIRED

- A. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
- B. Submittals are required for the following materials.
 - 1. Section 02510 3/8" Hot Mix Asphalt (HMA) Mix Design
 - 2. Section 02577 Traffic Marking Paint
 - 3. Section 03300 Cast in Place Concrete
 - 4. Section 16530 Site Lighting
- C. Contractor shall provide, upon delivery of materials to the jobsite, Certificates of Compliance, documenting that the supplier certifies the material to be placed complies with these specifications. Certificates are required for:
 - 1. 3/8" Hot Mix Asphalt (HMA)
- D. Contractor shall provide samples of supplied materials to Project Administrator. Samples are required for:
 - 1. Slurry Seal

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
- B. Submit the number of copies which are required to be returned, plus three copies which will be retained by the Project Administrator.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

- A. Each submittal shall be numbered consecutively by the Contractor and all documentation shall refer to that number.
 - 1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
 - 2. On resubmittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.

3.2 GROUPING OF SUBMITTALS

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is

received. Partial submittals may be rejected as not complying with the provisions of the Contract. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery. The Contractor will be solely responsible for any delays caused by not making submittals in time for proper review.
- B. In scheduling, allow at least three working days for review by the Project Administrator following his receipt of the submittal.

3.4 PROJECT ADMINISTRATOR'S REVIEW

- A. Review by the Project Administrator does not relieve the General Contractor from responsibility for errors which may exist in the submitted data, nor does review by the Project Administrator relieve the Contractor from responsibility or in any way change the original Contract.
- B. Revisions:
 - 1. Make revisions required by the Project Administrator.
 - 2. If the Contractor considers any required revision to be a change, he shall so notify the Project Administrator as provided for in the Contract Documents.
 - 3. Make only those revisions directed by the Project Administrator.
- C. Reimbursement of Project Administrator's costs:
 - 1. In the event substitutions are proposed to the Project Administrator after the Contract has been awarded, the Project Administrator will record all time used by him and by his consultants in evaluation of each such proposed substitution.
 - 2. Whether or not the Project Administrator approves a proposed substitution, the Contractor promptly upon receipt of the Project Administrator's billing shall reimburse the Project Administrator at his standard billing rates and that of his consultants for all time spent by them in evaluating the proposed substitution.
 - 3. If the Contractor does not reimburse the Project Administrator for all time spent by them in evaluating the proposed substitution, with the authorization of the Owner, the amounts due the Project Administrator will be deducted from the pay request.

3.5 PROJECT INSPECTOR

- A. The County will provide the Project Inspector with reviewed copies of all submittals and manufacturer's brochures for use on the job site.

END OF SECTION

SECTION 01400
QUALITY CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

A. General:

1. All workmanship and materials shall be under the direct supervision and control of a qualified job superintendent employed by the Contractor.
2. The Project Inspector, the Project Administrator, and the testing laboratory shall be responsible, as indicated elsewhere in these specifications, but shall not, in any way, be responsible for supervision or control of the construction of the Project.

B. The Contractor:

1. The Contractor shall be responsible for the quality of the work. Work performed by his workmen, subcontractors, material suppliers or fabricators shall meet the quality specified or the standard of the industry, whichever standard is higher. Work or materials not meeting the quality standard shall not be installed on this Project.

C. Project Administrator:

1. The Project Administrator for this project will be appointed by Mendocino County. All work shall be performed in accordance with Drawings and Specifications prepared and signed by the Design Engineer and approved by Mendocino County. The Project Administrator or his representative shall have access to the Work at all times for the purpose of making field observations. The Contractor shall give the Project Administrator ample notice prior to the start of each phase of the Work or before closing in or covering work.
2. Changes in the Work shall be only as approved by the County who shall promptly issue a written Field Order or Change Order.

D. Project Inspector:

1. The Project Inspector shall be employed by Mendocino County. The Project Inspector shall inspect for quality of workmanship and conformance with approved Drawings and Specifications.

E. Testing Laboratory:

1. If testing is required, the testing laboratory for this Project shall be provided by the Contractor.

F. Covering up the work:

1. The Contractor shall not cover up any portion of the Work until it has been inspected by the Project Inspector or until testing has been completed and test results approved.
2. Any work which is covered up or otherwise closed in prior to inspection shall be reopened for inspection at the direction of the Project Inspector. Reopening or uncovering work shall be at the expense of the Contractor.

G. Safety:

1. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the jobsite including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours.
2. The duty of the Project Inspector to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

H. Contractor's Inspection:

1. Prior to notification of Mendocino County for final inspection, the Project Superintendent and the Project Inspector shall inspect the Work and make a "Contractor's Punch List." All items on such list shall be corrected or completed before Mendocino County is notified for final inspection.

1.2 PAYMENT

- A. Compensation for this Section shall be considered to be included in pay items for associated items of work and no additional compensation will be allowed.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide temporary facilities and controls needed for the Work including, but not necessarily limited to:
 - 1. Temporary utilities such as heat, water, electricity, and telephone.
 - 2. Sanitary facilities.
 - 3. Temporary fencing of the construction site and or barricades; traffic plates.
 - 4. Temporary signs.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their own portions of the Work is not part of this Section.

1.2 PRODUCT HANDLING

- A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work.

1.3 PAYMENT

- A. Compensation for this Section shall be considered to be included in the pay item for associated pay items and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.1 UTILITIES

- A. Water:
 - 1. Provide necessary water for the proper performance of the work.
 - 2. Water for construction will be supplied and paid for by the Contractor. If applicable or necessary, the Contractor shall provide the connection and shut-off valve at the source acceptable to the local governing agencies.
- B. Electricity:
 - 1. Provide necessary temporary wiring and, upon completion of the Work, remove such temporary facility.
 - 2. Provide and pay for electricity used in construction.
- C. Telephone:
 - 1. Provide telephone communication to project superintendent. Provide contact information to Inspector.

2.2 CONTRACTOR'S FACILITIES

- A. Contractor shall maintain a set of approved set of the Contract Documents at the jobsite at all times. Contractor shall maintain at the jobsite a file of all Shop Drawings, instructions, and other pertinent written material or codes which are required.
- B. Contractor shall maintain the necessary CALOSHA and other employment and safety postings at the jobsite as required for a job of this type.
- C. Sanitary facilities:
 - 1. Provide temporary sanitary facilities in the quantity required for use by all personnel.
 - 2. Maintain in a sanitary condition at all times.

2.3 ENCLOSURES

- A. Provide and maintain for the duration of construction all tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work and safety of workers and members of the public, in compliance with pertinent safety and other regulations.

2.4 TEMPORARY BARRICADES

- A. Contractor shall erect and maintain temporary fencing or barricades to separate work areas from adjacent areas of pedestrian traffic and to protect existing landscaping and property. Barricades and traffic plates shall be provided where required for security or to provide for public safety.

2.6 TEMPORARY SIGNS

- A. Provide temporary signage and cones to direct vehicles past the work area and to indicate to pedestrians how to reach the building entrances.

2.6 PROJECT SIGNS

- A. Except as otherwise specifically approved by the County, do not permit signs or advertising on the job site.

2.7 FIRE PROTECTION

- A. Fire protection during construction shall be in accordance with C.F.C.
- B. Contractor shall provide fire extinguishers (min. 2A10BC) during construction.
- C. Contractor shall maintain access/egress to the Owner's buildings and those of others.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the County.
- C. All damage to paving, hardscape, curbs, walks, slabs, landscaping, or other site improvements caused by the temporary facilities shall be repaired.
- D. Clean-Up: At the end of the Project, all temporary structures and services shall be disconnected and/or removed from the site as directed by the County.

END OF SECTION

SECTION 01710

CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

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

1.2 QUALITY ASSURANCE

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

1.3 PAYMENT

- A. Compensation for this Section shall be considered to be included in pay items for other associated work and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

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

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General:
 - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
 - 2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work.

3. Completely remove all scrap, debris, and waste material from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. Site:

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1-A-1 above.
3. Maintain the site in a neat and orderly condition at all times.
4. The contractor shall sweep, wash and collect dust and debris deposited by its work force during the prosecution of the work and by vehicles traveling to and from the site, from all project areas and city streets and pedestrian walking surfaces immediately after any spill and no less than once daily during the cleaning and repair periods and other dust producing operations.

C. Pavement:

1. Clean pavement thoroughly in preparation of the slurry seal.
2. Clean areas where oil drips accumulate from parked cars.
3. Remove weeds and dirt from cracks and holes in the paved surface. Where specified fill cracks and holes immediately after cleaning.
4. The contractor shall sweep, wash and collect dust and debris during the prosecution of the work to leave the surface of the pavement in a condition suitable for the slurry seal to bind to it.

3.2 FINAL CLEANING

- A. Except as may be specifically provided otherwise, "Clean" shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials for the purpose of this Article.
- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.
- C. Site:
 1. Unless otherwise specifically directed by the Engineer, broom clean paved areas on the site and public paved areas adjacent to the site.
 2. Completely remove resultant debris.

END OF SECTION

SECTION 02000
SITE WORK GENERAL PROVISIONS

PART 1 – GENERAL

1.1 DOCUMENTS

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

1.2 SCOPE

The general requirements for site work specified herein are a part of all other Sections under Division 2 and the Contract for this Work and apply to each of these Sections as fully as if repeated in each case herein.

1.3 CODES AND STANDARDS

- A. All work and material shall conform to the applicable sections of the State of California, Caltrans Standard Specifications dated 2010 hereinafter referred to as the "Standard Specifications" as well as the codes and standards referenced in the individual sections. In case of conflict, the codes and standards referenced in the individual sections shall govern.
- B. All work and material shall also be in full accordance with the latest rules, regulations, and safety orders of the State of California, Division of Industrial Safety and all other State, County, City, Municipality, and Utility laws, rules and regulations. Nothing in these Drawings shall be construed to permit Work not conforming to the above.
- C. When Specifications call for material or construction of better quality or larger size than is required by the above-mentioned codes and standards, then the provisions of the Specifications shall take precedence over the requirements of said codes and standards. If there is any direct conflict between the above-referenced codes and standards and Drawings and Specifications, the codes and standards shall govern. Contractor shall furnish, without extra charge, any additional material and labor when required to comply with these codes and standards, even though the Work is not mentioned in the Specifications or shown on the Drawings.

1.4 PERMITS AND LICENSES

See General Conditions.

1.5 ORDINANCES AND PROTECTION

- A. Contractor shall conform to all federal, state and local ordinances relating to the protection of the public and Contractor's personnel and the flow of traffic. Provide protection for persons and property throughout the progress of the Work.
- B. The limits of the sites are indicated on the Drawings. Except for subsurface utility work, temporary roads, and any other work specifically shown or noted, Contractor shall confine its operations within the limits of Work as indicated.

1.6 GRADES, LINES, LEVELS AND PERMANENT MARKERS

- A. Data: Contractor shall be responsible for correctly locating all lines and grades required for the construction of this Contract from the established reference points and the data furnished on the Drawings.
- B. Responsibility for Correctness: Contractor will be held responsible for the correctness of the layout and for establishing the location of buried utility lines. In the event there is any conflict between actual conditions and the Drawings, Contractor shall notify Engineer immediately and shall not proceed with the Work until directed by Engineer.
- C. Preservation of Markers: All stakes, boundary lines, corner markers, bench marks or survey markers, etc., which have been or may be established in any part of the site shall be carefully preserved and respected by Contractor and shall be restored at Contractor's expense if lost or destroyed as a result of its operations.

1.7 ACCURACY OF DATA

Site data given herein and on the Drawings are as exact as could be secured, but their absolute accuracy cannot be guaranteed. Exact locations, distances, elevations, etc., shall be finally governed by field conditions and Engineer's instruction.

1.8 EXISTING UTILITIES

Contractor shall verify on site the locations and depth (elevation) of all utilities and services before excavation.

1.9 SEASONAL LIMITS

No utilities shall be constructed or installed and no pavement nor fill material shall be placed, spread or rolled during unfavorable weather conditions. When the Work is interrupted by heavy rain, fill operation shall not be resumed until field test by the registered Geotechnical Engineer indicates that the moisture content and density of the fill are as specified in these Specifications, or are in a condition suitable enough, in the opinion of the registered Geotechnical Engineer, for resuming the Work.

1.10 SITE INVESTIGATION

Contractor shall visit the site to determine the full extent of the site clearing work and any other matters that in any way affect the Work. Failure of Contractor to acquaint itself with the variable information concerning conditions will not relieve it from the responsibility for estimating the difficulty or the cost of the Work.

1.11 PIPE AND CONDUIT TRENCHING

- A. Trenches shall be constructed straight and true to line and grade with bottom smooth of any rock points. Trenches shall be adequate width to permit tamping the backfill around the bottom bolt of the pipe. The bottom of the trenches shall be of sound cut and even in order that the installed pipe burial has bearing for its full length.
- B. Protection: Protect open excavations, trenches and the like with fences, covers and railings as required to maintain safe pedestrian and vehicular passage and provide any and all shoring, bracing, cribbing, pumping and planking required. The bottoms of all trenches shall be level, tamped, firm, clean and free from all debris or foreign matter.

END OF SECTION

SECTION 02100
SITE PREPARATION

PART 1 – GENERAL

1.1 SUMMARY

- A. The work of this Section includes all those measures required during Contractor's initial move onto the site to protect existing fences, building, landscaping and associated improvements, streets, and utilities adjacent to the construction areas from damage due to boulders, trees or other objects dislodged during the construction process; clearing, grubbing and stripping; abandonment; and regrading of certain areas.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 01500 - Construction Facilities and Temporary Controls.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01340.
- B. Contractor shall submit to County's Representative a schedule of proposed disposal locations and written authorization from disposal site owner.

PART 2 - MATERIALS
NOT USED

PART 3 – EXECUTION

3.1 CLEARING, GRUBBING, AND STRIPPING

- A. All areas within the actual lines of construction shall be cleared of any debris. The site shall be clear of asphalt concrete, debris, logs, upturned stumps, loose boulders, and any other objectionable material of any kind which would interfere with the performance or completion of the Work, create a hazard to safety, or impair the Work's subsequent usefulness or obstruct its operation. Trees and other natural vegetation outside the actual lines of construction, including those on nearby properties or public ways, shall be protected from damage during construction.
- B. Within the limits of clearing, the areas below the natural ground surface shall be grubbed to a depth necessary to remove all stumps, roots, buried logs, and all other organic material. Septic tanks, drain fields and connection lines and any other abandoned underground structures, foundations, utilities, debris or waste shall be totally removed if they are found during the construction. All material from the clearing and grubbing process shall be removed from the site and disposed of in accordance with all applicable federal, state and local codes and regulations.

- C. The removal of any trees, shrubs, fences, or other improvements outside of rights-of-way as deemed necessary by Contractor, shall be arranged with the Construction Manager, removed and replaced, if required, by Contractor at Contractor's expense.

3.2 REGRADING

- A. Any holes remaining after removal of debris as designated in Section 3.1B shall be backfilled unless they are located within an area designated for immediate excavation.

3.3 DISPOSAL OF DEBRIS

- A. Dispose of removed materials, waste, trash, and debris in a safe, acceptable manner, in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction.
- B. Burying of trash and debris on the site will not be permitted. Burning of trash and debris at the site will not be permitted.
- C. Remove trash and debris from the site at frequent intervals or as directed by County's Representative, so that its presence will not delay the progress of the work.
- D. Removed materials, trash, and debris shall become the property of Contractor and shall be removed from the site and disposed of in a legal manner. Location of disposal site and length of haul shall be Contractor's responsibility.

3.4 SAFETY BARRIERS

- A. Provide protective and safety barriers such as temporary fence, "K" rails, and berms to protect adjacent existing structures and public access. To minimize disturbance of existing roads and facilities, safety barriers shall allow for normal maintenance and operation of existing facilities and roads as determined by County's Representative. The Contractor shall submit to County's Representative drawings that define the proposed safety measures prior to any construction activity.

END OF SECTION

SECTION 02200
EARTHWORK AND GRADING

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section describes the requirements for excavation, backfilling, grading, and other related items of altering or modifying the configuration of the existing soils at the Project site.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or Drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 02512 - Asphalt Concrete.
 - 3. Section 02520 - Portland Cement Concrete.

1.2 REFERENCE STANDARDS

- A. Applicable requirements of the Uniform Building Code;
- B. Cal/OSHA, State Administrative Code, Title 8, Industrial Relations, Chapter 4, Subchapter 4, "Construction Safety Orders;"
- C. State of California, Business and Transportation Agency, Department of Transportation's "Standard Specifications," 2010 Edition (CSS), except that measurements shall be converted to English units.
- D. The standards and ordinances of state and local governing ordinances, including County of Mendocino.

1.3 DEFINITIONS

- A. *Excavation*: Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.
- B. *Subgrade*: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- C. *Import*: Soil material obtained off-site when sufficient approved soil material is not available from excavations.
- D. *Base course*: The layer between the subgrade and wearing surface in a paving system.

- E. *Capillary Moisture Break*: Course of washed granular material supporting slab-on-grade placed to break upward capillary movement of pore water.
- F. *Unauthorized Excavation*: Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Construction Manager. Unauthorized excavation, as well as remedial work directed by the Construction Manager, shall be at Contractor's expense.
- G. *Structures*: Buildings, footings, foundations, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surfaces.
- H. *Utilities*: Utilities include underground pipes, conduits, ducts and cables as well as underground services within building lines.
- I. *Caltrans Standard Specifications*: State of California Department of Transportation Standard Specifications.

1.4 QUALITY ASSURANCE

- A. The Contract Documents cover preparation of existing surfaces to receive fills, the type of soil suitable for use in fills, the control of compaction, and the methods of testing compacted fills. It shall be Contractor's responsibility to place, spread, water, and compact the fill. Deviations from the Contract Documents will be permitted only upon written authorization from the County's Representative and inclusion in an approved Change Order.

1.5 SUBMITTALS (none)

1.6 JOB CONDITIONS

- A. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult with the Construction Manager immediately for directions as to procedure to be followed. Cooperate with County and utility companies in keeping respective services and facilities in operation.
- B. Do not interrupt existing utilities serving facilities occupied and used by County or others except when permitted in writing by Construction Manager, and then only after acceptable temporary utility services have been provided.
- C. *Protection of Persons and Property*: Barricade all open excavations occurring as part of this Work. Protect all existing adjacent structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by the earthwork operations required.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. *Fill Material*: Provide approved import soil materials from off-site when sufficient approved soil materials are not available from excavations.
 - 1. *Common Fill*: Common fill placed at the site shall be free of deleterious matter and contain no rocks or hard fragments larger than 4" in maximum dimension.

2. Select Fill: In addition to meeting the requirements of common fill, select fill shall have a low to nonexpansion potential, which for this site is defined as having a liquid limit less than 35 and a plasticity index less than 12. Select fill shall be predominantly granular with less than 30% passing the No. 200 sieve.
 3. Backfill and Fill Materials: Common and Select Fill.
- B. Drainage Material:
1. Class 2 Permeable Material in conformance with Caltrans Standard Specifications Sec. 68-1.025; or
 2. Washed crushed aggregate conforming to ASTM D448 No. 67 wrapped in filter fabric conforming to the requirements of Caltrans Standard Specifications Sec. 88-1.03.
- B. Base Material: Class 2 Aggregate Base, 100% virgin material, in conformance with Caltrans Standard Specifications Sec. 26-1.02B.
- C. Bedding Material: Clean uniform gravel with 100% passing a 1" sieve, not more than 5% passing a No. 200 sieve, and a uniformity coefficient less than 5.
- D. Capillary Moisture Break: Washed, evenly graded mixture of crushed aggregate conforming to ASTM D 448 Standard Aggregate No. 67.

PART 3 – EXECUTION

3.1 GENERAL

- A. The placement of controlled fill shall include all clearing and grubbing, removal of existing unsatisfactory material, preparation of the areas to be filled, spreading and compaction of fill in the areas to be filled, and all other work necessary to complete the grading of the filled area.

3.2 PROTECTION

- A. Existing Utilities: Do not interrupt existing utilities facilities occupied by County or others except when permitted in writing.
- B. Protect all existing improvements from damage per the requirements of Caltrans Standard Specifications Sec. 7-1.11, "Preservation of Property."
- C. Protect newly graded areas from traffic and erosion. Keep work areas free of trash and debris.

3.3 PREPARATION

- A. Examine the areas and conditions under which Work of this Section is to be performed and notify Contractor in writing, with copy to the Construction Manager, of all conditions detrimental to the timely completion of the Work. Do not proceed with the Work of this Section until all unsatisfactory conditions have been corrected.

3.4 EXCAVATION

- A. General: Carry all excavations to the lines and grades indicated on the Drawings.
- B. Excavation for Foundations: Excavate for concrete work to the depths or elevations indicated and of sufficient width to permit construction and removal of forms. The upper 12" of surface soils and any existing artificial fill shall be removed to their full depth within the building pad. Excavations for footings may be made at net footing size, subject to the acceptance of the Structural Engineer, if in his opinion earth banks are sufficiently stable. Structural Engineer when soil in which footings are to rest has been exposed to view, and prior to building of forms or placing of concrete.

3.5 BACKFILL FOR STRUCTURES

- A. Backfill against foundations and footings is a part of this Section. Give special attention to areas which require waterproofing or other surface treatment below grade, to ensure that no damage will be done to the work applied or installed by other trades. Place backfill only after concrete work, piping and waterproofing have been accepted.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Acceptances by the Construction Manager of construction below finish grade, including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 - 2. Removal of concrete form work.
 - 3. Removal of trash and debris from excavated area.
 - 4. Permanent or temporary horizontal bracing is in place on horizontally supported walls.

3.6 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove all waste material, including unacceptable excavated material, trash and debris, from the Project site, and dispose of at a legally designated refuse site. See 3.13, "Area Restoration and Clean-Up".

3.7 ROUGH GRADING

- A. Rough grade planting areas to approximately 6" below grades shown and to properly drain during construction. Remove any impediments within 24" of any concrete work. Make allowance for base, paving, or topsoil thickness.

3.8 FINISH GRADING

- A. Grade with uniform slope between points where elevations are shown, with smooth transition to existing finish grades, unless otherwise indicated or directed. Round off abrupt changes in slope. Slope ground away from walls so water will not stand against building or other walls. All debris, rocks and such shall be removed, leaving the ground ready for topsoil and landscaping.

3.9 FIELD QUALITY CONTROL

- A. County's Geotechnical Engineer may perform tests and observations to ensure conformance with the requirements of the Contract Documents. Notify Construction Manager a minimum of 24 hours before required inspection for footing excavations, subgrade preparation and fill placement and compaction, including foundation wall backfill and trench backfill.

3.10 PROTECTION OF WORK

- A. Provide positive drainage and prevent ponding of water. Control surface water to avoid damage to adjoining properties or to finished work on the site. Take required remedial measures to prevent erosion of freshly graded areas and until such time as permanent drainage and erosion control features have been installed.

3.11 AREA RESTORATION AND CLEAN-UP

- A. At the conclusion of the Work, all earth areas shall be raked free of debris and left with a uniform, finely graded surface. Where topsoil is called for, all finish grades shall be held 1" below the level of adjacent paved areas and a minimum of 6" below finish floor line, unless otherwise shown.
- B. Restore the work area disturbed by construction activities and repair any damage caused to existing facilities to its original condition or better. Re-plant and re-vegetate in disturbed areas as necessary.
- C. Remove all temporary utilities, drainage facilities, temporary fencing, waste materials including trash and debris, surplus soil materials and other site development facilities provided by Contractor following completion of the Work. Legally dispose of surplus soil and waste materials off County's property.
- D. Obtain written documentation of acceptance and a release from all affected property owners that the areas have been satisfactorily restored, and that any damaged utilities have been repaired to original or better condition.

END OF SECTION

SECTION 02220

EXCAVATION

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating for utility trenching
 - 2. Excavating for footings

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil.
- B. Local utilities when working within 10 feet of new utility lines.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with County of Mendocino, Building and Planning 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 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. Excavation and subgrade preparation per codes and industry standards.
- B. Underpin adjacent structures which may be damaged by excavation work.
- C. Excavate subsoil to accommodate building foundations per Structural Plans and Specifications.

- D. Excavate to working elevation for piling work.
- E. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 31 05 13 and Section 31 23 17.
- F. Slope banks with machine.
- G. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- H. Trim excavation. Remove loose matter.
- I. Remove lumped subsoil, boulders, and rock.
- J. Notify Owner of unexpected subsurface conditions.
- K. Correct areas over excavated with Owner.
- L. Remove excess and unsuitable material from site.
- M. Repair or replace items indicated to remain damaged by excavation.

2.3 FIELD QUALITY CONTROL

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

2.4 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

SECTION 02230
UTILITY TRENCH BACKFILLING

PART 1 – GENERAL

1.1 DOCUMENTS

The General Conditions, Supplementary Condition, and applicable portions of Division 1 of the Specifications are part of this Section, as well as the Geologic Report by Walls Testing.

1.2 SCOPE

Work shall consist of backfill for utility trenches.

1.3 SHORING

Utility trenches greater than four feet in depth shall be shored in accordance with the State of California Safety regulations.

PART 2 – MATERIALS

2.1 GENERAL AND SELECT BACKFILL MATERIAL

All utility trench backfill material shall be free of perishable material and rocks or lumps greater than three inches in dimension. Trench backfill material in select fill areas and asphalt paved areas shall meet the requirements for select fill. Use slurry concrete mix where noted on the details.

2.2 GRANULAR BACKFILL MATERIAL

If Contractor elects to use imported granular material, it shall be non-expansive and/or rock material conforming to the following requirements:

Sieve Size	Percent Passing
4-inch	100
2-inch	90-100
3/8-inch	30-100
No. 4	10-100
No. 40	0- 40
No. 200	0- 15

Plasticity Index - 15 percent maximum

PART 3 – EXECUTION

3.1 PLACEMENT AND COMPACTION

General and select utility trench backfill shall be placed in layers eight inches or less in loose thickness, moisture conditioned as required and compacted. Within select fill areas and the upper two feet (below sub-grade) in paved areas, utility trench backfill shall be compacted as specified for compacted fill. Upper 12" of backfill in utility trenches within paved areas shall be compacted

to at least 90% relative compaction. Use 90% compaction at all trenches except at landscape areas which can be 85%.

Jetting or flooding will not be allowed within select fill and paved areas.

Granular backfill, if used, shall be placed in layers 12 inches or less in loose thickness and compacted with vibrating or other approved equipment to the specified degrees of relative compaction, as required by the Geotechnical Engineer.

3.2 TESTING

See Section 02000, Paragraph 1.09.

A Geotechnical firm procured by the Contractor shall perform field and laboratory tests to evaluate quality, degree of relative compaction and percent moisture content of the backfill materials used.

3.3 CLEAN UP

Remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 02260

FINISH GRADING

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. Work includes restoring the grade of swales and of base rock surfaces prior to applying the HMA paving.

1.3 RELATED WORK SPECIFIED ELSEWHERE

1.4 PAYMENT

- A. Compensation for this Section shall be considered to be included in pay items for other associated work and no additional compensation will be allowed.

PART 2 – PRODUCTS - Not used

PART 3 - EXECUTION

3.1 FINISH GRADING

- A. Finish grading shall follow the general grading pattern established by the finished grade (FG) of existing base rock and paved areas. Areas to receive pavement shall be graded to provide positive slope to a drop inlet. Isolated low areas, "birdbaths", etc., will not be acceptable.
- B. Bring paved areas to a true and uniform grade without variation of more than one quarter inch in a 10- foot straight edge.

3.5 CLEANUP

- A. Remove debris and stains resulting from the work of this section.

END OF SECTION

SECTION 02510

HOT MIX ASPHALT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Asphaltic concrete paving.

1.2 RELATED SECTIONS

- A. Section 02260 – Finish Grading: Adjusting surface of pavement repairs for proper drainage.

1.3 REFERENCES

- A. "Standard Specifications," Section 39 "Hot Mix Asphalt" published by Caltrans, 2010.

1.4 PAVING:

- A. Designed for light duty commercial vehicles and cars (1/2" aggregate max).

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with "Standard Specifications," unless modified by the construction documents.
- B. Mixing Plant: Conform to Caltrans standard.
- C. Obtain materials from same source throughout.

1.6 REGULATORY REQUIREMENTS

- A. Purchase materials from a mixing plant which conforms to current land use and air quality standards.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt when ambient air or base surface temperature is less than 50 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Asphalt Cement: In accordance with Caltrans Standard Specifications Section 92, "Asphalts."
- B. Aggregate for Paving: In accordance with Caltrans Standard Specifications: 1/2-Inch HMA Type B, in accordance with Section 39-1.02E "Aggregate" of the "Standard Specifications".

2.2 ASPHALT PAVING MIX

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Wearing Course and Base Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with Caltrans standards.

2.3 SOURCE QUALITY CONTROL AND TESTS

- A. Testing Services: Provide mix design for asphalt.
- B. Submit proposed mix design for review and approval prior to beginning of work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that clean ground out areas and potholes are dry and ready to support paving and imposed loads.

3.2 PLACING ASPHALT PAVEMENT - PATCHING

- A. Install Work in accordance with Industry Standards.
- B. Place to thickness required to conform to adjacent pavement and graded to drain without birdbaths or humps.
- C. Do not place pavement materials which have cooled to a condition where they are not able to be properly compacted and shaped.
- D. Compact pavement patches by rolling to achieve sufficient density to maintain grade under traffic use without deflecting. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- E. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.3 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from True Elevation: Within 1/4 inch.

3.4 FIELD QUALITY CONTROL

- A. See Section 01410 - Testing Services.
- B. Cooperate with field sample collection if required by Project Inspector.

3.5 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury for 2 days or until surface temperature is less than 140 degrees F.

END OF SECTION

SECTION 02520

SITE PORTLAND CEMENT CONCRETE

PART 1 – GENERAL

1.1 SUMMARY

- A. Work included:
 - 1. Concrete walkways and ramps.
 - 2. Formwork for walks, etc.
 - 3. Reinforcement.
 - 4. Footings and bases of Site Lighting.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or Drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 02200 - Earthwork and Grading.

1.2 REFERENCE STANDARDS

- A. State of California, Business and Transportation Agency, Department of Transportation's "Standard Specifications," 1999 Edition (CSS), except that measurements shall be converted to English units.
- B. County of Mendocino Standard Specifications.

1.3 QUALITY ASSURANCE

- A. Standards: All work shall be in accordance with latest edition standards and specifications of the American Society for Testing and Materials (ASTM) and California Department of Transportation (CALTRANS) Standard Specifications (CSS).
- B. Damage and Repair: Prevent damage to adjacent concrete, during installation. Repair any damage to concrete edges or breaks in concrete at no cost to County, by removal and replacement of complete sections. Patching will not be acceptable.
- C. Contractor shall be completely responsible for the determination of concrete mixes to provide compressive strength and other requirements set forth under this Section.

1.4 SUBMITTALS

- A. Concrete Mix Designs: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

PART 2 – PRODUCTS

2.1 CONCRETE STRENGTH AND USAGE

- A. Flatwork and walkway: Concrete and materials therefor shall conform to the applicable requirements for minor concrete in CSS Section 73 Concrete Curbs and Sidewalks and Section 90 Portland Cement Concrete.

2.2 FORMS

- A. Flatwork and Walkway: Walkway forms shall be of wood or steel, straight and of sufficient strength to resist springing during depositing and consolidating concrete, and of a height equal to the full depth of the finished sidewalk. Wood forms shall be surfaced plank, 2" nominal thickness, and straight and free from warp, twist, loose knots, splits or other defects. Wood forms shall have a nominal length of 10', with a minimum of three stakes per form, at maximum spacing of 4'. Corners, deep sections, and radius bends shall have additional stakes and braces, as required. Radius bends may be formed with 3/4" boards, laminated to the required thickness. Steel forms shall be channel-formed sections with a flat top surface and with welded braces at each end and at not less than two intermediate points. Form ends shall be interlocked and self-aligning. Forms shall include flexible forms for radius forming, corner forms, form spreaders, and fillers. Forms shall have a nominal length of 10', with a minimum of two welded stake pockets per form. Stake pins shall be solid steel rods with chambered heads and pointed tips, designed for use with steel forms.

2.3 JOINTS

- A. Joints shall be tooled to match existing adjacent work.

PART 3 – EXECUTION

3.1 SUBGRADE PREPARATION

- A. Walkway Subgrade: The subgrade shall be thoroughly wetted and then compacted with two passes of a 500-pound roller. Yielding material deflecting more than 1/2" under the specified roller shall be removed to a depth of not less than 4" below subgrade elevation and replaced with an approved granular material. The material shall then be compacted as described above. The completed subgrade shall be tested for grade and cross section with a template extending the full width of the walkway and supported between side forms.
- B. Maintenance of Subgrade: The subgrade shall be maintained in a smooth, compacted condition, in conformity with the required section and established grade until the concrete is placed. The subgrade shall be prepared and protected so as to produce a subgrade free from frost when the concrete is deposited.

3.2 FORM SETTING

- A. Walkway: Forms for walkways shall be set with the upper edge true to line and grade and shall be held rigidly in place by stakes. After forms are set, grade and alignment shall be checked with a 10' straightedge. Forms shall conform to line and grade with an allowable tolerance of 1/4" in any 10' long section. Forms shall have a transverse slope with the low side adjacent to the roadway unless otherwise indicated. Forms shall be coated with form oil each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory. Side forms shall not be removed within 12 hours after finishing has been completed.

3.3 CONCRETE PLACEMENT AND FINISHING

- A. Walkway Concrete: Concrete shall be placed in the forms in one layer of such thickness that when compacted and finished the walkway will be of the thickness indicated. After concrete has been placed in the forms, a strike-off guided by side forms shall be used to bring the surface to proper section to be compacted. The concrete shall be tamped and consolidated with a suitable wood or metal tamping bar, and the surface shall be finished to grade with a wood float. Finished surface of the walk shall not vary more than 1/4" from the testing edge of a 10' straightedge. Irregularities exceeding the above shall be corrected. The surface shall be divided into rectangular areas by means of contraction joints spaced as shown on the Plans or, if not shown, at intervals equal to the width of the walkway or 15', whichever is less. After straight edging, when most of the water sheen has disappeared, and just before the concrete hardens, the surface shall be finished to a smooth and uniformly fine granular or sandy texture free of waves, irregularities, or tool marks. A scored surface shall be produced by brooming with a fiber-bristle brush in a direction transverse to that of the traffic.
 - 1. Surface Uniformity: The completed surface shall be uniform in color and free of surface blemishes and tool marks.

3.4 BACKFILLING AND PROTECTION

- A. Backfilling: After curing, debris shall be removed, and the area adjoining the concrete shall be backfilled, graded, and compacted to conform to the surrounding area in accordance with lines and grades indicated.
- B. Protection: Completed concrete shall be protected from damage until accepted. Replace or repair damaged concrete and clean concrete discolored during construction. Concrete that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Remove damaged portions and dispose of as directed.

END OF SECTION

SECTION 02577

PAVEMENT MARKING

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. Parking space delineations – approximately 62 parking spaces
- B. Crosswalk, pedestrian crossing delineations – 3 locations
- C. Accessibility-compliant pavement markings – 5 locations

1.3 RELATED WORK

- A. Hot Mix Asphalt Pavement

1.4 REFERENCE STANDARDS

- A. Accessibility Regulations – Most current version.

1.5 WARRANTY

- A. The Contractor shall guarantee that pavement markings will not “scuff” from wheel turning use, or show deterioration from gasoline or oil spills for a period of one year after completion of the project.

1.6 SUBMITTAL

- A. Provide submittal in accordance with Section 01340.

1.7 MEASUREMENT

- A. The quantities shown on the Contract Drawings are approximate and provided for the convenience only of the Contractor. They are intended to be used as comparison with the Contractor's own detailed takeoff.
- B. The bid quantity is a Final Pay Quantity as defined in Article 01010, Section 1.4A of these specifications.
- C. The bid quantity is intended to establish a Unit Price in case additional work is desired after bids are opened.

PART 2- PRODUCTS

2.1 PAVEMENT MARKING PAINT

- A. Traffic marking paint:
 - 1. Glidden Company's No.55 10;
 - 2. Fuller-O'Brien Corporation's No. 282- 06;
 - 3. Sherwin Williams Company's No.846 W16;

- 4. Or approved equivalent.
- B. See drawings and project site for layout of pavement markings.
- C. Use appropriate colors: white for parking lanes, diagonals within access aisles, etc.; blue for outline of access aisles, red for fire access zones, etc.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ensure that asphalt pavement has cured sufficiently for application, in no case less than 7 days.
- B. Broom, wash and thoroughly dry pavement before application of markings. Do not apply during inclement weather.

3.2 APPLICATION

- A. Apply markings in strict accordance with manufacturer's recommendations.
- B. Use commercial grade stencils for ADA graphic markings.
- C. Apply pavement markings in accordance with the existing layout and in accordance with current ADA Standards for Accessible Design.

3.3 CLEANUP

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

END OF SECTION

SECTION 03100
CONCRETE FORMWORK

PART 1 – GENERAL

1.1 DOCUMENTS

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

1.2 SCOPE

Furnish and install forms for concrete as shown and specified and remove forms as directed.

1.3 COOPERATION WITH OTHERS

Contractor shall cooperate with other trades so that all sleeves, chases, anchors, bolts, bucks, inserts, etc. are properly installed in the forms before concrete is placed.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Embedded nailers, Grade C or better, Industrial Clear Douglas Fir pressure preservative treated with Kopper "Celon" penta or approved equal in accordance with AWP standards. Plywood shall be five-ply exterior type Douglas Fir. Forms ties shall be of a type which permits neat patching at every hole.

1. Form Materials:

a. Non-exposed Surface Formwork Facing: Forms for concrete which is not exposed to view may be of plywood as specified for exposed surfaces, or square edge 1 inch x nominal Douglas Fir, Construction Grade, SIS2E.

B. Exposed Surface Formwork Facing:

1. Forms for all exterior and interior concrete flat surfaces unless otherwise specified as board formed shall be new Douglas Fir Plywood (APA) 5-ply, 5/8-inch, B-B Plyform, Class 1, Exterior Type, oiled and edge sealed conforming to U.S. Product Standard PS-1-97 in large sheet sizes to achieve joint patterns shown or approved.

2. All exposed concrete edges shall be chamfered as noted on the Drawings.

C. Form Coating:

1. Form Sealer: "Nox-crete" or approved equal for wood forms only.

2. Spray-on compounds shall not affect color, bond or subsequent treatment of concrete surfaces and shall be approved by Engineer.

2.2 RE-USE OF MATERIALS

Form lumber and scaffolding material may be used in the permanent structure only where grade conforms to the Specifications for the intended use and only where it is in concealed locations.

This material and the cleaning of form lumber shall be approved by Engineer before using in the permanent structure.

PART 3 – EXECUTION

3.1 WORKMANSHIP

All footing excavations shall be done as neat and as close to footing dimensions as practicable. Overexcavations in depth shall be filled with concrete; in width may be filled with concrete or compacted backfill. All loose soil shall be removed from excavations prior to placement of reinforced concrete. All unformed footings, wall excavations shall be two inches wider than the detailed width.

Forms shall conform to the shapes, lines and dimensions indicated on the Drawings and shall be substantial to prevent unacceptable deflections and sufficiently tight to prevent leakage of mortar. They shall be properly braced and shored so as to maintain position under all live and dead loads incident to placing of the concrete and incident to other loads applied prior to striping.

Forms shall be left in place until the concrete is cured and the concrete has attained sufficient strength to permit their removal with safety.

Pipes and conduits shall not be located in concrete except at specifically approved locations.

3.2 INSPECTION

No concrete shall be poured before the area of the proposed pour has been visited by Engineer. Engineer shall be notified 24 hours prior to the first pour of concrete.

3.3 REMOVAL OF FORMS

A. Forms shall be removed without damage to the concrete and in such a manner that will insure complete safety of the structure and without damaging exposed beam, column, or wall edges and chamfers and inserts. In no case shall they be removed until the concrete has hardened sufficiently to permit their removal with safety and the members have attained sufficient strength to safely support the imposed loads. The minimum time for removal of forms after concrete has been poured shall be as follows:

1. Footings, retaining walls, and side forms may be removed 48 hours after concrete is poured.

B. The times listed above are minimum. These time periods may be extended if deemed necessary by Engineer.

C. Concrete shall not be subjected to superimposed loads until it has attained its full design strength and not for a period of at least 14 days after placing. Concrete systems shall not be subjected to construction loads in excess of design loads.

3.4 CLEAN UP

Remove all wood, including shavings, chips, etc., and any other extraneous material from the forms before concrete is poured.

After removing forms, remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.1 DOCUMENTS

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

1.2 SCOPE

Furnish and install reinforcement including dowels, inserts, lifting supports, etc. shown on the Drawings and as specified. All concrete shall be reinforced unless specifically noted otherwise.

1.3 QUALITY ASSURANCE

Reinforcing steel is to be tested in accordance with ASTM A615. Such material as required shall be furnished free of charge by Contractor.

Mill affidavits stating physical and chemical properties of the reinforcing steel shall be submitted to Engineer and testing laboratory before installing the reinforcing steel.

Where positive identification of the heat number cannot be made, or where random samples are to be taken, one tensile test and one bend test shall be made from each 2-1/2 tons or fraction thereof of each size of reinforcing steel. Tests shall be as per Section 2-2628 of the Uniform Building Code.

1.4 SUBMITTALS

Contractor shall submit detailed drawings for review showing sizes, bending and placing of all reinforcing and reinforcing work shall not begin until such drawings have been reviewed by Engineer or its representative. Shop drawings shall be submitted in accordance with Section 00700, "General Conditions".

PART 2 – PRODUCTS

2.1 MATERIALS

Reinforcing bars: New billet steel, ASTM A615, Grade 40-No. 4 and smaller, Grade 60-No.5 and larger. Welded wire fabric shall conform to ASTM A82 and ASTM A185.

PART 3 – EXECUTION

3.1 FABRICATION

Except where shown or noted otherwise, fabrication shall conform to ACI 315 and the WCRSI Manual of Standard Practice.

3.2 PLACEMENT

Bars shall be continuous, straight, level and plumb. All splices that may be required in steel reinforcing bars shall be located only as shown on the Drawings. Except where noted, bars may be wired together at laps. Wherever possible splices of adjacent bars shall be staggered at least five feet apart. Splices in wire fabric shall be at least one mesh wide. Steel reinforcement, at the

time concrete is placed, shall be free of rust, scale, loose mill scale, oil, paint or any coating that will destroy or reduce the bond between steel and concrete.

Steel reinforcement shall not be bent or straightened in a manner that will injure the material. Bars already installed shall not be bent or straightened. Bars with kinks or bends not shown on the Drawings shall not be used. Heating of reinforcing for bending is not permitted.

As it is essential that the bars be kept in proper position during the pouring of concrete, Contractor shall submit to Engineer for review its method of holding the reinforcement in its proper place.

The clear spacing between parallel bars (except provided otherwise) shall be no less than one and one-half (1-1/2) times the nominal diameter for round bars, but in no case shall the clear distance be less than one and one-third (1-1/3) times the size of the maximum aggregate.

Coverage of bars (other than stirrups and column ties) shall, unless otherwise shown, be as follows:

Footings, Caissons: 3" soil face, 2" sides
Slabs (exterior): 2" soil face
Slabs (interior): 2" soil face
Walls (exterior): 2" soil face

Interference: Wherever conduits, piping, inserts, sleeves, etc. shown or called for interfere with placing of reinforcement, Contractor shall consult Engineer immediately and secure from Engineer, in writing, the method of procedure before pouring any concrete.

Misplaced Reinforcing: If any reinforcing bars are found to be misplaced after concrete has been placed, Engineer shall be notified immediately and no correction or cutting shall be made without its approval. Misplaced bars shall not be bent or kinked. Any redesign and/or reinforcing required as a result of misplacement, etc. shall be at Contractor's expense.

3.3 CLEAN UP

Remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 DOCUMENTS

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

1.2 SCOPE

- A. Provide and install all cast-in-place concrete required for the Project, including:
 - 1. Coordination with all trades with regard to requirements for special bases, sleeves, chases, inserts, finished or provisions of any nature.
 - 2. Curing of formed concrete surfaces.
 - 3. All embeds, inserts, strong backs, etc.
- B. Related Work in Other Sections:
 - 1. Formwork: Section 03100.
 - 2. Concrete Reinforcement: Section 03200.

1.3 SUBMITTALS

- A. Mix Design: Mix design shall be 3,000 psi minimum compressive strength, submitted prior to use for approval by Owner.

1.4 ENVIRONMENTAL CONDITIONS

- A. Cold weather requirements: In accordance with CBC 2605.
- B. Hot weather requirements: Above ambient temperature of 70° F. Add retardant in accordance with manufacturer's recommendations and CBC 2605(n).
- C. Temperature of concrete not to exceed 75° F at times of placing. No concrete is to be placed when temperature exceeds 90° F.

1.5 MATERIALS HANDLING

- A. All materials at the source or batching plant shall be protected and separated so as to avoid spillage, contamination, breakage, segregation, etc. which might affect the mix design strengths.
- B. Transportation from the batching plant to the job shall be in accordance with ASTM C94 in truck mixers.

1.6 QUALITY ASSURANCE

- A. All cement used shall be tested in accordance with ASTM-C150. One test shall be made for each 100 tons of cement or fraction thereof, per CBC 2628. Cement shall be batch plant inspected in accordance with CBC, 2-2608.
- B. Exposed aggregate work shall be performed by workmen experienced in and with at least five years' experience in this type of work.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Portland Cement ASTM-C150, Type II with optional chemical requirements in accord with Table 1A.
- B. Concrete Aggregate: Conform to ASTM C33 and modifications set forth in 2-2603(d), Title 24. Maximum aggregate size shall be 1" at slabs and 1-1/2" at footings.
- C. Curing paper: Sisalkraft curing paper, non-staining or approved equal, meeting Federal Specifications UUB-790a, Type 1 Grade A,B,C Style 4.
- D. Expansion joints in exterior concrete slabs - ASTM D-1751.
- E. Water: As piped directly from City water main, clean and potable.
- F. Concrete Hardener: Sovig, Horn, Sonneborn or approved equal, factory-prepared solution of floursilicates and wetting agents.
- G. Control: Joint former, Zipcap or equal, one inch high, as manufactured by Greenstreak Plastic Products, Box 7139, St. Louis, MO 63177.
- H. Concrete Bonding Agent: Concrete 1001 LPL, Adhesive Engineering Company or equal.
- I. Curing Compounds: ASTM C-309, Type I, resin base which will not discolor concrete or affect bonding of other finishes. Product shall be Techkote product #91, National expansion Joint Co., Sealtight CS-309, W. Meadows Co. or approved equal, applied in accordance with manufacturer's recommendations.
- J. Admixtures:
 - 1. All admixtures shall be used in strict accordance with the manufacturer's recommendations, and shall be varied only with Engineer's approval. Admixtures containing calcium chlorides shall not be used without the approval of the Engineer and Owner's Testing Laboratory. All admixtures shall be subject to approval by Engineer.
 - 2. Water Reducing Admixtures: ASTM C-494, Type A, "Pozzolith 344N", Master Builders or "Plastiment", Sika Chemical Corporation, or approved equal.
 - 3. Water Reducing Admixture and Retardant: ASTM C-494, Type D, "Pozzolith 300r", Master Builders or approved equal.

2.2 DRY PACK

Dry pack for cosmetic concrete repairs only shall consist of one part cement to three parts sand (screen out all materials retained on No. 4 sieve), mixed with a minimum amount of water, in small amounts. The consistency shall be such that when a ball of the mixture is compressed in the hand it will maintain its shape, showing finger marks, but without showing any surface water.

2.3 SLURRY

Slurry shall consist of lesser proportions of cement to fine aggregates used in the regular concrete mix (coarse aggregate only omitted) and shall be well mixed with such amount of water as will produce a thick consistency. The consistency of slurry shall be determined by Engineer for the intended use and shall be capable of attaining a 28-day strength of 2000 psi.

2.4 GROUT

Grout for Base Plates and Other Bearing Supports: Non-shrink grout shall be used for all grouting. Grout shall be metallic type, Embeco 636 for concealed work and non-metallic type Embeco 713 for exposed work as manufactured by Master Builders or approved equal.

2.5 CONCRETE MIXES

Concrete shall be hard rock concrete and shall attain the following strengths:

	Footings, Walls	Sidewalks, Ramps
Minimum 28-day compressive strength	3000 psi	3000 psi
Maximum aggregate size	3/4"	3/4"
Slump	3" – 4"	3" – 4"

The use of admixture is permitted only if approved by the Testing lab.

2.6 MIXING OF CONCRETE

The concrete shall be mixed until there is a uniform distribution of the material and the mass is uniform and homogeneous conforming to ASTM C94. Concrete shall be completely mixed at the plant. All concrete shall be machine mixed and only batch mixers shall be used. Concrete shall be in place and completely vibrated within one (1) hour after starting mixing. Transit mixing shall comply with ASTM C94.

PART 3 – EXECUTION

3.1 APPROVAL OF FORMS

Concrete shall not be placed until the forms and reinforcements have been reviewed by Engineer or by its authorized representative and until all preparations for the pour have been completed and the preparations have been checked by the Inspector subject to the review of Engineer.

NOTE: Engineer shall be notified by Contractor 48 hours in advance of placing concrete.

3.2 CLEANING FORMS AND EQUIPMENT

Before placing concrete, all equipment for mixing and transporting the concrete, and all surfaces to be occupied by the concrete shall be thoroughly cleaned. Forms shall be coated with an approved form lacquer and wetted. Standing water shall be removed from forms before pouring concrete. Any loose dirt or mud, etc. shall be removed.

3.3 PLACING OF CONCRETE

Once concrete pouring is started, it shall be carried on as a continuous operation until the section is completed between predetermined construction joints approved by Engineer. Construction joint locations not shown on the Drawings shall be first approved by Engineer. Concrete shall be thoroughly compacted, worked around the reinforcement and embedded fixtures and into the corners of the forms. Compacting shall be done with mechanical vibrators of a type approved by Engineer. Do not vibrate concrete so as to cause separation or vibrate on reinforcing steel. Contact surfaces of construction joints shall be thoroughly cleaned of all foreign matter by sandblasting prior to pouring against same. See typical details.

3.4 POUR RECORD

A record shall be kept on the work of the time and date of placing the concrete in each portion of the structure. Such record shall be taken until the completion of the structure.

3.5 EXPANSION JOINTS IN ON-GRADE SLABS

Construction joints at exterior slabs shall be placed so that the maximum area of unbroken concrete shall be 500 square feet. The maximum spacing of expansion joints in any direction shall be 25 feet.

3.6 CONSTRUCTION JOINTS

- A. Construction joint location shall be where shown or approved. Joints not indicated on the plans shall be made and located so as not to impair the strength of the structure.
- B. All surfaces of previously placed concrete at construction joint shall be cleaned, washed and roughened by sandblasting as necessary and as directed by Engineer.
- C. Keys shall be provided across all vertical joints as detailed on the Drawings. In addition, dowels shall be placed across the joint, #3 at 18" o/c smooth round dowels x 12" long.
- D. Panels for slabs on grade shall be cast with a maximum dimension of 25 feet.

3.7 FINISHING OF CONCRETE

- A. General: Slabs shall be struck off to the required levels, tamped or vibrated only enough to eliminate voids without causing aggregate separation or bringing excessive fines to the surface, then floated with wood floats. No wet or dry topping permitted. Float or trowel finishing not permitted until concrete has set sufficiently to support workmen on knee boards, trowel finishing not permitted until free surface water has disappeared.
- B. Maximum Allowable Deviations: Elevation of surfaces shall be as shown or approved and deviations shall not exceed the following tolerances, plus or minus:

Exterior flat work and other horizontal surfaces: 1/8-inch, unless otherwise noted within 10 feet.
- C. Concrete with hardener shall be applied in accordance with manufacturer's label instructions at a minimum of one gallon per each 150 square feet of surface.
- D. Board finish concrete shall be formed with 1x6 rough lumber.

- E. Exposed Aggregate (where indicated):
1. Install exposed aggregate in strict conformance with manufacturer's directions and as follows.
 2. After screeding, floating and steel troweling the concrete slab, spread the pebbles evenly to completely cover the slab (at a rate of no less than three pounds per square foot). Trowel the pebbles into the existing surface to completely embed all of the pebbles.
 3. After finish troweling, spray a uniform coat of concrete set retardant over the entire exposed aggregate slab using not less than one gallon for 150 square feet. A deep point color should cover areas to be exposed.
- F. Miscellaneous:
1. Intermediate joint and score marks and edges shall be troweled smooth where indicated or as directed.
 2. Use steel radius tools of standard patterns or as required to achieve details as shown or specified.

3.8 CURING CONCRETE

- A. Concrete curing shall meet the requirements of Section 2605 CBC. After steel troweling, concrete slabs shall be continuously water cured for not less than 10 continuous days or cure by one of the following methods for at least seven days:
1. Waterproof curing paper: While in thoroughly damp condition, cover with curing paper. Lap seams six inches minimum and extend beyond slab or paving perimeters six feet minimum. Seal all laps and edges with continuous reinforcing plastic tape. Maintain curing paper in place not less than seven days.
 2. Immediately upon completion of finishing, apply an approved cure/sealer to slabs. Additionally, slabs shall be kept wet by a continuous fog spray, for minimum of 48 hours after application of cure/sealer. During hot or windy weather, water curing shall begin immediately after final finishing and shall continue beyond the minimum for 48 hours as necessary to insure proper curing.
- B. All concrete shall be kept at or above 50° F during and for the first seven days after placement.

3.9 GROUTING AND DRY PACK

- A. Provide for setting steel plates or bolts on concrete. Prepare using approved non-shrink grout aggregate to produce mortar 4,000 psi min. at 28 days. Completely fill all voids. Dry pack may be compacted in place or be placed as a mortar bed prior to placing sill plates. Level full contact bearing shall be made between bearing plates, sill plates and drypack.
- B. Bolts or insert which have been dry packed or grouted in place shall not be tensioned sooner than seven days after packing.

3.10 CONDUIT AND PIPES IN SLAB

- A. No conduit, pipe, etc. exceeding two inch outer diameter (o.d.) shall be within the slab or footing shown on the Drawings. If required to embed conduit, trenches shall be dug to meet that requirement. All conduit within slab shall be laid on grade.
- B. All pipes through grade beams shall be sleeved with one-inch minimum clear all around. Wrapped pipes shall have two inches clear to reinforcing all around. Pipe wrap shall be from 1/8-inch + sheet foam with three wraps minimum.

Penetrations shall be within the middle third of the distance between columns and the middle third of the depth.

3.11 DEFECTIVE WORK

Form ties to be cut back at least 3/4" from outside surfaces. Remove all defective materials such as loose stones, cut back all voids to solid material and correct out of line concrete by chipping and/or grinding. Fill all voids and rough surfaces with a mortar composed of one part cement and two parts concrete sand with only enough water to make workable. Wet all surfaces to be filled before applying mortar. Repaired surfaces shall match adjacent surfaces.

3.12 TESTS

See Supplementary Conditions.

Any defective concrete in place shall be tested by taking cores from the structure as outlined in CBC at Contractor's expense.

If the compressive tests of the core specimens fail to show the compressive strength called for as a minimum, the concrete will be deemed defective and shall, at Contractor's expense, be removed and replaced or adequately strengthened in a manner acceptable to Engineer at Contractor's expense. Field specimens of concrete and tests thereof shall be in accordance with CBC.

3.13 CLEAN UP

Remove all debris resulting from the work of this Section.

END OF SECTION

SECTION 16010
GENERAL ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. Provide labor, materials, equipment, and transportation to perform operations necessary or incidental to the proper execution and completion of the electrical work, whether specifically mentioned or not, and as directly indicated or reasonably implied by the Drawings and Specifications.

1.2 RELATED WORK

- A. 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.

1.3 CODES AND STANDARDS

- A. Provide equipment and materials which conform to, and perform the installation thereof in accordance with the following codes and industry standards. The applicable version of each shall be that in effect as of the date of the Contract:
 - 1. California Electrical Code (CEC).
 - 2. Titles 8, 19 and 24 of the California Code of Regulations (CCR).
 - 3. American National Standards Institute (ANSI).
 - 4. California State Fire Marshal (CSFM).
 - 5. Underwriters' Laboratories (UL).
 - 6. National Electrical Manufacturers' Association (NEMA).
 - 7. Institute of Electrical and Electronics Engineers (IEEE).
 - 8. National Electrical Safety Code (NESC).
 - 9. Electrical Safety Orders.
 - 10. Other applicable local codes and ordinances.
- B. Where the Authority Having Jurisdiction makes an interpretation or decision, as is their prerogative in accordance with the Code, such direction shall be considered a part of these Contract Documents as if contained herein. With respect to completing the intent of

the Contract Documents, comply with any and all requirements of the Authority Having Jurisdiction and utility company field inspectors, at no additional cost.

- C. The above-referenced codes and standards are considered to be absolute minimum requirements. The Drawings and Specifications shall take precedence over the above-referenced codes and standards where materials or workmanship of higher quality or larger size is indicated. Nothing in these Drawings or Specifications shall be construed to allow Work not conforming to the applicable codes and standards.

1.4 REVIEW OF CONTRACT DOCUMENTS

Examine all relevant Contract Documents including Drawings, Specifications, and Shop Drawings in order to become acquainted with the Work of other installers whose activities will adjoin or be affected by the Electrical Work.

1.5 PERMITS, LICENSES, AND FEES

A building permit for this project will be obtained by the owner from the Mendocino County Building and Planning Department.

1.6 UTILITY COMPANY CHARGES

Do not include in the Contract Sum development or capital equipment charges imposed by the power, telephone, or CATV utility companies. Such charges include excess conductor charges, up-and-down charges, developer fees, Secondary MPOE charges, and service activation fees.

1.7 SITE VERIFICATION OF INFORMATION

- A. Visit the project site prior to submitting a bid and verify the condition, location and dimensions of buildings, equipment, and facilities. Become acquainted with conditions under which the Work is to be performed and which may affect the cost thereof.
- B. Verify at the project site the accuracy of information shown on the Drawings regarding existing equipment, materials, and facilities. This includes but is not limited to: size, type, rating, quality, age, and serviceability. No allowance will be made on behalf of Contractor for extra expenses resulting from the failure to discover conditions affecting the Work.

1.9 WORKING SPACE

Maintain adequate work space around, and access to, electrical and mechanical equipment in strict accordance with the applicable Codes. Verify during the course of construction that sufficient space will be available for the installation equipment, fixtures, etc.

1.10 MATERIALS AND SUBSTITUTIONS

- A. Materials shall be new, high quality, free from defects, of standard make, and of the brand or grade as shown on the Drawings or specified herein. Specific trade names are used in the Drawings and Specifications in order to establish the standard grade and characteristics of said items. This does not imply the right upon the part of Contractor to use other materials or methods without the approval of Architect.
- B. Electrical materials and equipment shall bear the label of, or be listed by, the Underwriters' Laboratories (UL) wherever standards have been established and label service is regularly furnished by that agency. Comply with the installation and application

requirements of UL as documented in their published directories.

- C. Unless specifically noted, equipment and systems shall be the product of a manufacturer who has been in the manufacture of, and has nationally distributed catalogs covering the ratings and specifications of, said equipment or systems, for a period of not less than five (5) years.
- D. Maintain uniformity throughout the Project by making use of only one make or brand of material for each material used.
- E. Substitutions of materials or methods will only be allowed if such items are approved in writing by Architect as equal in quality and utility to the specified items. Submit a list of proposed substitutions within thirty (30) days of the award of the Contract. Include on the list the original manufacturer's name and model number, the proposed manufacturer's name and model number, catalog cut sheets, ratings, sizes, performance curves, shop drawings, and other data as may be required to demonstrate equality to the specified item.
- F. The approval of a substitution does not authorize any deviation from the utility, size, function, or durability of the specified item unless specifically pointed out and requested in the proposed substitution list, and said deviation is approved in writing by Owner. Responsibility of Contractor for dimensional considerations or space conflicts are not relieved by the approval of a substitution.
- G. If requested by Architect, submit samples of materials and equipment for approval prior to installation.

1.11 ELECTRICAL SUBMITTALS

- A. See the General Conditions for conditions of submittal approval and general requirements for submission of shop drawings.
- B. Submit a minimum of five (5) copies (or more as required by the General Conditions) of electrical shop drawings and manufacturer's cut sheets for equipment and materials as noted in each Division 16 Specification Section. Bind the submittals as complete volumes according to classification of equipment such as power, lighting, fire alarm, etc. When possible, make all electrical submittals at the same time.
- C. Submit shop drawings and supporting data as instruments of Contractor. Stamp each item in the submittal documents with Contractor's stamp, thereby stating that the equipment meets all requirements and conditions of the Drawings and Specifications. In particular, certify that the items shown on the shop drawings conform to the dimensional, environmental, and space restrictions as pertains to all work under this Contract and the work of other parties in conjunction with this Project.
- D. Provide a blank space on the title page of each submittal classification for Architect's or Engineer's approval stamp and comment field. The minimum size of such space shall be 8" wide by 5" high.
- E. Arrange panelboard submittals to show bussing, circuit numbering, and branch circuit protective devices similar the schedules on the Drawings. Show elevations of switchboards, motor control centers, and distribution centers indicating the layout of devices, meters, handles, etc. Provide device ratings, circuit numbers, and nameplate descriptions in table form. Include terminal strip mounting arrangements on elevations for terminal cabinets.

1.12 DRAWINGS AND SPECIFICATIONS

- A. The data and information contained on the Drawings is as accurate as was reasonably possible at the time they were produced, but absolute accuracy is not guaranteed. Exact locations, distances, elevations, etc., will be dictated by the actual building and the conditions at the site.
- B. The layout of electrical equipment, wiring, and accessories is shown in a diagrammatic fashion (not pictorially) in order to achieve clarity and legibility. Although the size and location of electrical equipment is drawn to scale wherever possible, refer to all data in the Contract Documents and field verify this information as the project progresses. Examine architectural, structural, mechanical, and other drawings to determine the exact location of conduits, outlets, fixtures, and equipment and to note any conditions which may affect the electrical work.
- C. The Drawings and Specifications may be superseded by later detail drawings and specifications prepared by Architect. Conform to such detail drawings, specifications, addenda, change orders, other reasonable changes as if they are contained herein. See the General Conditions for change order cost considerations.
- D. Because the Electrical Drawings may be distorted for clarity of representation, it may be necessary to field verify the exact location of electrical outlets, lights, switches, etc. in order to conform to the architectural elements. Architect reserves the right to make minor changes to the locations of equipment, devices, and wiring shown on the Drawings, at no additional cost, providing the changes are ordered before the rough-in of conduit, boxes, or related items is completed, and no extra material are required.
- E. For dimensional and locational purposes, the Architectural Drawings take precedence over the Electrical Drawings. Determine the appropriate location of lighting fixtures, outlets, wall-mounted devices, etc. by studying the reflected ceiling plans, building sections, and interior elevations. Report conflicting conditions to Owner before rough-in for adjustments to the locations.
- F. Route conduit so as to conform to the structural conditions, avoid obstructing other trades, maintain space restrictions and keep circulation areas and access openings clear.
- G. Thoroughly examine the Contract Documents prior to submitting a bid in order to determine electrical requirements which are not necessarily indicated on the Electrical Drawings. Include sufficient allowance in the bid sum to cover the costs of these other requirements.
- H. Should Contractor perceive that the Drawings and Specifications do not sufficiently define the intent of electrical work, contact Architect for clarification or additional information. The absence of such contact will be considered as evidence of understanding, on the part of Contractor, of the intended Electrical Work and the required installation thereof.

1.13 WORKMANSHIP

- A. Constantly supervise the work personally or through an authorized and competent representative. Keep the same foreman or supervisor on the project from commencement through completion.
- B. Perform the Electrical work using the highest caliber craftsman available. Workmanship shall be first class and of the best quality available to insure a long and trouble free service life. Allow only experienced and competent workmen on the job.

1.14 COOPERATION AND COORDINATION

- A. Consult with the other installers and trades in coordinating the Work so as to avoid conflicts, omissions and delays. Cooperate with other contractors, third parties, and County in order to expedite the project and provide for the proper execution of the building as a whole. Work performed without regard to other trades or the overall project scheme, may necessarily be required to be moved at Contractor's expense.

1.15 MANUFACTURER'S DIRECTIONS

- A. Adhere to the manufacturer's directions regarding the proper installation and configuration of electrical equipment where those directions cover points not included in these Drawings and Specifications.

1.16 PROTECTION AND STORAGE

- A. Deliver electrical materials to the site new, and in unbroken packages. Provide for the temporary storage of such materials, equipment, and construction tools in accordance with the General Conditions. Protect electrical equipment and materials during transit, storage and handling to prevent damage, soiling and deterioration.
- B. During shipping storage and handling protect electrical materials from damage of any type including dust, water, over-spray, and temperature. Avoid damage during construction to the work and materials of other trades as well as the electrical work and material. Repair or replace, at Contractor's expense, defective or damaged items such that the entire Work is completed in a condition satisfactory to Architect.

1.17 EXCAVATION, CUTTING, PATCHING, AND REPAIR

- A. Perform excavation and backfill required for the installation of electrical sub-structures. Restore grounds, walkways, roadways, curbs, walls, and other existing underground facilities to their original condition.
- B. Conform to the applicable requirements of the Division 2 specification Sections on Site Work, in the selection, placement, and compaction of backfill material and finished surfaces.
- C. Cut, core-drill, and demolish existing walls, floors, ceilings and other building surfaces as required for the installation of Electrical Work. Obtain the approval of Architect prior to performing any operation which may affect any structural elements of the building.
- D. Patch and repair wood, plaster, tile, or concrete surfaces which have been damaged by the installation of the Electrical Work so that the finished surface matches the surrounding conditions.

1.18 FLASHING, WATERPROOFING AND SEALING

- A. In general, install in an approved watertight manner, Electrical Work which pierces exterior walls or waterproofing membranes. Flash and counter-flash roof and wall penetrations in a manner described in other applicable sections of this Specification and as approved by Architect.
- B. Fit conduits passing through finished walls with steel escutcheon plates of brass, chrome, or painted finish as directed by Architect. Grout penetrations of floor slabs, concrete or masonry walls with an approved grout or silicone elastomeric caulk.

1.19 IDENTIFICATION OF EQUIPMENT

- A. Label the following electrical equipment with nameplates which clearly identify each item, the function or use of the item, and the circuit identification of the feed to the item:
 - 1. Switchboards.
 - 2. Individual Circuit Breakers in Switchboards.
 - 3. Panelboards.
 - 4. Control Panels.
 - 5. Terminal Cabinets.
 - 6. Disconnect Switches and Enclosed Circuit Breakers.
 - 7. Individual Motor Starters.
 - 8. Time Switches.
 - 9. Contactors and Relays.
 - 10. Special Function Pushbuttons and Switches.
- B. Attach a nameplate to the main service switchboard stating the name of the building, year completed, name of the Electrical Engineer, name of the Electrical Contractor, name of the Manufacturer with their Identification number, and nothing else.
- C. Nameplate material shall be laminated phenolic plastic, white front and back with black core. Engrave the inscription through to the black layer. Embossed plastic pressure sensitive labels are not acceptable.
- D. As an alternative to separate nameplates, device plates may be engraved directly with lettering filled with black enamel.
- E. Fasten nameplates to the equipment with #4 Phillips round head cadmium plated steel self-tapping screws, brass bolts, or with a plastic resin adhesive glue, Goodyear "Pliebond" or equal.

1.20 CLEANING, ADJUSTING, AND TOUCH-UP

- A. Remove on a daily basis electrical debris, scraps, packaging material and other rubbish. Dispose of such items off-site in an approved manner and debris. Maintain the site free from physical hazards at all times in accordance with OSHA regulations. See the General Conditions for additional requirements.
- B. After installation, completely clean electrical equipment, fixtures, and materials of excess paint, over-spray, plaster, cement, insulating products, and other foreign matter. Leave the Electrical Work in a clean, finished, dry, level, like new condition.
- C. Touch-up paint scratches and scuffs on electrical equipment and lighting fixtures with paint recommended by the manufacturer and matching the original item finish.
- D. Make setting, adjustments, and programming in accordance with the manufacturers' operating and installation instructions. Settings and program variables will be issued by

Architect prior to commissioning of the electrical system.

1.21 AS-BUILT DRAWINGS

- A. Throughout the Project, maintain accurate and current record documents. Show on the record drawings deviations from the Electrical Drawings, locations of underground conduits and pull-boxes, and concealed equipment which is not readily apparent. Dimension the record drawings using permanent, readily identified benchmarks such as column or wall lines.
- B. At the completion of the project, present one clearly legible set of the record drawings to Architect.

1.22 INSPECTIONS AND TESTING

- A. Arrange for the inspection of the Work at various stages of completion by the Authority Having Jurisdiction, utility company representatives, and Architect. Comply with all directions and remedial measures issued thereby. Any objections to these orders on the part of Contractor must be presented to Architect in writing within forty-eight (48) hours of the inspection report.
- B. Coordinate the installation of the Work so that observation of all rough-in, concealed, or underground Work can take place by Architect. Provide a minimum of seventy-two (72) hours notice to Architect prior to covering up the work. Uncover Work that has not been properly observed and make repairs to restore the Work and adjoining surfaces to their proper condition at no additional cost.
- C. Perform tests of the electrical system during the course of the project and at project completion to ensure safe and proper function in accordance with the Contract Documents, manufacturers' recommendations, and applicable codes. Provide complete documentation of all test results to the Architect prior to project completion. Testing shall include, but not necessarily be limited to, the following:
 - 1. Test for short circuits, open circuits, neutral leakage, and improper grounds on feeders and branch circuits. Perform this test with mains in disconnect from feeders, branch circuits closed, fixtures and devices permanently connected, lamps removed from sockets and wall switches closed.
 - 2. Provide insulation resistance tests of all phase and neutral circuit conductors using a 500 Volt Megger for circuits of 240 Volt rating and below, and a 1,000 Volt Megger for circuits of 277 volts and above. Minimum acceptable insulation resistance is one (1) megohm.
 - 3. Perform a ground resistance test of each main grounding electrode system, ground rod, and supplemental grounding electrode. Utilize a calibrated, direct reading, earth ground test set and make the tests using the "Three-terminal, Fall-of-Potential" method. The maximum allowable earth ground resistance is 25 ohms.
 - 4. Test for proper phase-to-phase and phase-to-neutral operating voltage on the main service and on each separately derived system. Perform this test at full load and at no load. With all circuits at full operating conditions, test the phase and neutral load currents using a clamp-on ammeter.
 - 5. Tests as required by other sections of these Specifications.

- 6. Tests as prescribed by individual equipment manufacturers whether or not described in these Specifications.
- D. At Project completion, demonstrate to Architect that the entire installation is complete, in proper operation condition and that the Contract has been properly and fully executed. Activate all circuits, lights, devices, and controls under full load and normal operating conditions. Identify faulty items and immediately replace or repair defective equipment, workmanship, and materials to like new condition and retest in the presence of Architect.
- E. At the completion of the Project, demonstrate to Architect that the entire electrical system is free from short circuits and improper grounds; or upon request of Architect any time, make necessary tests under the observation of Architect which will ensure that electrical equipment, materials and installation methods are as specified.

1.23 GUARANTEE

- A. Acceptance of the Contract for this work includes, at a minimum, the following guarantee:
 - 1. Contractor guarantees that it has performed the work in accordance with the Contract Documents. Contractor agrees to replace or repair, as new, any defective work, materials, or part which may appear within one (1) year of final acceptance if in the opinion of Architect or County the defect is due to workmanship or material.

1.24 WARRANTIES, CERTIFICATES, AND OPERATING MANUALS

- A. Properly fill out and deliver to Architect, all warranties, guarantees, certificates, etc. for equipment and materials that are furnished and installed under this Section of the Work. The effective date on each item shall be the date of acceptance of the work by County.

END OF SECTION

SECTION 16050

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included in this Section: All materials, labor, equipment, services, and incidentals necessary to install the electrical work as shown on the Drawings and as specified hereinafter.
- B. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the Drawings.
- C. All work shall comply with Section 16010.
- 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 Division 1 Specification Sections, apply to this Section.

1.2 SUBMITTALS

- A. Comply with the provisions of Division 1 Sections and Section 16010.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- B. Refer to Section 16010, "Basic Electrical Requirements", Part 2 - Products.
- C. List of Equipment Manufacturers:

Conduit and Conduit Fittings
Allied Tube and Conduit
Western Tube and Conduit
LTV Steel Tubular
National Electric Products
AFC
Republic Steel Corporation
Rome Cable Corporation
United States Steel Corporation
Killark Electric Manufacturing Company
Raco
VAW Aluminum Company
Bridgeport
Steel City

Thomas & Betts
Carlton
O.Z. Gedney
Appleton
Regal

Wire and Cable (600V)
American Wire Company
General Wire and Cable Corporation
Okonite Company
Rome Cable Corporation
Cerrowire
American Insulated Wire
AFC Cable Systems
Essex
Simplex Wire and Cable Company

Solderless Lugs and Grounding Connections
Burndy Engineering Company, Inc.
O.Z. Gedney Company, Inc.
Penn Union Electric Corporation
Thomas and Betts Company, Inc.

Pull Boxes, Gutters, Special Cabinets
Square D Company
Columbia Electric Manufacturing Company
General Electric Company
Westinghouse Electric Corporation
Circle Awalt

Outlet Boxes
Appleton Electric Company
Killark Electric Manufacturing Company
Lew Electric Fittings Company
National Electric Products Corporation
Raco
Steel City Electric Company
Carlton
Bowers

Floor Boxes
Steel City Electric Company
Harvey Hubbell, Inc.
RCI
Walker

Wiring Devices
Leviton
Arrow-Hart
Harvey Hubbell, Inc.
Lutron
Bryant

Conduit Racks, Hangers
General Electric Company
Killark Electric Manufacturing Company
Caddy

National Electric Products Corporation
Republic Steel Corporation
Rome Cable Corporation
United States Steel Corporation
VAW Aluminum Company
Superstrut
B-Line

Safety Switches (Disconnect and Fusible)

Square D Company
Cutler Hammer, Inc.
General Electric Company
Westinghouse Electric Corporation

Fuses

Bussman Manufacturing Company
Chase-Shawmut Company

Firestopping

3M
Nelson

2.2 MATERIALS

- A. Raceways: Only the raceways specified below shall be utilized on this Project. Substitutions shall be pre-approved in writing. All bare conduit ends (stub-ups or stub-outs) shall be provided with bushed ends or manufactured insulated throat connectors.
1. Rigid Type: Hot dip galvanized or sherardized steel, use on all exterior locations, below grade or in concrete slab, and to 18" on either side of structural expansion joints in floor slabs (see item 15 below), with completely watertight, threaded fittings throughout.
 - a. All rigid steel conduit couplings and elbows in soil or concrete or under membrane to be 1/2 lap wrapped with Scotch #50 tape and threaded ends coated with T&B #S.C.40 rust inhibitor prior to installation of couplings.
 - b. 1/2 lap wrap all rigid steel conduit stub-ups from slab or grade to 6" above finished grade level with Scotch #50 tape.
 2. In lieu of rigid steel conduit for power and control raceways and branch circuit conduits in soil or concrete slabs, "Schedule 80" PVC with Schedule 80 PVC conduit elbows and stub-ups may be used with code size (minimum No. 12) ground wire. A "stub-up" is considered to terminate 6" above the finished surface.
 - a. Schedule 80 PVC conduit shall be used in all concrete footings or foundations and to 18" of either side of footings or foundation walls.
 - b. Schedule 80 PVC conduit shall be used in all concrete masonry unit (CMU) walls or columns.
 - c. All conduit runs in concrete floor slabs (where allowed) shall be installed to comply with all applicable UBC and structural codes to maintain the structural integrity of the floor slab. Where conflicts occur, alternate routing shall be provided at no additional cost to County.

3. Intermediate metal conduit shall be used in all exposed interior locations, except that electrical metallic tubing may be used in some locations as noted below. Utilize steel compression type fittings for all exposed conduit runs, unless otherwise noted. Cast fittings are unacceptable.
- B. Electrical metallic tubing may be used exposed in electrical and mechanical rooms and in unfinished spaces and in concealed and furred spaces, made up with steel watertight or steel set screw type fittings and couplings. Setscrews shall have hardened points. Cast fittings are unacceptable.
- C. Use flexible conduit for all motor, and recessed fixture connections (minimum 1/2"); "Seal-tite" type used outdoors, and in all wet locations, provide with code size (minimum No. 12) bare ground wire in all flexible conduit.
- D. Conceal conduit in ceiling, or walls of all areas where possible, all exposed conduits installed parallel to building members.
- E. Fasten conduits securely to boxes with locknuts and bushings to provide good electrical continuity.
- F. Provide chrome escutcheon plates at all exposed wall, ceiling and floor conduit penetrations.
- G. Support individual suspended conduits with heavy malleable strap or rod hangers; supports for 1/2" or 3/4" conduit placed on maximum 7' centers; maximum 10' centers on conduits 1" or larger.
- H. Support multiple conduit runs from Kindorf B907 channels with C-105 and C-106 straps.
- I. Conduit Bends: Long radius.
- J. Flash conduits through roof, using approved roof jack; coordinate with General Contractor.
- K. To facilitate pulling of feeder conductors, install junction boxes as shown or required.
- L. All empty conduits on the project shall be provided with a nylon pull rope to allow pulling of future conductors intended for the specific raceway. Provide plastic wire-tie style nameplate tags on each end of pull rope with printed identification of conduit use and the location of the opposite end of the rope.
- M. Where conduits pass through structural expansion joints in floor slab, rigid galvanized conduit shall be used 18" on either side of joint, complete with Appleton expansion couplings and bonding jumpers, or equal. All above grade expansion joint crossings shall also utilize expansion joint couplings or flex conduit transitions as required for each particular installation. No solid conduits shall be allowed to cross expansion joints without proper provisions for building and seismic movement.
- N. Minimum Cover of Conduits in Ground Outside of Building: 36", unless otherwise noted.
- O. Provide and install exterior wall conduit seals and cable seals in the locations listed below. Coordinate installation and scheduling with other trades.
 1. Conduit seals through exterior wall or slab (below grade): O.Z. Gedney series "FSK" in new cast in concrete locations, series "CSM" in cored locations.

2. Conduit seals through exterior wall or slab (above grade): O.Z. Gedney series "CSMI."
3. Cable seals at first interior conduit termination after entry through exterior wall or slab: O.Z. Gedney series "CSBI." Coordinate quantity of conductors at each location.

P. Outlet Boxes and Junction Boxes:

1. One-piece steel knockout type drawn boxes, unless otherwise noted, sized as required for conditions at each outlet or as noted.
2. Flush-mounted boxes equipped with galvanized steel raised covers for device mounting flush with finished surface. Provide extension rings as required on all acoustical or additional wall treatment areas to bring top of cover flush with finished surface (coordinate with architectural drawings). Devices shall be capable of being tightly mounted to boxes without distorting or bending device or mounting hardware.
3. Boxes for fixture outlets: 4" octagon or larger as required, or as noted.
4. Switch and Receptacle Outlets: Not smaller than 4" square in furred walls, with raised cover for single device; ganged where required.
5. Outlet and Switch Boxes for Wet Locations: Cast aluminum FS or FD type with cast aluminum gasket spring lid cover. Weatherproof "Bell" type boxes are not acceptable.
6. All connectors from conduit to junction or outlet boxes shall have insulated throats. Connectors shall be manufactured with insulated throats as integral part. Insertable insulated throats are unacceptable.
7. Outlet boxes for cable TV, telephone, 4" square or larger as required or noted, multi-ganged for telephone, data, and other services where indicated on the drawings.
8. Conduit Bodies: Malleable iron type, with lubricated spring steel clips over edge of conduit body, O.Z. Gedney type EW, or equal.
9. Concealed Service Floor Boxes: Electrogalvanized sheet steel, 14-gauge, complying with U.L 514A, fully adjustable before and after concrete pour, separate boxes for power and data/telephone services where noted on Drawings. Mount side by side.
 - a. Combination Power and Telephone/Data: Steel City #664-S, or equal, with 1-664-S-BP blank plate, and 664-CST-GRY cover. Verify color selection with Architect prior to submittal. Provide plate at signal outlet to match duplex power outlet for signal jacks by others - typical all signal outlets in all concealed service floor boxes. Provide and install carpet square in cover - typical all concealed service floor box locations.
 - b. Power only: Steel City #664-S, or equal, with #664-RP second receptacle faceplate, with 2-20A 125V 3PG duplex receptacles, 664-S-WT wire tunnel, and 664-CST-GRY cover. Verify color selection with Architect prior to submittal.

- c. Data/Telephone only: Steel City #664-S, or equal, without power fitting, with 1-664-S-BP blank plate, and one plate to match duplex power outlet plates for signal jack installation by others, and 664-CST-GRY cover. Verify color selection with Architect prior to submittal.
 - d. Alternate: Combination power and tele/data concealed service Floor Boxes: Multi-service shallow steel, recessed floor box "Walker Resource RFB4-SS," complete with 4 wiring compartments, fully adjustable, with type "Walker Source III" activation covers, "RAKMII." Refer to the details on the Drawings for power and tele/data configurations.
10. Flush Service Floor Boxes: Multi-gang, cast iron, watertight, with corrosion resistant finish, exterior leveling screws, removable partitions, gasket cover, meeting U.L. 514.
- a. For power and signal connection to furniture panels (slab-on-grade only): Steel City #642, or equal, with partition to separate power and signal. Provide brass plates with plugs, P-64-3/4 on one power side, and P-64-3/4-2 on signal side, with P-64-2G-CP carpet plate. Provide and install flexible conduit and conductors and connect furniture partitions complete. Provide rubber grommet for each signal opening to cable installer for installation with cables under separate contract.

Q. Wire and Cable:

- 1. 600-volt class, insulation color-coded, minimum No. 12 awg for branch circuits, No. 14 for control circuits.
- 2. All conductors shall be copper.
- 3. Insulation type:
 - a. 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.
 - b. High temperature and non-standard locations: Provide wire type and insulation category suitable for area of use as defined in NEC table 310-13.
- 4. Conductors No. 8 and larger and as otherwise noted on the Drawings shall be stranded. Conductors No. 10 and smaller shall be solid.
- 5. 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.
- 6. Approximately balance branch circuits about the neutral conductors in panels.
- 7. Connections to devices from "thru-feed" branch circuit conductors to be made with pigtails, with no interruption of the branch circuit conductors.

8. 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.
9. Neatly arrange and "marlin" wires in panels and distribution panelboards with "T and B Ty-rap" or approved equal plastic type strapping.
10. 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	3PH4W	Black	Red	Blue	White
208	3PH3W	Black	Red	Blue	--

The equipment-grounding conductor shall be insulated copper; where it is insulated, the insulation shall be colored green.

11. 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.
 12. Install feeder cables in one continuous section unless Architect approves splices. Exercise care in pulling to avoid damage or disarrangement of conductors, using approved grips. No cable shall be bent to smaller radius than the spool on which it was delivered from the manufacturer. Color code feeder cables at terminals. Provide identifying linen tags in each pullbox.
- R. Switches: Model numbers are Leviton, color to be selected by Architect, unless otherwise noted:
1. Single Pole: No. 1221-2.
 2. Three Way: No. 1223-2.
 3. Momentary contact: No. 1257-I.
 4. Momentary contact, keyed,: No. 1257-LI.
- S. Receptacles: Mounting straps and contacts shall be one-piece design, (no rivets), constructed of minimum 0.050" solid brass. Base shall be high strength, glass reinforced nylon. Device shall accept up to #10 wire. Model numbers are Leviton, color to be selected by Architect, unless otherwise noted:
1. 15A 3PG 125 volt duplex: No. 5262A.
 2. 20A 3PG 125 volt duplex: No. 5362A-W.
 3. 1 3PG 125 volt ground fault interrupter receptacle, no indicator light, with safety lock-out action - No. 8599-W. Through wiring to downstream GFI designated receptacles is not acceptable.
 4. GFI Module (blank face), no indicator light, 1.5 hp rating @ 120VAC: No. 8490-W.
 5. 20A 3PG 125-volt duplex - No 5362 tamper-resistant in Jail areas and holding areas.

- T. Plates: All plates to have tamper-proof screws in Jail areas, and all holding areas and shall be Kenal type WSP/WPP series for security detention applications stainless steel 14 gauge. Leviton, or equal, except as noted:
1. For flush outlet boxes, for switches, and receptacles: Nylon, color to be per color coding as indicated on the Drawings.
 2. Plates for surface-mounted outlets: Galvanized steel unless otherwise noted. Emergency outlet plates shall be engraved "EMERGENCY."
 3. Weatherproof duplex receptacle plates for exterior location with ground fault interrupter receptacles in type FS or FD boxes: Leviton @6196-V or Hubbell #PFS26.
 4. Locking plates for weatherproof duplex receptacles for exterior locations with ground fault interrupter receptacles in type FS or FD boxes: Pass & Seymour #WPF26-L.
 5. Plates for flush telephone/data boxes: White nylon or as otherwise directed.
- U. 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.
1. 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 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).
 2. 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.
- V. 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.
1. 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.
 2. Connectors listed or labeled for "no wire twisting required" are not an acceptable substitute for actual wire twisting.
 3. Utilize porcelain type connectors in all high temperature environments (above 105°C).
- W. 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 pullboxes or wet locations.
- X. Identification: Refer to Section 16010.
- Y. Firestopping: as manufactured by 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.

PART 3 - EXECUTION

3.1 GENERAL

- A. Refer to Basic Electrical Requirements - Section 16010 for work under this Section.

3.2 TESTS

- A. Testing and Inspection: See Section 16950 - Testing.

END OF SECTION

SECTION 16400

SERVICE AND DISTRIBUTION

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. General: Design and provide a complete and new service and distribution system as needed to meet the intended power, lighting, and equipment needs as indicated on the Drawings, Specifications, and manufacturer's instruction, and as can be reasonably expected or inferred, including from property entry point to IT closet, splice board, and distribution as shown on the Drawings.
- B. Telephone and CATV services.
- C. Conduit systems for service entrance facilities.
- D. Service equipment including main switchboard, metering, and auxiliary equipment.
- E. Feeders, pull-boxes, and support structures for on-site power and signal distribution systems.
- F. Distribution switchboards, motor control centers, and branch circuit panelboards.
- G. Grounding and bonding systems.

1.2 RELATED WORK

- A. The completion of the work described in this Section may require work in or coordination with other Sections of these Specifications. Contractor and Subcontractor shall be responsible for identifying and including all related work in other Sections of these Specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
 - 2. Section 16010 - General Electrical Requirements.

1.3 SUBMITTALS

- A. Provide submittals for the following:
 - 1. Service equipment including switchboards, over-current protective devices, pull boxes, and meter assemblies.
 - 2. Distribution switchboards and panelboards.
 - 3. Motor control centers.
 - 4. Branch circuit panelboards.

PART 2 – PRODUCTS

2.1 RACEWAYS AND SUBSTRUCTURES

- A. Provide service conduits, risers, weather-heads and pull-boxes in conformance with the requirements of the serving utility companies and as shown on the Drawings. This includes primary and secondary power, telephone and CATV. Materials and Methods of installation shall be in accordance with Section 16010 in addition to the requirements of the respective utility companies.
- B. For overhead service facilities, provide substantial support means anchored to the structure to allow for the termination of overhead service drops. Flash and seal conduits penetrating roofs and walls. Plan and layout the service facilities so as to allow proper clearance of conductors from buildings, roads, walkways, etc.

2.2 SERVICE EQUIPMENT

- A. The building has an existing main service switchboard. Evaluate the existing switchboard and verify that it has an underground pull, metering, main disconnect, over-current protection, and distribution sections. Provide additional auxiliary equipment as needed.
- B. Verify that the main switchboard size is adequate for the proposed loads. The switchboard shall be fully rated for the short circuit current as indicated; series ratings are not acceptable. Unless otherwise noted, the main and distribution over-current protective devices shall be of the thermal magnetic circuit breaker type.
- C. Fabricate the main switchboard with the following features:
 - 1. Removable front panels and sheet steel skin over a rigid steel channel frame, bolted and welded. Unless otherwise noted the entire assembly shall be of uniform height and depth.
 - 2. Incoming termination, current transformer and metering compartments arranged for sealing and built in conformance with the serving utility companies requirements.
 - 3. Copper main busbars, copper insulated neutral busbar, and a copper ground bus installed the full length of the switchboard. Minimum bus bracing shall be 65,000 Amps, symmetrical, RMS.
 - 4. Quantity, ratings, and arrangement of distribution circuit breakers as indicated on the Drawings.
 - 5. Main neutral bonding provision and neutral disconnect link. Clearly label both items with a permanent marking means.
 - 6. Factory installed metal closure plates for future breakers.
 - 7. Engraved plastic nameplates for each main breaker, feeder breaker, meter, switch, and auxiliary device.
 - 8. Two-level ground fault protection on the main circuit breaker and distribution feeder circuit breakers. Individual distribution circuit breakers requiring ground fault protection are designated on the Drawings.
 - 9. Microprocessor-based Customer metering system. The system shall be capable of being networked via 10BaseT Ethernet, via EIA RS232, or via modem. The following parameters shall be measured, logged, and transmitted:

a.	Amperes	Demand Amperes
b.	Voltage (L_L & L_N)	Frequency (hertz)
c.	Kilowatts	Demand Kilowatts
d.	kVARs	Watt-hours
e.	kVA	Power factor

- D. Equip all spaces for future circuit breakers with hardware, bus taps, mounting clips, and screws as required for the immediate field installation of circuit breaker units. The size and quantity of such future units shall be as needed, but in no case less than 25% additional capacity, divided proportionally between the installed frame sizes.
- E. Service equipment shall be manufactured by one of the following major manufacturers: General Electric, Square D, or Westinghouse. For the purpose of standardization of parts and coordination of over-current protective devices, the main switchboard, distribution equipment, and branch panelboards shall all be of the same manufacturer.

2.4 DISTRIBUTION AND BRANCH CIRCUIT PANELBOARDS

- A. Provide panelboards where needed. Submit proposed panel locations to Architect for review and approval prior to installation.
- B. Provide flush mounted, surface mounted, or free-standing panel enclosures of the NEMA type as indicated on the Drawings. Provide hinged, leveled, flat, tight fitting, single door fronts with adjustable trim clamps. Panel doors exceeding 24" in height shall have multi-point latches. Finish the panel cabinet, door, and trim in two coats of ASA 61 or standard factory gray enamel over a prime coat. Paint surface panelboard cabinets in the same finish as the trim finish.
- C. Equip all spaces for future circuit breakers with hardware, bus taps, mounting clips, and screws as required for the immediate field installation of circuit breaker units. The size and quantity of such future units shall be as indicated on the Drawings, but in no case less than 33% additional capacity, divided proportionally between the installed frame sizes. For distribution panelboards, extend the main bussing for the full length of the usable space.
- D. Equip panels with bolt-on thermal magnetic circuit breakers of the ratings and in the locations indicated. Multiple pole circuit shall have an internal common trip unit. Single pole circuit breakers with handle ties are not acceptable. Unless otherwise noted, do not use tandem or half-width circuit breakers to achieve the required quantity of circuits. Furnish handle locking devices for 20% of the installed circuit breakers.
- E. The minimum interrupting rating for each panel is 10,000 AIC RMS symmetrical. Provide higher interrupting ratings where noted on the single line diagram or panel schedules. Panelboards shall be fully rated for the short circuit current as indicated; series ratings are not acceptable.
- F. Provide a fully rated insulated neutral bus, or if indicated on the Drawings, 200% rated. Equip with a copper ground bus having a capacity of one conductor per branch circuit. Where indicated also provide an insulated, isolated ground bus with the same capacity as the ground bus.
- G. Provide each branch circuit with a permanently fixed number visible with the outer door open. The numbering shall be arranged as indicated on the corresponding panel schedule in the Drawings. Provide a typewritten circuit directory card securely mounted in

a plastic or Plexiglas holder inside the outer door.

- H. Provide flush type locks on panel doors. All locks for panel throughout the Project shall be keyed alike; furnish two keys for each panel.
- I. Provide a nameplates on the panel cover that designates the panel name, voltage, and location of the main disconnect device. The nameplate shall be engraved plastic permanently fastened with screws or epoxy.
- J. Panelboards shall be manufactured by one of the following major manufacturers: General Electric, Seimens, Square D, or Westinghouse. For the purpose of standardization of parts and coordination of over-current protective devices, the main switchboard, distribution equipment, and branch panelboards shall all be of the same manufacturer.

2.5 TRANSFORMERS - DRY TYPE

- A. The existing transformer shall comply with NEMA/ANSI C89.2, ASA and AIEE standards, shall be designed to withstand 150% of rated load for two hours continuously.

2.6 GROUNDING AND BONDING

- A. Permanently and effectively ground the system neutral conductor of the incoming service and all separately derived systems unless otherwise noted. Provide separate building grounding electrode systems and bonding in accordance with Code requirements.
- B. Each grounding electrode system shall be comprised of a concrete encased (Ufer) grounding electrode, the building metal structure, underground metallic cold water piping, and other existing or made electrodes as indicated. Make grounding electrode conductor connections in accessible locations using approved bronze pressure clamps, grounding hubs, or cadwelds.
- C. Demonstrate a maximum resistance to earth of 25 ohms as specified in Section 16010. Provide additional made electrodes as necessary to meet this criteria.
- D. Install equipment grounding conductors in all power feeders. The minimum size shall be as required by the Code, or larger where indicated on the Drawings. Provide additional insulated, isolated ground conductors where indicated. Such additional insulated, isolated ground conductors shall be connected to ground only at the origination point of the respective derived system as shown on the Drawings.
- E. Provide an insulated equipment grounding conductor sized per Code requirements in all branch circuit conduits whether or not shown on the Drawings.
- F. Permanently and effectively bond raceway systems, metallic supports, switchboards, panelboards, control equipment, cabinets and equipment enclosures.

PART 3 – EXECUTION

3.1 RACEWAYS

- A. Observe the published standards of the serving utilities in all respects. Make use of all utility company engineered drawings and specifications in installing the Work, and comply with any field orders issued by authorized representatives of the utility companies. Make contact with the serving utility companies and arrange for all required field inspections, tie-ins, and shutdowns.
- B. Install power and signal distribution system feeders in accordance with Section 16010 - Basic Electrical Requirements.

3.2 DISTRIBUTION AND BRANCH CIRCUIT PANELBOARDS

- A. Align the top of wall mounted branch panelboard at 6'-6" above the finished floor or surrounding grade. Flush panelboards shall be true and perpendicular to the building lines, with a neat return to the wall finish, without gaps or voids between the cover and wall. If panelboard covers are to be painted to match the surrounding finish, paint them separately from the surrounding wall so as to avoid adhering the cover in place.
- B. For recessed panels in wood stud walls, frame the opening with 2x wood blocking and fasten the panel with a #12 x 1-3/4" wood screw at each corner.
- C. For surface panels on wood stud walls, provide anchorage of panelboards independent of the wall surface. Install 2" x 6" or 4" x 4" wood blocking, top and bottom, at the intended panel location. Fastened the blocking with approved Simpson hangers, end nailing of blocking is not acceptable. Fasten the panel to the blocking with a #12 x 2" wood screw at each corner. For metal stud construction, provide wood blocking as noted above or utilize 14 gauge sheet metal backing plates and fasten the panel with #12 x 2" Tek screws at each corner.
- D. For flush-mounted panelboards in areas with accessible ceilings, provide a minimum of one 1-1/4", two 1", and two 3/4" empty conduits stubbed up into the ceiling space. The Drawings may indicate additional empty conduits. Cap the conduits and mark the nature of the conduits in the panel with permanent ink marker.
- E. Neatly lace branch circuit conductors in panelboards with tie-wraps. Clearly indicate the name, location, and nature of the loads fed by each branch circuit on the typed circuit directory card. For surface panels, mark the branch conduits with their respective destinations with permanent ink marker.
- F. Make conduit entries through neat, perpendicular holes in the panel cabinet. Do not use pre-punched concentric knockouts unless all rings are removed; rather, punch clean, individual holes where additional conduit entries are required. Provide factory installed filler plates in the panel front for each empty breaker space.

END OF SECTION

SECTION 16530

SITE LIGHTING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Exterior luminaires and accessories.

1.2 UNIT PRICES - MEASUREMENT AND PAYMENT

- A. Section 01025 - Measurement and Payment: Unit prices.
- B. Exterior Lighting Unit:
 - 1. Basis of Measurement: Each.
 - 2. Basis of Payment: Includes luminaire with lamps and accessories.

1.3 REFERENCES

- A. ANSI C78.379 - Electric Lamps - Incandescent and High-Intensity Discharge Reflector Lamps - Classification of Beam Patterns.
- B. ANSI C82.4 - Ballasts for High-Intensity-Discharge and Low Pressure Sodium Lamps (Multiple-Supply Type).
- C. NFPA 70 - National Electrical Code.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01340 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate dimensions and components for each luminaire which is not a standard Product of the manufacturer.
- C. Product Data: Provide dimensions, ratings, and performance data.

1.5 SUBMITTALS FOR INFORMATION

- A. Section 01300 - Submittals: Submittals for information.
- B. Test Reports: Indicate measured illumination levels.
- C. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

1.6 SUBMITTALS FOR CLOSEOUT

- A. Section 00700 – General Conditions: Submittals for project closeout.
- B. Maintenance Data: For each luminaire.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this Section with minimum three years experience.

1.8 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.

1.10 COORDINATION

- A. Section 01045 – Coordination.
- B. Furnish bolt templates and pole mounting accessories to installer of pole foundations.

PART 2 – PRODUCTS

2.1 LUMINAIRES AND ACCESSORIES

- A. Furnish Products as scheduled. Refer to Section 01600 for substitutions and product options.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install lamps in each luminaire.
- B. Bond luminaires, metal accessories and metal poles to branch circuit equipment grounding conductor.

3.2 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Assurance: Field inspection, testing, adjusting.
- B. Operate each luminaire after installation and connection. Inspect for improper connections and operation.

3.3 ADJUSTING

- A. Section 00700 – General Conditions: Adjusting installed work.

3.4 CLEANING

- A. Section 00700 – General Conditions: Cleaning installed work.
- B. Clean electrical parts to remove conductive and deleterious materials.
- C. Remove dirt and debris from enclosure.

- D. Clean photometric control surfaces as recommended by manufacturer.
- E. Clean finishes and touch up damage.

3.5 PROTECTION OF FINISHED WORK

- A. Section 00700 – General Conditions: Protecting installed work.
- B. Relamp luminaires which have failed lamps at Substantial Completion.

3.6 SCHEDULE

- A. Provide as indicated below and on the Drawings to match existing site lighting located at adjacent Sheriff's Willits Substation.

17" X 22" RECTANGULAR AREA LIGHT

OEZ1722

SUBMITTAL: WPA6-PSMH-70-MED-SF-120

JOB:

TYPE: LB-1 LC-1

VOLTAGE:



EXAMPLE: **OEZ1722** - **250PSMH120** - **T3** - **S** - **SQ** - **DBR** - **OPTIONS**

SERIES

ELECTRICAL PACKAGE

DIST.

MOUNTING CONFIG.

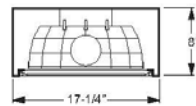
MOUNTING POINT

FINISH OPTIONS

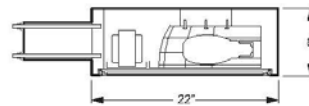
OPTIONS/ACCESSORIES

SERIES

OEZ1722 — The OEZ Series features tool-less access to the reflector and a hinged, removable ballast tray for easy on-site maintenance.



FRONT VIEW
Single fixture, standard arm mount:
EPA: 1.61/Weight: 35 Lbs.



SIDE VIEW

This fixture is proudly made in the USA



OEZ1722 SERIES

HOUSING — Fabricated .080" aluminum, internally welded for strength and appearance.

DOOR — Extruded aluminum frame with mitered corners, stainless steel hinges and slide-action latches to provide easy access to ballast, lamp and reflector. Clear anodized finish.

LENS — Clear, .187" thick high-impact, heat-resistant tempered glass, secured with spring-tension glass clips, sealed with silicone.

ELECTRICAL PACKAGE (Must specify)

PULSE START METAL HALIDE

Lamp:	E17	E17	BT28
Socket:	E26 Medium	E26 Medium	E39 Mogul
ANSI Ballast Code:	M90	M102	M153
	100PSMH120	150PSMH120	250PSMH120
	100PSMH208	150PSMH208	250PSMH208
	100PSMH240	150PSMH240	250PSMH240
	100PSMH277	150PSMH277	250PSMH277
	100PSMH347	150PSMH347	250PSMH347
	100PSMH480	150PSMH480	250PSMH480

HIGH PRESSURE SODIUM

Lamp:	E17	ET18
Socket:	E26 Medium	E39 Mogul
ANSI Ballast Code:	S55	S50
	150HPS120	250HPS120
	150HPS208	250HPS208
	150HPS240	250HPS240
	150HPS277	250HPS277
	150HPS347	250HPS347
	150HPS480	250HPS480

ELECTRICAL PACKAGE

PSMH — Rated -20°F minimum starting temperature.

HPS — Rated -40°F minimum starting temperature.

All PSMH and HPS electrical packages include porcelain socket. Core and coil ballast mounted on removable ballast tray. Prewired at factory to a disconnect plug for easy field installation. HX-HPF or CWA ballast type standard. Lamp is optional, please specify when ordering.

0EZ1722

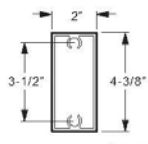
17" X 22" RECTANGULAR AREA LIGHT

REFLECTOR

Tool-less access to the segmented, 95% reflective highly specular aluminum reflector in a high-reflectance white frame. Secured with thumb screws, the reflector can be rotated in 90° increments allowing orientation to be altered on-site.

MOUNTING

Extruded aluminum rectangular arm mount (standard).



FINISH OPTIONS

Super durable polyester powder coat meets and exceeds AAMA 2604 specifications for outdoor durability.

LABELS

cCSAus certified as luminaire suitable for wet locations.

DISTRIBUTION (Must specify)



T2
Type II



T3
Type III



TFT
Type forward throw



T5
Type V

MOUNTING CONFIGURATION (Must specify)

(EPA shown for arm mount noted below)



S Single
EPA: 1.61
8" Arm



D90 Double 90°
EPA: 2.94
11" Arm



D180 Double 180°
EPA: 3.22
8" Arm



T90 Triple 90°
EPA: 4.04
11" Arm



T120 Triple 120°
EPA: 3.20
8" Arm
Round pole only



Q90 Quad 90°
EPA: 4.04
11" Arm

MOUNTING POINT (Must specify)

SQ Square pole mount (standard)

RSD¹ Round straight arm mount¹

TM Tenon mount (Pole top tenon mount must be ordered separately. For all tenon options see Pole Top Assemblies.)

WM² Wall mount²

¹ Pole top diameter must be specified at time of order. EXAMPLE: 3" Pole top diameter = RSD300.

² Must anchor to appropriate wall construction.

FINISH OPTIONS (Must specify)

BLK Black (RAL #9004)

GRN Green (RAL #6005)

DBZ Dark bronze

SLV Satin aluminum (RAL #9006)

DBR Medium bronze

WHT White (RAL #9003)

GRAY Standard gray

RAL# Specify custom color

OPTIONS

SF Single fuse (120V, 277V, or 347V only; must specify voltage)

DF Double fuse (208V, 240V, or 480V only; must specify voltage)

PC Factory-installed photocell (120V, 208V, or 277V only; must specify voltage)

ACCESSORIES



EHS 17-1/4" x 8-5/8" External house shield
EPA: 1.55/Weight: 1.8 Lbs.



DHS Door-mounted house shield



PVS Polycarbonate vandal shield
Weight: 3.2 Lbs.

SQUARE NON-TAPERED STEEL POLES

CATALOG NUMBER	NOMINAL HEIGHT (ft.)	POLE SHAFT (in. sq.) x (ft.)	POLE SHAFT GAUGE	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)	BOLT CIRCLE (in.)	MAXIMUM TOTAL LOADING EPA (ft. ²)/W/GUST			SHIP WT. (lbs.)
							80 MPH	90 MPH	100 MPH	
SSP10-4.0-11-(F)-(*)	10.0	4.0 x 10.0	11	3 x 5	0.75 x 17 x 3	8.00	42.1	33.5	27.1	87
SSP12-4.0-11-(F)-(*)	12.0	4.0 x 12.0	11	3 x 5	0.75 x 17 x 3	8.00	33.7	26.7	21.4	100
SSP14-4.0-11-(F)-(*)	14.0	4.0 x 14.0	11	3 x 5	0.75 x 17 x 3	8.00	27.4	21.5	17.1	113
SSP15-4.0-11-(F)-(*)	15.0	4.0 x 15.0	11	3 x 5	0.75 x 17 x 3	8.00	20.7	16.1	12.6	119
SSP15-4.0-7-(F)-(*)	15.0	4.0 x 15.0	7	3 x 5	0.75 x 30 x 3	8.00	30.9	24.4	19.6	172
SSP16-4.0-11-(F)-(*)	16.0	4.0 x 16.0	11	3 x 5	0.75 x 17 x 3	8.00	18.7	14.4	11.2	125
SSP18-4.0-11-(F)-(*)	18.0	4.0 x 18.0	11	3 x 5	0.75 x 17 x 3	8.00	15.2	11.5	8.7	138
SSP20-4.0-11-(F)-(*)	20.0	4.0 x 20.0	11	3 x 5	0.75 x 17 x 3	8.00	12.3	9.0	6.5	151
SSP20-4.0-7-(F)-(*)	20.0	4.0 x 20.0	7	3 x 5	0.75 x 30 x 3	8.00	19.6	15.0	11.5	219
SSP20-5.0-11-(F)-(*)	20.0	5.0 x 20.0	11	3 x 5	1.00 x 36 x 4	11.00	22.2	16.8	12.6	235
SSP20-5.0-7-(F)-(*)	20.0	5.0 x 20.0	7	3 x 5	1.00 x 36 x 4	11.00	35.4	27.5	21.5	313
SSP22-5.0-11-(F)-(*)	22.0	5.0 x 22.0	11	3 x 5	1.00 x 36 x 4	11.00	18.5	13.6	9.8	252
SSP22-5.0-7-(F)-(*)	22.0	5.0 x 22.0	7	3 x 5	1.00 x 36 x 4	11.00	30.2	23.2	17.8	337
SSP24-5.0-11-(F)-(*)	24.0	5.0 x 24.0	11	3 x 5	1.00 x 36 x 4	11.00	15.2	10.8	7.4	268
SSP24-5.0-7-(F)-(*)	24.0	5.0 x 24.0	7	3 x 5	1.00 x 36 x 4	11.00	25.8	19.4	14.6	361
SSP25-4.0-11-(F)-(*)	25.0	4.0 x 25.0	11	3 x 5	0.75 x 17 x 3	8.00	6.9	4.3	2.3	182
SSP25-4.0-7-(F)-(*)	25.0	4.0 x 25.0	7	3 x 5	0.75 x 30 x 3	8.00	12.2	8.7	6.0	266
SSP25-5.0-11-(F)-(*)	25.0	5.0 x 25.0	11	3 x 5	1.00 x 36 x 4	11.00	13.8	9.5	6.3	276
SSP25-5.0-7-(F)-(*)	25.0	5.0 x 25.0	7	3 x 5	1.00 x 36 x 4	11.00	23.8	17.7	13.1	373
SSP26-5.0-11-(F)-(*)	26.0	5.0 x 26.0	11	3 x 5	1.00 x 36 x 4	11.00	12.4	8.3	5.2	284
SSP26-5.0-7-(F)-(*)	26.0	5.0 x 26.0	7	3 x 5	1.00 x 36 x 4	11.00	21.9	16.1	11.8	384
SSP28-5.0-11-(F)-(*)	28.0	5.0 x 28.0	11	3 x 5	1.00 x 36 x 4	11.00	9.8	6.1	3.2	300
SSP28-5.0-7-(F)-(*)	28.0	5.0 x 28.0	7	3 x 5	1.00 x 36 x 4	11.00	18.4	13.2	9.2	408
SSP30-4.0-7-(F)-(*)	30.0	4.0 x 30.0	7	3 x 5	0.75 x 30 x 3	8.00	6.9	4.0	1.0	312
SSP30-5.0-11-(F)-(*)	30.0	5.0 x 30.0	11	3 x 5	1.00 x 36 x 4	11.00	6.5	3.5	1.2	315
SSP30-5.0-7-(F)-(*)	30.0	5.0 x 30.0	7	3 x 5	1.00 x 36 x 4	11.00	13.4	9.1	5.9	432
SSP30-6.0-7-(F)-(*)	30.0	6.0 x 30.0	7	3 x 5	1.00 x 36 x 4	11.50	27.5	19.9	14.1	512
SSP30-6.0-3-(F)-(*)	30.0	6.0 x 30.0	3	3 x 5	1.00 x 36 x 4	12.00	34.3	25.3	18.5	645
SSP35-5.0-7-(F)-(*)	35.0	5.0 x 35.0	7	3 x 5	1.00 x 36 x 4	11.00	7.2	3.7	1.0	491
SSP35-6.0-7-(F)-(*)	35.0	6.0 x 35.0	7	3 x 5	1.00 x 36 x 4	11.50	15.0	9.5	5.3	584
SSP35-6.0-3-(F)-(*)	35.0	6.0 x 35.0	3	3 x 5	1.00 x 36 x 4	12.00	19.7	13.2	8.2	739
SSP39-6.0-7-(F)-(*)	39.0	6.0 x 39.0	7	3 x 5	1.00 x 36 x 4	11.50	9.2	4.3	0.6	642
SSP39-6.0-3-(F)-(*)	39.0	6.0 x 39.0	3	3 x 5	1.00 x 36 x 4	12.00	13.0	7.4	3.1	814

(F) - See Finish Chart. (*) - See Mounting Designations Chart.



Square Non-Tapered Steel Poles

Pole Shaft

The pole shaft is one piece construction, being fabricated from a weldable grade carbon steel structural tubing which has a uniform wall thickness of 11 gauge (0.1196"), 7 gauge (0.1793"), or 3 gauge (0.2391"). The pole shaft material shall conform to ASTM A-500 Grade C with a minimum yield strength of 50,000 psi. The pole shaft has a full length longitudinal resistance weld and is uniformly square in cross-section with flat sides, small corner radii and excellent torsional properties.

Baseplate

The anchor base is fabricated from structural quality hot rolled carbon steel plate that meets or exceeds a minimum yield strength of 36,000 psi. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.1, latest edition.

Anchor Bolts

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified. Anchor bolts shall have the threaded end galvanized a minimum of 8 inches in accordance with ASTM A-153.

Fully galvanized anchor bolts are available upon request.

Handhole

An oval reinforced gasketed handhole, having a nominal 3" x 5" or 4" x 6-1/2" inside opening, located 1'-6" above base, is standard on all poles. Optional 5" x 8" and 4" x 10" handholes are available (see options). A grounding location is provided inside the handhole ring.

Finishes

The Standard Finish is a polyester thermosetting powder coating applied to the surface of the substrate to a minimum of 3 mils for all color finishes. Hot Dip Galvanized Finish to a ASTM A-123 specification or primed finish is also available. For optional finishes, see K-KLAD and K-KLAD Over Galvanizing.

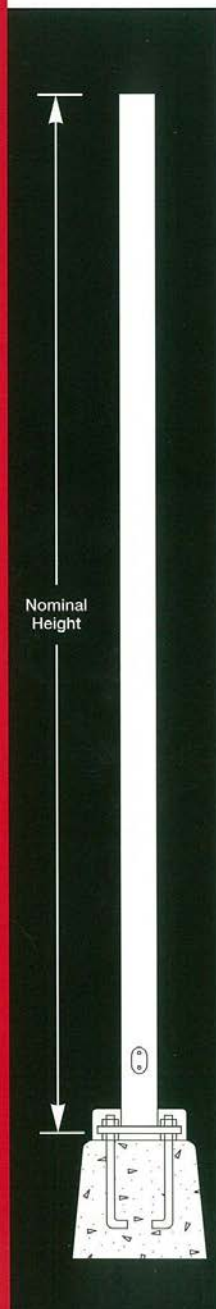
HOW TO ORDER

When ordering KW lighting standards, mounting adaptors and accessories, be sure to specify the complete catalog number. Our catalog numbers reflect the precise specifications of the item ordered to ensure our customers will receive the product which meets their exact requirements. Go to our web site, kwindustries.com, to view additional standard heights, to configure standard and luminaire recommendations and to print submittals.

CATALOG LOGIC

ORDERING EXAMPLE

SERIES	NOMINAL HEIGHT	BASE DIAMETER	GAUGE	FINISH	MOUNTING DESIGNATION	OPTIONS
SSP	30	5.0	11	BRZ	DM10	BC



Finishes (F)

GALVANIZED		STANDARD		K-KLAD®		K-KLAD® OVER GALVANIZING							
G	GALVANIZED	BRZ	BRONZE	GRN	GREEN	K813	BRONZE	K891	GREEN	KZ13	BRONZE	KZ91	GREEN
		BLK	BLACK	WHT	WHITE	K821	BLACK	K881	WHITE	KZ21	BLACK	KZ81	WHITE
		GRY	GRAY	P	PRIMED	K845	NATURAL ALUMINUM			KZ45	NATURAL ALUMINUM		
1 YEAR WARRANTY				5 YEAR WARRANTY				10 YEAR WARRANTY					

Mounting Designations (*)

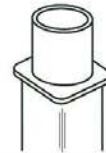
DRILL MOUNT

DM10	DRILLED FOR 1 LUMINAIRE
DM2090	DRILLED FOR 2 LUMINAIRES @ 90°
DM2180	DRILLED FOR 2 LUMINAIRES @ 180°
DM3090	DRILLED FOR 3 LUMINAIRES @ 90°
DM4090	DRILLED FOR 4 LUMINAIRES @ 90°



TENON MOUNT

2	2-3/8" x 4" TENON
3	2-7/8" x 4" TENON
3.5	3-1/2" x 6" TENON
4	4" x 6" TENON



Options

There are numerous options that can be ordered. Please indicate these selections under the options column in the catalog number. Example: CPL – WPR2 – BC.

Accessories:

BC	BASE COVER
CPL	THREADED COUPLING*
NPL	THREADED NIPPLE*
WPR2	WEATHERPROOF DUPLEX RECEPTACLE**

Optional Handholes:

58HH	5" x 8" HANDHOLE*
410HH	4" x 10" HANDHOLE*

Extra Handholes:

XHH	EXTRA HANDHOLE*
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Embedment Pole Options:

E	EMBEDDED POLE	Recommended Mounting Height	Recommended Embedment Depth
		Less than 20'	4'
		20' – 33'	6'
		Greater than 33'	7'

Greater embedment depths are available upon request.

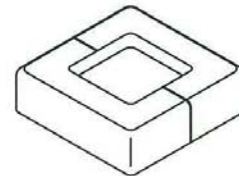
GS	GROUND SLEEVE
CTE	COAL TAR EPOXY

Additional Simplex:

1S	1 @ 0°*
2S	2 @ 180°*
3S	3 @ 90°*
4S	4 @ 90°*

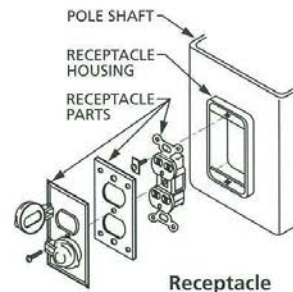
*Please advise size, location and orientation.
(Handholes are restricted by size of pole shaft diameter.)
**Located 24" above baseplate and same side as handhole.

Base Cover



Threaded Coupling

Threaded Nipple



Receptacle

Packaging

Immediately after coating, the lighting standard including the baseplate shall be wrapped in heavy corrugation specially designed and sized to achieve maximum protection in transit.

KW Industries, Inc. coating process system and stringent quality control procedures provide our customer the finest quality lighting standards in the industry.

END OF SECTION

SECTION 16950
ELECTRICAL TESTING

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Work Included in this Section: All materials, labor, equipment, services and incidentals necessary to perform the testing of the electrical work, including but not limited to the following:
 - 1. Grounding System.
 - 2. Lighting System.
 - 3. Distribution System.
- B. Any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the Drawings.
- C. All work shall comply with Sections 16010 and 16050.
- D. Contractor shall engage the services of a recognized corporately and financially independent testing firm, ETI or equal, for the purpose of performing the following inspections and tests:
 - 1. Grounding.
 - 2. Panelboards and Circuit Breakers.
 - 3. Feeders.
- E. The testing firm shall provide all material, equipment, labor, and technical supervision to perform such tests and inspections. The purpose of these tests is to assure that all tested electrical equipment is operational and within industry and manufacturer's tolerances and is installed in accordance with design specifications.

1.2 APPLICABLE CODES, STANDARDS, AND REFERENCES

- A. All inspections and tests shall be in accordance with the International Electrical Testing Association - Acceptance Testing Specifications ATS-1991 (referred to herein as NETA ATS-1991).

1.3 QUALIFICATIONS

- A. Qualifications of Testing Firm shall be as listed in Section 3 of NETA ATS-1991.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.1 GENERAL

- A. Final test and inspection to be conducted in presence of Architect and County. Test shall be conducted at the expense of and by Contractor at a mutually agreed time. Submit written test report.
- B. The electrical installation shall be inspected and tested to ensure safety to building occupants, operating personnel, conformity to code authorities and Contract Documents.

3.2 INSPECTIONS AND TESTS

- A. Tests: Field tests shall be performed and reports submitted, as per Section 16010, Paragraph 1.5.A.4.
 - 1. Final Inspection Certificates: Prior to final payment approval, deliver to County, with a copy to Architect, signed certificates of final inspection by the appropriate local authority having jurisdiction.
- B. Grounding System:
 - 1. All ground connections shall be checked for continuity.
 - 2. Ground tests shall meet the requirements of the National Electric Code.
- C. Lighting Systems:
 - 1. The interior and exterior lighting systems shall be checked for proper local controls and operation of the new installation, including the operation of the lighting control contactors.
- D. Power Distribution System:
 - 1. Tests: Test new panelboards and circuit breakers for grounds and shorts.
 - 2. Test each individual circuit at each panelboard with equipment connected for proper operation. Inspect the interior of each panel.
 - 3. Check verification of color coding, tagging, numbering, and splice make-up.
 - 4. Verify that all conductors associated with each circuit are in same conduit.
 - 5. Demonstrate that all lights, jacks, switches, outlets, and equipment operate satisfactorily and as called for.
 - 6. Perform megger tests of all distribution system feeders.

END OF SECTION