

Project Manual

ARCHITECT

INC.

STATE OF CALIFORNIA
DEPT. OF GENERAL SERVICES

FEB 28 2001

DIVISION OF THE STATE ARCHITECT
L.A. BASIN REGIONAL OFFICE

104349

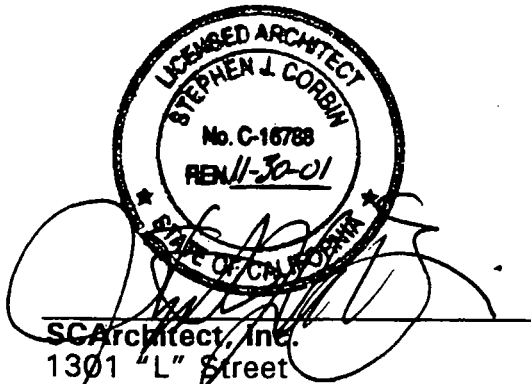
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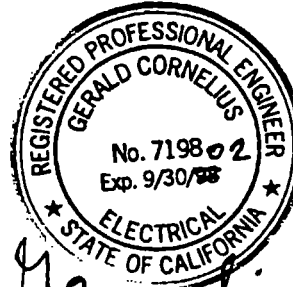
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PROJECT MANUAL

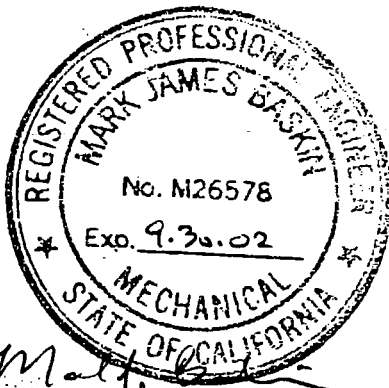


SCArchitect, Inc.
1301 "L" Street
Bakersfield, CA 93301
(661)327-1632 Fax (661)327-2339



CORNELIUS CONSULTING
131 South Dunsworth
Visalia, CA 93292
(559)733-2671 Fax (559) 733-0372

**RELOCATABLE CLASSROOMS
AT
CESAR E. CHAVEZ
ELEMENTARY SCHOOL
4201 Mesa Marin Dr.
for
Bakersfield City School District
Bakersfield, Kern County, California**



MECHANICAL DESIGN CONCEPTS
428 Truxtun Avenue
Bakersfield, CA 93301
(661)326-1313 Fax 326-1089

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APP03- 104349

ACT FILED SS
DATE 2/22/01

APPROVED
BAKERSFIELD CITY SCHOOL DISTRICT

By _____
Board Resolution

I N D E X

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NOT USED

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NOTICE TO CONTRACTORS CALLING FOR BIDS

PROJECT: RELOCATABLE CLASSROOMS AT CESAR CHAVEZ

SCHOOL DISTRICT: BAKERSFIELD CITY SCHOOL DISTRICT

BID NO. 1 DEADLINE: _____ o'clock _____ p.m. of the _____ day of _____ 2001.

BID NO. 2 DEADLINE: _____ o'clock _____ p.m. of the _____ day of _____ 2001.

PLACE OF BID RECEIPT: SCArchitect, Inc, 1301 "L" St., Bakersfield, California 93301

WHERE TO PICK UP PLANS: SCArchitect, Inc, 1301 "L" St., Bakersfield, California 93301

WHO MAY PICK UP PLANS: Contractors holding the proper license, designated in Sections 00021 and 00101, to perform the work of project (Bid No. 1, C-8 License) and (Bid No. 2, C-10 License) may check out up to 3 sets of plans and specifications for his use in preparing his bid. The plans must be returned within 48 hours after opening of bids.

Contractors holding C-12, C-23, C-33, C-43, C-50, licenses may check out a set of plans and specifications, subject to recall after 7 calendar days. Deposit will be forfeit if recalled set is not returned within 24 hours of notification to return plans or within 48 hours after opening of bids.

If any contractor decides not to bid this project, he is requested to return plans and specifications immediately.

DEPOSIT: A \$50.00 deposit will be required for each set of bid documents to guarantee their return in good condition as described above. Deposit shall be in the form of *cash, certified check, or cashier's check only*. Cashier's or certified checks shall be made out to include both parties names, with the word "or" separating the names of the two parties, i.e.: "SCArchitect, Inc. or **CONTRACTOR NAME**". Checks made out to one party will not be accepted. Company checks will not be accepted.

The school district named above (DISTRICT) will receive sealed bids for the award of a contract for the identified project up to, but not later than the specified deadline. Bids received by the deadline shall be opened and publicly read aloud at the time and place indicated.

Each bid must conform and be responsive to the contract documents.

Each bid must be accompanied by the security referred to in the contract documents and a list of proposed subcontractors.

The DISTRICT reserves the right to reject any or all bids and/or waive any irregularities or informalities in any bids or in the bidding process.

The DISTRICT has determined the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute this contract. These rates are on file at the district office, located at 1501 Feliz Drive Bakersfield, CA 93307. Copies may be obtained on request. A copy of these rates shall be posted at the job site.

The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one-half.

It shall be mandatory upon the contractor to whom the contract is awarded (CONTRACTOR), and upon any subcontractor under him, to pay not less than the specified rates to all workers employed by them in the execution of the contract. It is CONTRACTOR'S responsibility to determine any rate change, which may have or will occur during the intervening period between each issuance of written rates by the Director of Industrial Relations.

No bidder may withdraw his bid or bid security for a period of sixty (60) days after the date set for the opening of bids.

A payment bond and a performance bond will be required prior to execution of the contract. Bonds shall be in the form called for in the contract documents. Any bond submitted must be issued by a California admitted surety, which is U.S. Treasury listed and whose U.S. Treasury listing indicates a bonding capacity in excess of the project cost. If a California admitted surety insurer issuing a bond does not meet these requirements, the insurer will be considered sufficient if each of the following conditions is satisfied:

- a. The following documents are submitted with this bond:
 1. The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument entitling or authorizing the person who executed the bond to do so.
 2. A certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner.
 3. A certificate from the county clerk of the county in which the court or officer is located that the certificate of authority of the insurer has not been surrendered, revoked, canceled, annulled, or suspended, or, in the event that it has, that renewed authority has been granted.
 4. A financial statement of the assets and liabilities of the insurer at the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond. The financial statement shall be made by an officers' certificate as defined in Section 173 of the Corporations Code. In the case of a foreign insurer the financial statement may, instead of an officer's certificate, be verified by the oath of the principal officer or manager residing within the United States.
- b. If it appears that the bond was duly executed, that the insurer is authorized to transact surety insurance in the State, that its assets exceed its liabilities in an amount equal to or in excess of the amount of the bond, and that the insurer's liability on the bond does not exceed 10 percent of its capital and surplus as shown as its last statement on file with the Insurance Commissioner except as provided in Insurance Code Section 12090.

This project is subject to the provisions of Public Contract Code § 22300 whereby the Contractor may elect to enter into an escrow for the deposit of securities and/or funds withheld to ensure performance of the contract. Any escrow used shall be established using the escrow agreement form specified in the Contract Documents. Pursuant to the provisions of Public Contract Code Section 22300, CONTRACTOR may substitute certain securities for any funds withheld by DISTRICT to ensure his performance under the contract. At the request and expense of CONTRACTOR, securities equivalent to any amount withheld shall be deposited, at the discretion of DISTRICT, with either DISTRICT or a state or federally chartered bank, as the escrow agent, who shall then pay any funds otherwise subject to retention to CONTRACTOR. Upon satisfactory completion of the contract, the securities shall be returned to CONTRACTOR.

Securities eligible for investment shall include those listed in Government Code Section 61430, bank and savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by CONTRACTOR and DISTRICT. CONTRACTOR shall be the beneficial owner of any securities substituted for funds withheld and shall receive any interest on them. The escrow agreement shall be essentially similar to the one indicated in the General Conditions.

****FINGERPRINT CERTIFICATION MODIFICATION****

The school district has determined that the employees of the contractor, subcontractors and suppliers will have only limited contact, or no contact, with pupils under this contract, provided that conditions imposed by the school district are strictly complied with. Those conditions are stated in the contract documents and all bidders are required to familiarize themselves with the conditions and to agree to comply with and enforce them at all times until the completion and acceptance of all work under this contract. To the extent that the contractor asserts, and the district in writing agrees, that compliance with those conditions is not feasible, the contractor will be required to comply with the fingerprinting and certification requirements. In that case, compliance will not delay the issuance of the Notice to Proceed and there will be no allowance for delay beyond the date of issuance for compliance by the contractor or subcontractors.

To perform the work required by this Notice, CONTRACTOR must possess the following type of contractor's license: State of California Classification _____. The Board will not consider or accept any bids from contractors who are not licensed to do business in the State of California, in accordance with the Public Contract Code of the State of California, providing for the licensing of contractors. In accordance with Section 3300 of said Code, the contractor shall have a Class _____ license.

GOVERNING BOARD

By _____

District Superintendent

Publication Dates: _____

INFORMATION FOR BIDDERS

1.01 PREPARATION OF BID FORM

The DISTRICT invites bids on the form supplied to be submitted at the time and place stated in the Notice to contractors Calling for Bids. All blanks in the bid form must be appropriately filled in, and all prices must be stated in both words and figures. All bids must be submitted in sealed envelopes bearing on the outside the name and address of the bidder, and the name of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that the bid is received at the proper place and time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.

1.02 BID SECURITY

- A. Each bid shall be accompanied by bidder's security in an amount not less than ten percent of the maximum amount of the bid. Bidder's security shall be in one of the following forms:
 - 1. Cash.
 - 2. A cashiers check made payable to the school district.
 - 3. A certified check made payable to the school district.
 - 4. A bidder's bond executed by an admitted surety insurer, made payable to the school district. Any bond submitted must be issued by a California admitted surety, which is U.S. Treasury listed and whose U.S. Treasury listing indicates a bonding capacity in excess of the project cost. If a California admitted surety insurer issuing a bond does not meet these requirements, the insurer will be considered sufficient if each of the following conditions is satisfied:
 - (a) The following documents are submitted with the bond:
 - (1) The original, or a certified copy of the unrevoked appointment, bylaws, or other instrument entitling or authorizing the person who executed the bond to do so.
 - (2) A certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner.
 - (3) A certificate from the county clerk of the county in which the court or officer is located that the certificate of authority of the insurer has not be surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.
 - (4) A financial statement of the assets and liabilities of the insurer at the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond. The financial statement shall be made by an officers' certificate as defined in Section 173 of the Corporations Code. In the case of a foreign insurer the financial statement may, instead of an officers' certificate, be verified by the oath of the principal officer or manager residing within the United States.

- B. If it appears that the bond was duly executed, that the insurer is authorized to transact surety insurance in the state, that its assets exceed its liabilities in an amount equal to or in excess of the amount of the bond, and that the insurer's liability on the bond does not exceed 10 percent of its capital and surplus as shown as its last statement on file with the Insurance Commissioner except as provided in Insurance Code Section 12090.

Personal sureties and unregistered surety companies are unacceptable. The cash, check, or bidder's bond shall be given as a guarantee that the bidder will execute the contract, if it is awarded to him, in conformity with the contract documents, and shall provide the surety bond(s) and other required documents as specified within fourteen (14) days after notification of the award of the contract to the bidder. The security shall be forfeited to the District should the bidder to whom the contract is awarded fail to execute the agreement and provide the bonds and other documents within fourteen (14) calendar days of award.

1.03 SIGNATURE

The bid must indicate the business name of the bidder and bear the signature in longhand of the person or persons duly authorized to sign the bid.

1.04 MODIFICATIONS

Changes or additions to the bid form, recapitulations of the work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the contract documents may result in the DISTRICT'S rejection of the bid as not being responsive to the invitation to bid. No oral, telephonic, or telegraphic modification of any bid submitted will be considered.

1.05 ERASURES

The bid submitted must not contain any erasures, interlineations, or other correction unless each correction is suitably authenticated by affixing in the margin immediately opposite the correction the signature or signatures of the person or persons signing the bid.

1.06 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating to the construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall Thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addendum, or other document, or to visit the site and acquaint himself with the conditions there shall not relieve any bidder from any obligations with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

1.07 WITHDRAWAL OF BIDS

Any bidder may withdraw his bid either personally, by written request, or by telegraphic request, confirmed in writing postmarked prior to the scheduled closing time for receipt of bids.

1.08 AGREEMENTS AND BONDS

The agreement form which the successful bidder, as CONTRACTOR, will be required to execute, and the forms of the payment and performance bonds which he will be required to furnish prior to execution of the agreement, are included in the contract documents and shall each be in the amount of one hundred percent (100%) of the amount of the contract. Any bond submitted must be issued by a California admitted surety, which is U.S. Treasury listed and whose U.S. Treasury listing indicates a bonding capacity in excess of the project cost. If a California admitted surety insurer issuing a bond does not meet these requirements, the bid shall be accompanied by the four items specified in CCP § 995.660. All bonds shall be issued by the same company.

1.09 INTERPRETATION OF PLANS AND DOCUMENTS

If any person is in doubt as to the true meaning of any part of the contract documents, or finds discrepancies in or omissions from the drawings and specifications, he may submit to the ARCHITECT a written request for an interpretation or correction. The person submitting the request shall be responsible for its prompt delivery. Any interpretation or correction of the contract documents will be made only by addendum duly issued, and a copy of the addendum will be mailed or delivered to each contractor who is in receipt of an official bid set of the contract documents. No oral interpretation of any provision in the contract documents will be made to any bidder.

1.10 BIDDERS INTERESTED IN MORE THAN ONE BID

No person, firm, or corporation shall be allowed to make, file, or be interested in more than one bid for the same work unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a subproposal to a bidder, or quoted prices for materials to a bidder, is not disqualified for that reason from submitting a subproposal, quoting prices to other bidders, or making a prime proposal.

1.11 AWARD OF CONTRACT

The DISTRICT reserves the right to reject any or all bids, and/or waive any irregularities or informalities in any bids or in the bidding. The award of the contract, if made by the DISTRICT, will be to the lowest responsible bidder.

1.12 ALTERNATES

If alternate bids are called for, the contract may be awarded at the election of the governing board to the lowest responsible bidder on the base bid, or on the base bid and any alternate or combination of alternates.

1.13 EVIDENCE OF RESPONSIBILITY

Each bidder shall complete and submit with his bid for this project the Contractor Qualification Questionnaire (Pages 1 through 6), and shall, upon request of the Owner, submit satisfactory additional information regarding the bidder's financial resources, construction experience, and organization.

1.14 LISTING SUBCONTRACTORS

Each bidder shall submit a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practice Act (Public Contract Code Sections 4100, et seq.). Forms for this purpose are furnished with the contract documents. Each subcontractor who performs work, renders service, or fabricates and installs a portion of the work in an amount in excess of one-half of one percent of the prime contractor's total bid shall be listed. NOTE: The subcontractors listed cannot be substituted except according to the conditions and procedure specified in Public Contract Code section 4107. If a prime contractor fails to specify a subcontractor, or specifies more than one subcontractor for the same portion of work to be performed, the prime contractor must perform that portion of the work himself or herself. Public Contract Code section 4106.

1.15 WORKERS' COMPENSATION

In accordance with the provisions of Section 3700 of the Labor Code, CONTRACTOR shall secure the payment of compensation to his employees. CONTRACTOR shall sign and file with DISTRICT the following certificate prior to performing the work under this contract: "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 those provisions before commencing the performance of the work of this contract." The form for this certificate is included as a part of the contract documents.

1.16 LICENSE REQUIRED

To perform the work required by this Notice, CONTRACTOR must possess the following type of contractor's license: State of California C-8 for Bid Package No. 1, C-10 for Bid Package No. 2.

1.17 ASSIGNMENT

In accordance with Section 4552 of the Government Code, the bidder shall conform to the following requirements. In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action in 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, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

1.18 LIQUIDATED DAMAGES

Should the Contractor fail to complete this contract, and each phase of the work provided therein within the time fixed for such completion, pursuant to Government Code Section 53069.85, said Contractor shall forfeit and pay (or the Owner may deduct the amount thereof from any money due or to become due to the Contractor) the sum of Five Hundred Dollars (\$500.00) per calendar day as liquidated damages. In accordance with the provisions of Government Code section 4215, the contractor shall not be assessed liquidated damages where delay is caused by failure of the Owner or the owner of the utility to provide for the removal or relocation of utility facilities, but only if such utilities are not identified in the plans and specifications.

1.19 CLARIFICATIONS/BIDDERS QUESTIONS

Bidders shall make every effort to address all questions to the Architect in a timely manner. In an effort to be fair to all bidders, (to ensure that all bidders have the same information) the Architect will only answer questions that will not necessitate a response by addendum within the 72 hour period (3 working days) prior to the date of the bid. When possible, the Architect will direct bidders who do call within this 72-hour period as to where the answers may be found within the plans and specifications. In the event a conflict in the plans and/or specifications is discovered during this 72 hour period, or that the answer to the question(s) asked are not addressed by the plans and specifications, the Architect will not respond with an answer and the bidder will be instructed to bid the project to the best of their ability.

END OF SECTION

2/27/96

BID FORM

TO: BAKERSFIELD CITY SCHOOL DISTRICT, STATE OF CALIFORNIA

Bid No. 1

Pursuant to and in compliance with your Notice to Contractors Calling for bids and related documents, the undersigned bidder, having familiarized himself with the terms of the contract, the local conditions affecting the performance of the contract, the cost of the work at the place where the work is to be done, and the drawings and specifications and other contract documents, proposes and agrees to perform the contract within the time stipulated, including all of its component parts and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, utility, and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required in connection with the construction of Concrete and Handrails for Relocatable Classrooms at Cesar Chavez School, all in strict conformity with the drawings and specifications and other contract documents, including addenda nos. _____, _____, _____, _____, _____, _____, _____, _____, _____, _____, on file at the office of the ARCHITECT for the sum of:

_____ DOLLARS (\$_____)

The bidder agrees that upon written notice of acceptance of this bid, he will execute the contract and provide all bonds and other required documents within fourteen (14) calendar days after the documents are presented for execution.

Attached is bid security in the amount of not less than ten percent (10%) of the bid:

____ Bidder's Bond of the _____
(Name of Company)
in the amount of \$_____

____ Cashier's Check of the _____
(Name of Bank)

____ Certified Check of the _____
(Name of Bank)

The bidder has carefully examined the plans and specifications for this project prepared and furnished by the DISTRICT and acknowledges their sufficiency.

It is understood and agreed that the work under the contract shall be commenced by the bidder, if awarded the contract, five (5) days after the date of the Notice to Proceed and that the project shall be completed within 30 calendar days of that date. The undersigned further agrees to pay to the Owner the sum of Five Hundred Dollars (\$500.00) for each calendar day, including Saturdays, Sundays and Holidays that the work remains uncompleted over the construction time period of 2 days. This additional sum is agreed upon as the proper measure of liquidated damages and is not to be construed as in any sense a penalty.

The bidder hereby certifies that products and materials provided on this project are those specified or otherwise approved per Section 00701 General Conditions, Article 30 Substitutions.

The bidder hereby certifies that it is, and at all times during the performance of work hereunder shall be, in full compliance with the provisions of the Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the bidder shall indemnify, hold harmless, and defend the Owner against any and all actions, proceedings, penalties or claims arising out of the bidder's failure to comply strictly with the IRCA.

Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, CA 95826.

Each worker of the Contractor and any of its subcontractors engaged in work on the project shall be paid not less than the prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such workers. As a penalty, the Contractor shall forfeit not more than \$50.00 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by Contractor on the project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates, shall be paid to each worker by the Contractor. The amount of this forfeiture shall be determined by the California State Labor Commissioner and shall be based on consideration of the Contractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages.

NAME OF BIDDER: _____
(Type or Print)

FULL NAME OF
ALL PARTNERS
OR LEGAL NAME
OF CORPORATION: _____
(Type or Print)

BUSINESS ADDRESS: _____
(Type or Print)

TELEPHONE: _____
(Type or Print)

I declare under penalty of perjury that information provided and representations made in this bid are true and correct and that this declaration was executed on _____.

BY:

(Signature in ink) (Type or print name and title under signature)

PRESIDENT OF
CORPORATION:

(Signature in ink) (Type or print name and title under signature)

SECRETARY OF
CORPORATION

(Signature in ink) (Type or print name and title under signature)

CALIFORNIA STATE
CONTRACTORS
LICENSE NO.

(Type or Print) Expiration Date

IN THE NAME OF:

(Type or Print Name)

TYPE OF LICENSE:

(Type or Print)

DATED: _____

[CORPORATE SEAL]

BID FORM

TO: BAKERSFIELD CITY SCHOOL DISTRICT, STATE OF CALIFORNIA

Bid No. 2

Pursuant to and in compliance with your Notice to Contractors Calling for bids and related documents, the undersigned bidder, having familiarized himself with the terms of the contract, the local conditions affecting the performance of the contract, the cost of the work at the place where the work is to be done, and the drawings and specifications and other contract documents, proposes and agrees to perform the contract within the time stipulated, including all of its component parts and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, utility, and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required in connection with the construction of Site Electrical and Hook-Ups for Relocatable Classrooms at Cesar Chavez School, all in strict conformity with the drawings and specifications and other contract documents, including addenda nos. _____, _____, _____, _____, _____, _____, _____, _____, _____, _____ on file at the office of the ARCHITECT for the sum of:

_____ DOLLARS (\$_____)

The bidder agrees that upon written notice of acceptance of this bid, he will execute the contract and provide all bonds and other required documents within fourteen (14) calendar days after the documents are presented for execution.

Attached is bid security in the amount of not less than ten percent (10%) of the bid:

____ Bidder's Bond of the _____
(Name of Company)
in the amount of \$ _____

____ Cashier's Check of the _____
(Name of Bank)

____ Certified Check of the _____
(Name of Bank)

The bidder has carefully examined the plans and specifications for this project prepared and furnished by the DISTRICT and acknowledges their sufficiency.

It is understood and agreed that the work under the contract shall be commenced by the bidder, if awarded the contract, five (5) days after the date of the Notice to Proceed and that the project shall be completed within 30 calendar days of that date. The undersigned further agrees to pay to the Owner the sum of Five Hundred Dollars (\$500.00) for each calendar day, including Saturdays, Sundays and Holidays that the work remains uncompleted over the construction time period of 2 days. This additional sum is agreed upon as the proper measure of liquidated damages and is not to be construed as in any sense a penalty.

The bidder hereby certifies that products and materials provided on this project are those specified or otherwise approved per Section 00701 General Conditions, Article 30 Substitutions.

The bidder hereby certifies that it is, and at all times during the performance of work hereunder shall be, in full compliance with the provisions of the Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the bidder shall indemnify, hold harmless, and defend the Owner against any and all actions, proceedings, penalties or claims arising out of the bidder's failure to comply strictly with the IRCA.

Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, CA 95826.

Each worker of the Contractor and any of its subcontractors engaged in work on the project shall be paid not less than the prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such workers. As a penalty, the Contractor shall forfeit not more than \$50.00 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by Contractor on the project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates, shall be paid to each worker by the Contractor. The amount of this forfeiture shall be determined by the California State Labor Commissioner and shall be based on consideration of the Contractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages.

NAME OF BIDDER: _____
(Type or Print)

FULL NAME OF
ALL PARTNERS
OR LEGAL NAME
OF CORPORATION: _____
(Type or Print)

BUSINESS ADDRESS: _____
(Type or Print)

TELEPHONE: _____
(Type or Print)

I declare under penalty of perjury that information provided and representations made in this bid are true and correct and that this declaration was executed on _____.

BY:

(Signature in ink) (Type or print name and title under signature)

PRESIDENT OF
CORPORATION:

(Signature in ink) (Type or print name and title under signature)

SECRETARY OF
CORPORATION

(Signature in ink) (Type or print name and title under signature)

CALIFORNIA STATE
CONTRACTORS
LICENSE NO.

(Type or Print) Expiration Date

IN THE NAME OF:

(Type or Print Name)

TYPE OF LICENSE:

(Type or Print)

DATED: _____

[CORPORATE SEAL]

REQUIREMENTS OF BIDDERS

The following Supplemental Conditions apply to school projects and are in addition to the General Conditions, Section 00701. Items in this Section modify the General Conditions and shall take precedence thereover. Unaltered portions of the General Conditions shall remain in effect.

Bids are to be submitted is to consist of the following:

Bid Proposal (Section 00301), Bid Bond (Section 00411) and List of Subcontractors (Section 00431), Noncollusion Affidavit (Section 00481), Prime Bidder Certification of Disabled Veteran Business Enterprise Participation Form (SAB 515PB) and Prime Bidder Good Faith Effort Worksheet (SAB 515GFE), as applicable, and shall be submitted at the time set for receiving of bids.

All bids shall be opened at the later time set for receiving of bids.

1.01 REGULATORY PROVISIONS

- a. All regulatory provisions relating to this Article are found in Title 2, California Code of Regulations, Sections 1865.12.5 through 1896.94. All terms and references contained within those regulatory Sections are incorporated herein by reference into this Article and shall apply to all architectural and construction service agreements let pursuant to Education Code Section 17788.5
- b. AB 1933

1.02 EXCERPTS FROM SAB REGULATION 1865.12

- a. 1865.12 Intent: The purpose of Article 3 of these regulations is to implement the provisions of Article 1.5 (Commencing with Section 10115) of Chapter 1 of Part 2 of Division 2 of the Public Contract Code, as they relate to contracts let pursuant to the Leroy F. Greene State School Building Lease-Purchase Law.
Note: Authority Cited: Section 17705, Education Code and section 15503, Government Code. Reference: Sections 10115-10115.10, Public Contract Code.
- b. 1865.12.5 Definitions: As used in this Article:
 - 1. "Contract" means a contract defined by Public Contract Code Section 10115.1(b) awarded on behalf of the SAB with an estimated cost that exceeds \$10,000 and funded from any State school construction bonds approved by the electorate on or after January 1, 1989.
 - 2. "Responsible and Responsive Bidder" shall mean, in addition to any other requirement of law or otherwise, that the bidder has made a valid representation to the State in any of the bidder's tender of compliance herewith and satisfies the requirements of Section 1865.18 of this Article.
 - 3. "Bidder" means any person or entity making an offer or proposal competitively or noncompetitively, for the purpose of securing the awarding or letting of a contract by the awarding department.

4. "Certification Standards" mean that documentation which clearly indicates that awarding departments have met the requirements of Section 1865.14 of this Article and that bidders have met the requirements of Section 1865.16 of this Article.

Note: Authority Cited: Section 17705, Education Code and Section 15503, Government Code. Reference: Section 10115, 10115.1 and 10115.2, Public Contract Code.

c. 1896.90 Definitions: As used in this Subchapter:

1. "Administering Agency" means the Office of Small and Minority Business.
2. "Disabled Veteran" means a veteran of the military, naval or air service of the United States with a service connected disability who is a resident of the State of California. To qualify as a veteran with a "service-connected disability", the person must be currently declared by the United States Department of Veterans Affairs to be 10 percent or more disabled as a result of service in the armed forces.
3. "Disabled Veteran Business Enterprise" (DVBE) means a business concern that is certified as a DVBE by the Office of Small and Minority Business.
4. "Awarding Department" means the State Allocation Board (SAB).
5. "Awarding Department Agent" means the school district or County Superintendent acting as the agent of the SAB.
6. "Considered" means that the bidder made all efforts and carried out all actions specified in Section 1896.92, in a manner:
 - i At least equal to those efforts and actions which were undertaken to obtain subcontractor(s) selected by the bidder to assist in performance of the contract; and
 - ii that could reasonably be expected, by the awarding department, to produce a level of disabled veteran business enterprise participation sufficient to meet the minimum contract participation goal specified in Section 999.2 of the Military and Veterans Code.

Note: Authority Cited: Sections 14600 and 14615, Government Code. Section 999.5(b), Military and Veterans Code. Reference: Sections 999.2, 999.4, 999(g), Military and Veterans Code. Section 10115.2, Public Contract Code.

1.03 REQUIREMENTS OF BIDDER (1865.16)

Each bidder must include the certifications required below in the bid proposal for the contract:

- a. A certification from the bidder's chief executive officer which identifies one of the following:
 1. The bidder is a DVBE as defined in Section 1896.90d (complete Prime Bidder Certification of Disabled Veteran Business Enterprise Participation Form SAB 515PB).
 2. The bidder is committed to the use of DVBE as defined in Section 1896.91 of this Article (complete Prime Bidder Certification of Disabled Veteran Business Enterprise Participation Form SAB 515PB)

3. Meets the good faith effort as set forth in Section 1865.17 of this Article (complete Prime Bidder Good Faith Effort Worksheet SAB 515GFE).
4. The bidder is unable to meet the good faith effort as set forth in Section 1865.17 of this article and not able to use DVBE as defined in Section 1896.90d for a minimum of three percent of the dollar amount in the bid, (complete Prime Bidder Good Faith Effort Worksheet SAB 515GFE).

1.04 CONTRACT AWARD

- a. Contracts shall only be awarded to the lowest responsible bidder who is also responsive by satisfying either 1 or 2 below:
 1. Meets the three percent DVBE goal set forth in Section 1896.91.
 2. Makes a good faith effort as set forth in Section 1865.17 of this Article.
- b. No provision of these regulations, however, shall be deemed to require the awarding department agent or awarding department to make an award.
- c. Authority Cited: Section 17705, Education Code and Section 15503, Government Code. Reference: Section 10115, 10115.1 and 10115.2, Public Contract Code.

1.05 CONTRACT AUDITS

All contracts awarded or let by the awarding department or awarding department agent shall include a provision which, in substance, provides for the following:

Contractor or vendor agrees that the awarding department or its agent will have the right to review, obtain, and copy all records pertaining to performance of the contract. Contractor or vendor agrees to provide the awarding department or its agent with any relevant information requested and shall permit the awarding department or its agent access to its premises, upon reasonable notice, during normal business hours for the purpose of interviewing employees and inspecting and copying such books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with Public Contract Code Sections 10115 et seq. and Title 2, Subgroup 11, California Code of Regulations, Section 1865.12 et seq. Contractor or vendor further agrees to maintain such records for a period of three years after final payment under the contract.

END OF SECTION

04/05/00

D

DISABLED VETERAN BUSINESS ENTERPRISE

V

APRIL 2000

B



E

Information and Forms Package for the Lease-Purchase and State Relocatable Classroom Programs, not applicable to the School Facility Program.

Do not include this entire package in your Invitations for Bid or Requests for Proposal. Please see the second checkbox on the School District Checklist for guidance.

www.opsc.dgs.ca.gov/Programs/dvbe.asp

SCHOOL DISTRICT CHECKLIST

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*The 3% Disabled Veteran Business Enterprise participation goal shall apply to all State Allocation Board funded school district contracts over \$10,000 in the **Lease-Purchase Program** and certain contracts over \$10,000 in the **State Relocatable Classroom Program** (architectural, on-site inspections and utility hookups).*

This checklist is designed to help you prepare bid/proposals for contracts funded through the Lease-Purchase and State Relocatable Classroom Programs.

- ☐ Check our web page at: <http://dgs.ca.gov/opsc/dvbe.htm> for latest revision of this package.
- ☐ *Advertise your invitation to bid per appropriate local agency contracting laws and regulations. School district advertisements for bids should include:
 - specific information about the project including location of work and type of trade(s) you are seeking;
 - that you are seeking DVBE bids ;
 - date the bid is due; and
 - Name, address and telephone number of a contact person.
- ☐ Include the items listed below in appropriate invitations to bid. For qualification based selections provide the items listed below to the awardee of the contract.
 - SAB DVBE Policy
 - Substitutions
 - Bidder's Most Frequently Asked Questions
 - Role of Construction Management (if applicable)
 - Prime Bidder Certification form
 - Good Faith Effort Worksheet form
- ☐ Give a pre-bidder workshop to provide information to assist potential bidders in compliance with DVBE requirements.
- ☐ If this is a *bid* - review each bid for responsiveness to the DVBE requirements after the bid opening.
- ☐ If this is a *proposal* - review the awardee's Prime Bidder Certification and Good Faith Effort Worksheet (if applicable) for responsiveness to the DVBE requirements before the contract is signed.
- ☐ Submit the completed Form SAB 515, School District Summary of Bids/Proposals to OPSC.
 - Advertising sources are included in the "State Contracting Resource Packet" available through:
 - Office of Small Business, Certification and Resources (OSBCR)
 - (formerly the Office of Small and Minority Business , OSMB)
 - (916) 322-5060, 24 hour electronic Service
 - (916) 322-5478, Receptionist
 - Internet Address: <http://www.dgs.ca.gov/osbcr>

Note: OSBCR is a information resource, however, the DVBE program they administer applies to state contracts not local agency contracts.

TABLE OF CONTENTS

- ▲ School District Check List
- ▲ State Allocation Board DVBE Policy
- ▲ School Districts' Most Frequently Asked Questions
- ▲ Substitutions
- ▲ Piggybacking on Furniture and Equipment Contracts
- ▲ Role of Construction Management
- ▲ Bidders' Most Frequently Asked Questions

Forms

- ▲ School District Summary of Bids/Proposals, Form SAB 515
- ▲ Prime Bidder Certification of Disabled Veteran Business Enterprise Participation form
- ▲ Prime Bidder Good Faith Effort Worksheet form

SCHOOL DISTRICTS MOST FREQUENTLY ASKED QUESTIONS

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What Programs administered by the State Allocation Board (SAB) must comply with the SAB Disabled Veteran Business Enterprise (DVBE) provisions?

All contracts over \$10,000 in the Lease-Purchase Program, and certain contracts over \$10,000 in the State Relocatable Classroom Program (architectural, on-site inspections and utility hookups).

Is there a minimum number of days prior to bid opening that school districts are required to place their advertisements?

In accordance with the authority granted to the SAB by Public Contract Code Section 10140, the SAB requires school districts to advertise at least 24 calendar days prior to bid opening.

Must a Disabled Veteran Business Enterprise be certified in order to participate in a contract?

Disabled Veteran Business Enterprises must be certified by the Office of Small Business, Certification and Resources, Telephone: (916) 322-5060; Internet address: <http://www.dgs.ca.gov/osbcr>

My school district is in the process of selecting an architect. Are architectural and other professional services such as construction managers, engineers, environmental and land surveyors, subject to Disabled Veteran Business Enterprise requirements?

Yes, although these contracts are not competitively bid, they are still subject to Disabled Veteran Business Enterprises requirement.

May the school district open bids and provide bidders a grace period to submit appropriate DVBE documents?

No, however, bids may be received and held unopened and bidders may be given additional time to submit their DVBE documents if approved by the school district legal counsel and specified in the invitations to bid.

May the school district require **local** Minority and Women Business Enterprise requirements/ programs on SAB funded projects?

Yes, however, if the District rejects the lower bidder because of noncompliance with the local M/WBE requirements the District will be responsible for the increase in cost.

STATE ALLOCATION BOARD DVBE POLICY

Adopted August 26, 1992

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DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION GOALS FOR SAB FUNDED CONTRACTS IN THE LEASE-PURCHASE & STATE RELOCATABLE CLASSROOM PROGRAMS

Definitions

The term "Disabled Veteran Business Enterprise" (DVBE) means a business concern that is certified as a DVBE by the Office of Small Business, Certification and Resources.

The term "contract" means an agreement awarded by a school district in which all or part of the funding is provided by the State Allocation Board (SAB) under either the Lease-Purchase or State Relocatable Classroom Programs.

The term "bidder" means any person or persons, firm, partnership, corporation or combination thereof who makes an offer, competitive or noncompetitive, with the intent of forming a contract with one or more school districts on a SAB funded project.

Disabled Veterans Business Enterprise Goals

In addition to the school districts contracting requirements, potential contractors seeking to enter into contracts with school districts on a SAB funded project under the Lease-Purchase & State Relocatable Classroom Program for labor, services, materials, supplies, equipment, construction, alteration repair or improvement shall be required to meet a 3 percent participation goal for certified DVBE's or demonstrate that a good faith effort was made to meet the goal.

In order for any sole proprietorship, partnership, corporation or other enterprises to obtain certification or to be counted toward meeting the DVBE contract goals, such business concern must possess current and valid certification as a DVBE through the Office of Small Business, Certification and Resources.

For contracts awarded by competitive bid, a bidder must demonstrate fulfillment of this requirement at or prior to the time of bid opening in order to qualify as a responsive bidder. For contracts not awarded by competitive bid, a potential contractor must demonstrate fulfillment of this requirement prior to entering into the contract.

The DVBE participation goal shall apply to all SAB funded school district contracts over \$10,000 in the Lease-Purchase and certain contracts over \$10,000 in the State Relocatable Classroom Program (architectural, on-site inspections and utility hookups).

Continued on next page

STATE ALLOCATION BOARD DVBE POLICY

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Goals - continued

Any bidder meeting the 3 percent participation goal for DVBE's is eligible for award of a school district contract. If a bidder is unable to meet the 3 percent participation goal, the bidder shall demonstrate a good faith effort by submitting documentation of all the following actions:

- Contact was made with the school district to identify DVBE's;
- Contact was made with other state agencies and with local DVBE organizations to identify DVBE's;
- Advertising was published in trade papers and papers focusing on DVBE's;
- Invitations to bid were submitted to potential DVBE contractors; Available DVBE's were considered.

The school district shall evaluate the effort made by the bidder to seek out and consider DVBE's as potential subcontractors, and/or material or equipment suppliers. In evaluating such effort, the school district shall consider documentation of the actions specified above. Based on this evaluation, the school district may make a finding that the 3% DVBE participation goal or the good faith effort requirement has been met. The school district finding in this regard is subject to audit by OPSC. A bidder is eligible for award of a school district contract upon a finding by the school district that a 3% DVBE participation goal or good faith effort to meet the participation goal has been achieved.

If a bidder fails to meet either the goal or a good faith effort to meet the 3% goal, such bidder shall be deemed not to be a responsive bidder for purposes of the school districts's evaluation of an award of contract and is thus ineligible for an award.

SUBSTITUTIONS

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Substitutions

If awarded the contract(s), the successful bidder must use the DVBE subcontractor and/or supplier proposed in the final bid unless the contractor requested a substitution from the school district prior to the execution of the contract and the school district has approved such substitution. At a minimum, the request must include:

1. A written explanation of the reason for the substitution,
2. The identity of the person or firm substituted, and
3. Satisfactory evidence that the DVBE contract participation certified in the original bid will still be met after the substitution.

The school district's approval or disapproval of the substitution is not to be construed as an excuse for noncompliance with any other provision of law including, but not limited to, the Subletting and Subcontracting Fair Practices Act or any other contract requirements relating to substitution of subcontractors.

FAILURE TO ADHERE TO AT LEAST THE DVBE PARTICIPATION PROPOSED BY THE SUCCESSFUL BIDDER MAY BE CAUSE FOR CONTRACT TERMINATION AND RECOVERY OF DAMAGES UNDER THE RIGHTS AND REMEDIES DUE THE SCHOOL DISTRICT/STATE UNDER THE DEFAULT SECTION OF THE CONTRACT.

PIGGYBACKING ON FURNITURE AND EQUIPMENT CONTRACTS

Piggybacking on Furniture and Equipment Contracts

Many school districts like to use or "piggyback" pre-existing Furniture and Equipment contracts. This is acceptable in the Office of Public School Construction's Disabled Veterans Business Enterprise (DVBE) Program when the original contract:

- Has not passed its expiration date or exceeded its dollar amount (if limited), and
- Has provisions that allow for piggybacking, and
- Meets the DVBE requirements (if signed after August 26, 1992).

ROLE OF CONSTRUCTION MANAGEMENT

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School Districts

Some school districts choose to contract with a Construction Management firm (CM) to perform certain functions of a project. Subcontractors working on these projects will contract directly with the school district and are treated as prime contractors for purposes of the Disabled Veteran Business Enterprise (DVBE) requirements. Each contract must either meet the participation goals or the good faith effort criteria in order to be eligible for an award. School districts and/or CM firms may assist the bidders that are seeking to comply with the DVBE requirements by developing a list of subcontractors/suppliers that could be solicited for participation. This list of interested subcontractors/suppliers would then be passed on to the plan holding contractors. The CM may assist in the coordination of forms required for submittal by the contractor/subcontractor/supplier.

The CM firm may use Parts I and II of the *Prime Bidder Good Faith Effort Worksheet form*, to develop a list of interested subcontractors/suppliers.

Part I - Contacts: The CM firm may make the required contacts listed in this part to obtain lists of subcontractors/suppliers that may be solicited to participate.

Part II - Advertisements: The CM firm may advertise in trade and focus papers. The advertisement must comply with the requirements listed in this part of the form and include a list of the plan holding contractors that will be using subcontractors/suppliers.

The CM firm must provide all "plan holding" contractors with the documentation of the above process to include on their *Prime Bidder Good Faith Effort Worksheet form*.

Part III - Solicitations: This part must be independently performed by each plan holding contractor. The requirements of this part would include inviting subcontractors/suppliers to bid, listing each DVBE contacted and indicating if the firm will be used or why it is not being used.

BIDDERS MOST FREQUENTLY ASKED QUESTIONS

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What programs administered by the State Allocation Board must comply with Disabled Veteran Business Enterprise provisions?

All contracts over \$10,000 in the Lease-Purchase Program, and certain contracts over \$10,000 in the State Relocatable Classroom Program, (architectural, on-site inspections and utility hookups).

Where can I get SAB Disabled Veteran Business Enterprise Forms?

Contact the school district advertising for bid/proposals. They will provide you with the most recent forms.

I am an inspector, I do not subcontract, how do I comply?

You must complete the *Prime Bidder Certification Of Disabled Veteran Business Enterprise Participation form*, and the *Prime Bidder Good Faith Effort Worksheet form*. A business enterprise with out any opportunity for subcontracting or purchasing of supplies, must provide a narrative on *Prime Bidder Good Faith Effort Worksheet* form explaining this and be able to demonstrate its inability to subcontract or purchase supplies if an audit occurs.

Must a Disabled Veteran Business Enterprise be certified in order to participate in a contract?

Yes, Disabled Veteran Business Enterprises must be certified by the Office of Small Business, Certification and Resources.

Is there a minimum number of days prior to bid opening that primary bidders are required to place their advertisements in a publication focused toward DVBE and a trade paper for purposes of the "Good Faith Effort"?

The SAB recommends bidders comply with the Good Faith Effort requirements by advertising at least 14 calendar days prior to bid opening.

What if a bidder does not have 14 days to advertise for the purposes of completing a Good Faith Effort?

You must advertise for as many days as possible before the bid opening date. The only exception to this requirement is if time constraints imposed by the school district prohibit the bidder from advertising. All bidders must be notified of this exception.

Where do I find a list of Disabled Veteran Business Enterprises and list of advertising sources?

The Office of Small Business, Certification and Resources is located on the Internet and publishes a list of certified Disabled Veteran Business Enterprises on a monthly basis and The State Contracting Resources Packet. Their telephone number is (916) 322-5060 or (916) 323-5478. The Internet address is: <http://www.dgs.ca.gov/osbcr>

Continued on next page

BIDDERS MOST FREQUENTLY ASKED QUESTIONS - Continued

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I am a distributor or sales representative of XYZ. I pick up the telephone and place the order. There isn't any installation required or the installation is completed by factory trained personnel. The delivery is arranged by the manufacturer. How do I comply with the Disabled Veteran Business Enterprise requirements?

Transfer the burden of compliance to the manufacturer. Ask your manufacturer:

- What opportunities do you have to subcontract (delivery, bookkeeping, etc.)?
- What components of the product do you purchase (nuts, bolts, plastic, wood, cardboard boxes, pallets, etc.)?
- Is equipment purchased to produce the product (safety glasses, hammer, nail gun, etc.)?
- Are any of the items identified in questions 1 through 3 currently being provided by DVBE's? If yes, prorate the amount of their participation in the products (s) to be bid and include a copy of their DVBE letter from OSBCR.
- Use the *Prime Bidder's Good Faith Effort Worksheet* form to increase your manufacturer's DVBE participation as follows:

Part I - Contacts: Make a contact in each of the three categories. Request DVBE contacts in the subcontracting or purchasing opportunities you have identified (see questions 1 through 3 above).

If you have an out-of state manufacturer ask for contacts in your manufacturer's state.

Part II - Advertisements: Place your advertisements and list your manufacturer's subcontracting or purchasing opportunities.

If you have an out-of-state manufacturer you may advertise in their state as long as all of the requirements listed on the *Prime Bidder's Good Faith Effort Worksheet* form are met.

Part III - Solicitations: List DVBE subcontractors and/or suppliers that you or your manufacturer considered for participation in this bid (i.e. those you contacted from the lists provided by the contacts you make in Part I and those who responded to your advertisement in Part II). Indicate if the subcontractor/supplier was selected, a reason if not selected or check "No Response" (if applicable).

To be completed by the School District for all bids/proposals

SCHOOL DISTRICT	APPLICATION NUMBER
ADDRESS	PROJECT NAME
	COUNTY
SCHOOL DISTRICT CONTACT PERSON	TELEPHONE NUMBER

Instructions: For a competitive bid contract use the instructions in Part I to complete this form. For a qualifications based (proposal) contract (Government Code Section 4526, et. seq.: i.e., architectural, etc.), use the instructions in Part II (page 2) to complete this form.

PART I - Competitively Bid Contract(s)

- Enter the date of the Bid opening; and,
- Enter the number of days in the bid life; and,
- Use the Summary of Bids below to list all bidders for the planned work; and,
- If the low bid does not meet Disabled Veteran Business Enterprise requirements, review the next lowest bid until a compliant bidder is identified; and,
- Fill in the appropriate blanks and boxes in the District Certification of Bid/Proposal; and,
- Sign and date where it is indicated

SUMMARY OF BIDS

Indicate whether alternates are additive or deductive from the base bid.

- New construction may utilize the Base Bid and Alternates 1& 2 and/or Base Bid A, B & C. For new construction projects, only two deductive alternates are allowed with no more than 10 buildings (not square footage).
- Modernization or Reconstruction may utilize the Base Bid and Alternates 1-5. For modernization projects - only five additive or deductive alternates are allowed with no more than 20 building cost items (not square footage).
- Use of the SAB bid policy regarding base bid A (building cost), Base Bid B (service site) and Base Bid C (combination Base Bid A and B) may only be used for separate bidding for service site work. It may not be used for bidding separate district funded work.
- For any bid to be awarded, it must be within the project's established cost allowance.
- If necessary, an additional sheet or a spreadsheet maybe attached.

[illegible]

PART II - Qualification Based Contract (Government Code Section 4526, et. seq.: i.e., architectural, etc.)

- Enter the date the Proposal was received _____; and,
- Fill in the first blank in the District Certification of Bid/Proposal; and,
- Sign and date where it is indicated.

DISTRICT CERTIFICATION OF BID/PROPOSAL

My signature certifies that under penalty of perjury to the best of my knowledge and belief that:

- it is the intent of the District's Board of Trustees to accept the bid(s)/proposal submitted by _____; including if applicable, Alternates No. (s) _____, subject to the approval of the Executive Officer of the State Allocation Board; and,
- the Governing Board of the district understands and accepts that it is responsible for determining DVBE compliance for all contracts over \$10,000 and agrees to hold harmless and indemnify the SAB/OPSC for any damages arising out of the districts administration of the DVBE program.
- for a competitively bid contract, the contractor has provided the District with a bid bond in the amount of ten percent of the base bid, to ensure the contractor's intent to culminate the contract. This bid bond must be issued by an admitted surety (an insurance organization authorized by the Insurance Commissioner to transact the business of insurance in the State of California). In lieu of the bond, the contractor may provide a cashier's check amounting to ten percent of the base bid.
- bid(s)/proposal submitted meets the requirements of the SAB's DVBE policy adopted August 16, 1992; and,
- for a competitively bid contract, the bidder selected by the District is other than the apparent low bidder that the district either:
 - ☐ has determined that any lower bid is not in compliance with the DVBE requirements, or
 - ☐ has selected the lowest responsive, responsible bidder, pursuant to the Public Contract Code and a legal opinion by the District's Legal Counsel which supports its selection is attached
- I am aware of Section 6203 of the Government Code which provides that any officer knowingly making a false statement is guilty of a misdemeanor, and;
- I am aware that knowingly making a false statement may jeopardize SAB funding of this project.

SIGNATURE OF DISTRICT REPRESENTATIVE - original signature

DATE

**PRIME BIDDER CERTIFICATION OF DISABLED VETERAN
BUSINESS ENTERPRISE PARTICIPATION**

To be completed by the Prime Bidder

PAGE 1 OF 2

PART I - IDENTIFICATION INFORMATION

BIDDER'S NAME	BUSINESS ADDRESS	TELEPHONE NUMBER
SCHOOL DISTRICT	COUNTY	APPLICATION NO.

GENERAL INSTRUCTIONS

All or part of the funding for the proposed work/services/equipment/supplies for which your firm is bidding has been made available by the State Allocation Board (SAB) and as a result, the contract award must be made in accordance with the SAB participation requirements for Disabled Veterans Business Enterprises (DVBE). The SAB requires that all contracts over \$10,000 awarded must meet a DVBE participation goal of not less than 3 percent of the contract amount. If your firm cannot meet the 3 percent DVBE participation goal, you must demonstrate a good faith effort to attempt to meet the 3% participation. The school district issuing this solicitation document, not the SAB/OPSC, is responsible to assure compliance with the DVBE program.

PART II - METHOD OF COMPLIANCE WITH DVBE PARTICIPATION GOALS - Include this form and any other applicable documents listed in this table with your bid/proposal. Read the three columns in the table below as sentences from left to right. Check the appropriate box to indicate your method of committing the contract dollar amount. If no box can be checked, your bid/proposal will be deemed non-responsive and disqualified.

NOTE: *Architectural, engineering, environmental, land surveying or construction management firms must indicate their method of compliance by marking the appropriate box A, B, C, or D after selection by the District and before the contract is signed.*

YOUR BUSINESS ENTERPRISE	AND YOU	AND YOU
A. <input type="checkbox"/> is Disabled Veteran owned and your forces, will perform at least 3 percent of this contract	will include a copy of your DVBE letter from the Office of Small Business, Certification and Resources (OSBCR).	
B. <input type="checkbox"/> is Disabled Veteran owned but is unable to perform the 3 percent of this contract with your forces	will use DVBE subcontractors/suppliers to bring the contract participation to at least 3 percent	will include a copy of each DVBE's letter from OSBCR (including yours, if applicable).
C. <input type="checkbox"/> is not Disabled Veteran owned	will use DVBE subcontractors/suppliers for at least 3 percent of this contract	
D. <input type="checkbox"/> is unable to meet the required participation goals	will complete a Good Faith Effort to obtain DVBE participation	will include the Prime Bidder's Good Faith Effort Worksheet.

Note: An Office of Small Business, Certification and Resources (OSBCR) letter must be attached for each DVBE participating in the contract. The DVBE letter is obtained from the participating DVBE. If the letter is not provided, the bid may be deemed nonresponsive and may be ineligible for award of the contract.

Continued on reverse side

PART III - DVBE DOLLAR PARTICIPATION OF BID/PROPOSAL - Architectural, engineering, environmental, land surveying or construction management firms complete this part *after* selection by the district and before the contract is signed.

Show deductive alternate(s) in parenthesis. For more alternates/base bids, use a separate page to show items.

- A. If your business enterprise is a DVBE, list in the appropriate column the total dollar amount of your bid to be performed by your own participation.
- B. List all your DVBE subcontractors/suppliers. Enter in the appropriate column the dollar amount for each of your subcontractors/suppliers.
- C. Enter the total of Lines A and B for each column.
- D. Enter the dollar amount of the bid/proposal to be performed by non-DVBE firms. Note: This line is the sum of the prime and subcontractor(s) non-DVBE dollar participation.
- E. Enter the sum of the column totals from Line C and Line D. Note: Please be aware that the final determination of DVBE compliance is made based on the contract amount resulting from the district's acceptance or rejection of alternates.

	BASE BID/PROPOSAL	ALTERNATE #1	ALTERNATE #2	ALTERNATE #3 OR BASE BID B	ALTERNATE #4 OR BASE BID C	ALTERNATE #5 (MODERNIZATION OR RECONSTRUCTION ONLY)
A. Prime Bidder, if DVBE (own participation)	\$	\$	\$	\$	\$	\$
B. DVBE Subcontractor or Supplier						
1.						
2.						
3.						
4.						
C. Subtotal (A & B)						
D. Non-DVBE						
E. Total Bid						

PRIME BIDDER GOOD FAITH EFFORT WORKSHEET

This worksheet is to be used to assist the Prime Bidder in meeting the 3% DVBE participation goal

PAGE 1 OF 2

BIDDER NAME	BUSINESS ADDRESS	CONTACT PERSON
TELEPHONE NUMBER	SCHOOL DISTRICT	COUNTY

GENERAL INSTRUCTIONS:

This worksheet is to be used to assist you in meeting the 3 percent DVBE participation goal. If specific information is not provided for Parts I through III, you do not meet the test of the "Good Faith Effort" and cannot so certify. If you are qualifying based on a "Good Faith Effort" you must include this form with your bid/proposal to the district.

PART I - CONTACTS

To identify DVBE sub-contractors/suppliers for participation in your bid/proposal, contact must be made with each of the following categories. It is recommended that you contact several DVBE organizations.

[illegible]

Write "recorded message" in this column, if applicable

Continued on reverse side

PART II - ADVERTISEMENTS You must make at least two (2) advertisements, one (1) in a paper that focuses on DVBE and one (1) in a trade paper. Advertisements should be published at least 14 days prior to bid/proposal opening; if you cannot advertise 14 days prior, advertise as soon as possible and provide an explanation. (Advertisements must be published in time to allow for a reasonable response). Advertisements must include that your firm is seeking DVBE participation, the project name and location, your firm's name, your firm's contact person, and phone number.

Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

PART III - DVBE SOLICITATIONS List DVBE subcontractors/suppliers that were invited to bid. Use the following instructions to complete the remainder of this section (read the three columns as a sentence from left to right). If you need additional space to list DVBE solicitations, please use a separate page and attach to this form.

IF THE DVBE.....	THEN.....	AND.....
was selected to participate	check "yes" in the "SELECTED" column, include the applicable dollar amount in Part III of the Form SAB 515PB	include a copy of their DVBE letter from OSBCR.
was not selected to participate	check "no" in the "SELECTED" column	state why in the "REASON NOT SELECTED" column.
did not respond to your solicitation	check the "NO RESPONSE" column.	

DISABLED VETERANS BUSINESS ENTERPRISES CONTACTED	SELECTED		REASON NOT SELECTED <i>This section must be completed</i>	NO RESPONSE
	YES	NO		

IMPORTANT NOTE:

Please be aware that certification of the "Good Faith Effort" may only be made if you fully complete Parts I, II, and III on both sides of this form. A copy of this form must be retained by you and may be subject to a future audit.

CERTIFICATION

I, _____ certify that I am the bidder's Chief Executive Officer and that I have made a diligent effort to ascertain the facts with regard to the representations made herein. In making this certification, I am aware of Section 12650 et seq. of the Government Code providing for the imposition of treble damages for making false claims.

SIGNATURE OF CHIEF EXECUTIVE OFFICER 	DATE
---	------

BID BOND

Be advised that we _____ as
Principal ("Principal") and _____ a corporation
duly organized under the laws of the State of _____ as Surety ("Surety")
are firmly bound to

_____ as
Obligee ("Obligee") in the sum of \$_____ for the payment of which the
Principal and the Surety bind ourselves, our heirs, executors, administrators, successors, and
assigns, jointly and severally, by this Bond.

The Principal has submitted a bid for _____

The condition of our obligation is this: if the Principal is awarded the contract upon its proposal, and shall, within the required number of days after the notice of award, execute a contract with the Obligee in accordance with the contract documents, submit the required payment and performance bonds, and provide all other required documents, then this obligation shall be null and void; but in the event that the principal fails and/or refuses to execute and deliver those documents, this bond will be charged with the costs of the damages experienced by the Obligee as a result of that refusal, including but not limited to, publication costs, the difference in money between the amount of the bid of the Principal and the amount for which the Obligee may legally contract with another party to perform the work if the amount is in excess of the former; building lease or rental costs, transportation costs, professional service costs, and additional salary costs that result from the delay due to the Principal's default on the awarded contract. In no event, however, shall the surety's liability exceed the penal sum indicated above.

The Surety, for value received, stipulates and agrees that its obligations and its bond shall not be impaired or affected by any extension of the time within which the Obligee may accept the bid; and Surety waives notice of any time extension.

DATED: _____ PRINCIPAL

By _____

Title _____

DATED: _____ SURETY

By _____

Title _____

DESIGNATION OF SUBCONTRACTORS

Each subcontractor who performs work, renders service, or fabricates and installs a portion of the work in an amount in excess of one-half of one percent of the prime contractor's total bid shall be listed. NOTE: The subcontractors listed cannot be substituted except according to the conditions and procedure specified in Public Contract Code section 4107. If a prime contractor fails to specify a subcontractor, or specifies more than one subcontractor for the same portion of work to be performed, the prime contractor must perform that portion of the work himself or herself. Public Contract Code section 4106."

[illegible]

Respectfully submitted,

Firm: _____

By: _____
(Signature)

Address: _____

Telephone: _____

Contractor's License Number: _____

NOTE: The contract documents require that each subcontractor must possess an appropriate contractors license issued by the State of California.

DESIGNATION OF SUBCONTRACTORS

[illegible]

Firm: _____

Address: _____

Telephone: _____

Contractor's License Number: _____

SECTION 00431

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California)
) ss.
 County of _____)

_____, being duly sworn, deposes and says:

That he or she is the _____ (position)
 of _____ (name of bidder), the party making the 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 of 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 price breakdown, or their contents, or divulged relative information or data, 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.

 (Firm Name)

 (Print Name - Authorized Agent)

 (Signature - Authorized Agent)

Project Name _____

Subscribed and sworn to before me on _____, 2001.

 Notary Public

NOTARY SEAL

AGREEMENT-BID No. 1

THIS AGREEMENT, dated the _____ day of _____, 2001 is entered into between ("DISTRICT"), and ("CONTRACTOR").

For the consideration stated below, DISTRICT and CONTRACTOR agree as follows:

1. The complete contract includes all of the "contract documents" as defined in Article 1 of the General Conditions. The contract documents are complementary, and what is called for by any one shall be as binding as if called for by all.
2. CONTRACTOR shall perform everything required to be performed, and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for construction of Concrete and Handrails. All work to be performed and materials furnished shall be in strict accordance with the contract documents.
3. As full consideration for the faithful performance of the contract, DISTRICT shall pay to CONTRACTOR, subject to any additions or deductions as provided in the contract documents, the sum of \$ _____, which is the total of the following amounts stated in the bid form:
 - *BASE BID _____
 - *Alternates _____
4. The work shall commence on the date stated in the DISTRICT'S Notice to Proceed and shall be completed within 30 calendar days from the date stated in the Notice to Proceed. The Notice shall not be issued prior to five calendar days after the award of the contract, and shall not require that work be commenced less than five calendar days from the date of issuance of the Notice to Proceed.
5. Payment of undisputed contract amounts is contingent upon CONTRACTOR furnishing DISTRICT with a release of all claims against the DISTRICT arising out of the contract payment. Any disputed contract claim must be specifically excluded from the operation of the release.
6. Should the Contractor fail to complete this contract, and each phase of the work provided therein within the time fixed for such completion, pursuant to Government Code Section 53069.85, said Contractor shall forfeit and pay (or the Owner may deduct the amount thereof from any money due or to become due to the Contractor) the sum of Five Hundred Dollars (\$500.00) per calendar day as liquidated damages. In accordance with the provisions of Government Code section 4215, the contractor shall not be assessed liquidated damages where delay is caused by failure of the Owner or the owner of the utility to provide for the removal or relocation of utility facilities, but only if such utilities are not identified in the plans and specifications.

Time extensions may be granted by the DISTRICT as provided in the General Conditions.

In addition to any liquidated damages which may be assessed, if the CONTRACTOR fails to complete the project within the time period provided in the contract documents, and if as a result DISTRICT finds it necessary to incur any costs and expenses (for example, relating to the acquisition and use of facilities pending completion of the project), Contractor shall pay all those costs and expenses incurred by District. These costs and expenses may include, but are not limited to such items as rental payments, inspection fees, and additional architectural fees related to the acquisition of facilities. These costs and expenses may be retained by District from any payments otherwise due to Contractor.

7. During the life of this contract, CONTRACTOR shall take out and maintain insurance as required by the General Conditions and in the following amounts:

Owner's Protective Insurance	\$1,000,000.00
(The Owner and its officers, agents and employees and the Architect and the Architect's Consulting Engineers and their employees shall be named as additional insureds on the contractor's liability policy in lieu of a separate policy)	
Workers Compensation	Statutory
General Liability	\$1,000,000.00
Combined Single Limit	
(This may be on an "occurrence" or "claims made" basis. If it is issued on a "claims made" basis, the policy shall provide for a non-cancelable 5 year extended reporting period.)	
Automobile Liability	\$1,000,000.00
Combined Single Limit per Occurrence	
"All Risk" insurance to the full insurable value of the work.	

8. Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P. O. Box 26000, Sacramento, CA 95826. To perform the work required by this agreement, CONTRACTOR must possess a Contractor's see 101-1.16 license.
9. The bidder hereby certifies that it is, and at all times during the performance of work hereunder shall be, in full compliance with the provisions of the federal Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the bidder shall indemnify, hold harmless, and defend the Owner against any and all actions, proceedings, penalties or claims arising out of the bidder's failure to comply strictly with the IRCA.

10. Each worker of the Contractor and any of its subcontractors engaged in work on the project shall be paid not less than the prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such workers. As a penalty, the Contractor shall forfeit not more than \$50 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by Contractor on the project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates, shall be paid to each worker by the Contractor. The amount of this forfeiture shall be determined by the California State Labor Commissioner and shall be based on consideration of the Contractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages.

The parties have executed this agreement by the signatures of their authorized representatives on the dates indicated.

GOVERNING BOARD
SCHOOL DISTRICT

By _____

Date _____

By _____

Contractor's License Number

License Classification

Expiration Date

Date _____

(Corporate Seal)

AGREEMENT-BID No. 2

THIS AGREEMENT, dated the _____ day of _____, 2001 is entered into between ("DISTRICT"), and ("CONTRACTOR").

For the consideration stated below, DISTRICT and CONTRACTOR agree as follows:

1. The complete contract includes all of the "contract documents" as defined in Article 1 of the General Conditions. The contract documents are complementary, and what is called for by any one shall be as binding as if called for by all.
2. CONTRACTOR shall perform everything required to be performed, and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for construction of Site Electrical and Hook-Ups. All work to be performed and materials furnished shall be in strict accordance with the contract documents.
3. As full consideration for the faithful performance of the contract, DISTRICT shall pay to CONTRACTOR, subject to any additions or deductions as provided in the contract documents, the sum of \$ _____, which is the total of the following amounts stated in the bid form:

*BASE BID _____

*Alternates _____

4. The work shall commence on the date stated in the DISTRICT'S Notice to Proceed and shall be completed within 30 calendar days from the date stated in the Notice to Proceed. The Notice shall not be issued prior to five calendar days after the award of the contract, and shall not require that work be commenced less than five calendar days from the date of issuance of the Notice to Proceed.
5. Payment of undisputed contract amounts is contingent upon CONTRACTOR furnishing DISTRICT with a release of all claims against the DISTRICT arising out of the contract payment. Any disputed contract claim must be specifically excluded from the operation of the release.
6. Should the Contractor fail to complete this contract, and each phase of the work provided therein within the time fixed for such completion, pursuant to Government Code Section 53069.85, said Contractor shall forfeit and pay (or the Owner may deduct the amount thereof from any money due or to become due to the Contractor) the sum of Five Hundred Dollars (\$500.00) per calendar day as liquidated damages. In accordance with the provisions of Government Code section 4215, the contractor shall not be assessed liquidated damages where delay is caused by failure of the Owner or the owner of the utility to provide for the removal or relocation of utility facilities, but only if such utilities are not identified in the plans and specifications.

Time extensions may be granted by the DISTRICT as provided in the General Conditions.

In addition to any liquidated damages which may be assessed, if the CONTRACTOR fails to complete the project within the time period provided in the contract documents, and if as a result DISTRICT finds it necessary to incur any costs and expenses (for example, relating to the acquisition and use of facilities pending completion of the project), Contractor shall pay all those costs and expenses incurred by District. These costs and expenses may include, but are not limited to such items as rental payments, inspection fees, and additional architectural fees related to the acquisition of facilities. These costs and expenses may be retained by District from any payments otherwise due to Contractor.

7. During the life of this contract, CONTRACTOR shall take out and maintain insurance as required by the General Conditions and in the following amounts:

Owner's Protective Insurance	\$1,000,000.00
(The Owner and it's officers, agents and employees and the Architect and the Architect's Consulting Engineers and their employees shall be named as additional insureds on the contractor's liability policy in lieu of a separate policy)	
Workers Compensation	Statutory
General Liability	\$1,000,000.00
Combined Single Limit	
(This may be on an "occurrence" or "claims made" basis. If it is issued on a "claims made" basis, the policy shall provide for a non-cancelable 5 year extended reporting period.)	
Automobile Liability	\$1,000,000.00
Combined Single Limit per Occurrence	
"All Risk" insurance to the full insurable value of the work.	

8. Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P. O. Box 26000, Sacramento, CA 95826. To perform the work required by this agreement, CONTRACTOR must possess a Contractor's see 101-1.16 license.
9. The bidder hereby certifies that it is, and at all times during the performance of work hereunder shall be, in full compliance with the provisions of the federal Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the bidder shall indemnify, hold harmless, and defend the Owner against any and all actions, proceedings, penalties or claims arising out of the bidder's failure to comply strictly with the IRCA.

10. Each worker of the Contractor and any of its subcontractors engaged in work on the project shall be paid not less than the prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such workers. As a penalty, the Contractor shall forfeit not more than \$50 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by Contractor on the project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates, shall be paid to each worker by the Contractor. The amount of this forfeiture shall be determined by the California State Labor Commissioner and shall be based on consideration of the Contractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages.

The parties have executed this agreement by the signatures of their authorized representatives on the dates indicated.

GOVERNING BOARD
SCHOOL DISTRICT

By _____

Date _____

By _____

Contractor's License Number _____

License Classification _____

Expiration Date _____

Date _____

(Corporate Seal)

PUBLIC CONTRACT CODE REQUIREMENTS

The following Supplemental Conditions apply to school projects and are in addition to the General Conditions, § 00701. Items in this Section modify the General Conditions and shall take precedence thereover. Unaltered portions of the General Conditions shall remain in effect.

Provisions of State of California Public Contract Code statutes, Article 1.5, §20104 - 20104.8, cited below, are hereby made a part of this Contract.

ARTICLE 1.5. RESOLUTION OF CONSTRUCTION CLAIMS (NEW)

Section

20104	Application of article; inclusion of article in plans and specifications.
20104.2	Claims; requirements, tort claims excluded.
20104.4	Civil action procedures; mediation and arbitration; trial de novoe; witnesses.
20104.6	Payment of undisputed portion of claim; interest on arbitration award or judgment.
20104.8	Repealed :

Article 1.5 was added by Stats. 1994, c. 726 (AB 3069), §22 eff. Sept 22, 1994.

Former Article 1.5 Resolution of Construction Claims, consisting of §§22104 to §§20104.8, added by Stats. 1990, c. 1414 (AB 4165). §2 was repealed by Stats. 1990, c. 1414 (AB 4165), § 2, operative Jan. 1, 1994.

§20104 Application of article; inclusion of article in plans and specifications.

- (a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000.00) or less which arise between a contractor and a local agency.
- (2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with §10240) of Chapter 1 of Part 2.
- (b) (1) "Public work" has the same meaning as in §3100 and 3106 of the Civil code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California.
- (2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by or on behalf of the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.
- (c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

- (d) This article applies only to contracts entered into on or after January 1, 1991.
(Added by Stats. 1994, c. 726 (A.B.3069) §22 eff. Sept. 22, 1994)

Historical and Statutory Notes

1990 Legislation

Former §20104 was renumbered to § 20103.5 and amended by Stats.. 1990. c. 1414 (A.B.4165), 1., Former §20104, added by Stats 1990, c. 1414. (AB 4165), §2 relating to

application of article regarding resolution of construction claims was repealed by Stats 1990, c. 1414 (AB 4165), §2, operative Jan. 1, 1994. See now this section. Deviation: Former §20104, added by Stats. 1990, c. 1414, §2.

§20104.2. Claims; requirements

For any claim subject to this article, the following requirements apply:
Additions or changes are indicated by underline; deletions by asterisks ***

§20104.2

- (A) The Claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims
- (b) (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
- (2) If additional information is thereafter required, to shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
- (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
- (c) (1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.
- (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

- (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
- (d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.
- (e) If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Division 8.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

(Added by Stats. 1994. c. 726 (A.B.3069), §22 eff. Sept. 22, 1994.)

§20104.4 Procedures for civil actions filed to resolve claims

The following procedures are established for all civil actions filed to resolve claims subject to this article:

- (a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 5 day period, any party may petition the court to appoint the mediator.
- (b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with §1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding § 1141.11 of that code. The Civil Discovery Act. of 1988 (Article 3 (commencing with §2016) of Chapter 3 of Title 3 of Part 5 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
- (2) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgement, shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(Added by Stats. 1994, c. 726 (A.B.3069), §22, eff. Sept. 22, 1994.)

- §20104.6 Payment of undisputed portion of claim; interest on arbitration award or judgment
- (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
 - (b) In any suit filed under §20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suite is filed in a court of law.

(Added by Stats. 1994, c. 726 (A.B. 3069), §22 eff. Sept. 22, 1994)

§20104.8 Repealed

(Added by Stats. 1994, c. 726 (A.B.3069), §§22, eff. Sept. 22, 1994)

END OF SECTION

COMPLIANCE WITH FINGERPRINT LAW AB1610, ORTIZ & AB1612, ALBY

I. Purpose

Provide for submission of the fingerprints of those employees who may have contact with pupils to the California Department of Justice (CDOJ) in a manner authorized by CDOJ.

The Contractor will be required to certify that their own employees and their sub-contractors and their sub-contractors employees working on an existing site are free of serious/violent convictions. This certification shall be strictly at the expense of the Contractor.

II. The awarded contractor shall make application to the Department of Justice for approval to submit fingerprints for processing. (See attached forms)

A. Application Procedures

1. Fill out the "Request for Authorization to Receive State Summary Criminal History Information – Contract Employer for Public School" form. (See attached).
2. Obtain a signature from the school district verifying that a background check has been required of your company. See below.*

Along with the completed form, send a copy of the signed contract with the school district, to:

Ms. Kelly Kramer
Authorization Services
California Department of Justice
P. O. Box 903417
Sacramento, CA 92403-3470

3. Wait for a CDOJ response authorizing you to receive background information. Along with the CDOJ approval, a packet of information will be sent to you. This application process would take approximately two (2) weeks, and we understand that there is no fee required at this time.

B. Fingerprinting Procedures

1. Take fingerprints of your employees who may have contact with the school district's pupils. Although it is possible to have employees fingerprinted at your site, it is recommended that you have it done by a local public law enforcement agency because they are more familiar with the fingerprinting procedure. If the fingerprinting is done at a local public law enforcement agency, there may be a fee of \$5.00 to \$10.00 charged for each set of fingerprinting. You may wish to telephone ahead for appointments or identification requirements.

In order to minimize the chance of having the background request rejected, be sure that the prints are legible, and all requested personal information of the employee being fingerprinted is included.

2. Send fingerprint cards along with \$32.00 for the CDOJ clearance and \$10.00 for the expediting fee (a total of \$42.00 for each request) to:

California Department of Justice
Applicant Expedite Service
P.O. Box 903347
Sacramento, CA 94203-3470

3. Wait for CDOJ clearance.
4. The CDOJ will ascertain whether the individual whose fingerprints were submitted has been arrested or convicted of any crime. If the individual has clearance, a form indicating clearance is sent to you. This process may take approximately three to five weeks.

- III. Upon your receipt of the CDOJ clearance, submit the list of your employees who have clearance to the school district in order that the contracted services may begin.

- The school administrator responsible to assist you is:
Louis Varga, Director of Facilities
- Telephone Number:
(661) 631-5884

- IV. The awarded contractor shall be required to maintain, at the contractor's expense, a log of each employee with the following entrée's:

- A. Date fingerprints were taken.

- B. Date fingerprints were sent to Sacramento. You may retain a copy of the fingerprint card, but not in the personnel file. The card itself is not CORI information.
- C. Date report of "no record" was received. Do not retain a copy of the report (which will be a photocopy of the print card, returned by DOJ).
- D. Date DOJ called to report an applicant/current employee had been convicted of a serious or violent felony. This should be the same date a current nonpermanent employee is placed on mandatory unpaid leave, a fact that can be recorded in the personnel file—but not the crime. Ask for the name and title of the person giving the report, and record it.
- E. Date "criminal history" (rap sheet) was received and name of reviewer. This should be the same date a current nonpermanent employee is notified that he or she is terminated, a fact that can be recorded in the personnel file, a long with the reason—but not the crime.
- F. Date history was destroyed (shredded or burned, not discarded). Do not retain the history if the applicant is hired. If the applicant is not hired, retain until a reasonable period for the employee to challenge the nonhiring has passed (at least six months). Be certain that the record is in a locked, secure place.
- G. Date history was destroyed if retained to protect against challenge.
- H. In all cases, the person making the entry should sign his or her name or add initials to the form.

END OF SECTION
4/21/98

PERFORMANCE BOND-Bid No. 1

BE ADVISED THAT:

The Bakersfield City School District of Kern County, California ("District") has awarded to _____ as Principal ("Principal") the contract for the work described as follows:

CONCRETE AND HANDRAILS FOR RELOCATABLE CLASSROOMS AT CESAR CHAVEZ

The Principal is required to furnish a bond in connection with the contract guaranteeing faithful performance;

We the undersigned Principal and Surety are held and firmly bound to the District in the sum of \$ _____, to be paid to the District; for which payment we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by this Bond.

The condition of this bond is this: that if the Principal, its heirs, executors, administrators, successors, or assigns, well and truly perform the covenants, conditions, and agreements in the contract and any alterations made as provided in it, at the time and in the manner specified, and indemnifies and holds harmless the District, its officers, and agents, as stipulated in the contract, then this obligation shall become null and void; otherwise it shall remain in full force and effect.

The surety, for value received, stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or the work to be performed or the specifications shall in any way affect its obligation on this bond, and it waives notice of any change, extension of time, alteration, or addition to the terms of the contract, the work, or the specifications.

AS WITNESSES, we have affixed our signatures and seals this _____ day of _____, 2001.

PRINCIPAL

(Principal Seal)

By _____

Title _____

SURETY

(Surety Seal)

By _____

Title _____

 Name, Address & Telephone No.
 of California Agent of Surety

PERFORMANCE BOND-Bid No. 2

BE ADVISED THAT:

The Bakersfield City School District of Kern County, California ("District") has awarded to _____ as Principal ("Principal") the contract for the work described as follows:

SITE ELECTRICAL AND HOOK-UPS FOR RELOCATABLE CLASSROOMS AT CESAR CHAVEZ
The Principal is required to furnish a bond in connection with the contract guaranteeing faithful performance;

We the undersigned Principal and Surety are held and firmly bound to the District in the sum of \$_____, to be paid to the District; for which payment we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by this Bond.

The condition of this bond is this: that if the Principal, its heirs, executors, administrators, successors, or assigns, well and truly perform the covenants, conditions, and agreements in the contract and any alterations made as provided in it, at the time and in the manner specified, and indemnifies and holds harmless the District, its officers, and agents, as stipulated in the contract, then this obligation shall become null and void; otherwise it shall remain in full force and effect.

The surety, for value received, stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or the work to be performed or the specifications shall in any way affect its obligation on this bond, and it waives notice of any change, extension of time, alteration, or addition to the terms of the contract, the work, or the specifications.

AS WITNESSES, we have affixed our signatures and seals this _____ day of _____, 2001.

(Principal Seal)

PRINCIPAL

By _____

Title _____

(Surety Seal)

SURETY

By _____

Title _____

Name, Address & Telephone No.
of California Agent of Surety

PAYMENT BOND FOR PUBLIC WORKS - Bid No. 1

BE ADVISED THAT:

The Bakersfield City School District of Kern County, California ("DISTRICT") by appropriate action, has awarded to _____ as Principal ("PRINCIPAL") the contract for the work described as follows:

Concrete and Handrails for Relocatable Classrooms at Cesar Chavez.

The Principal is required by Chapter 7 (commencing at Section 3247) of the California Civil Code to furnish a bond in connection with the contract;

THEREFORE, we, the PRINCIPAL and _____ as Surety, are held and firmly bound unto the DISTRICT in the penal sum of \$ _____, lawful money of the United States of America for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by this bond.

The condition of this obligation is that if the PRINCIPAL, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18806 of the California Revenue and Taxation Code, with respect to their work and labor, the surety or sureties will pay for them, in an amount not exceeding the sum specified above, and also, in case suit is brought upon this bond, all litigation expenses incurred by the DISTRICT, including reasonable attorneys' fees, court costs, expert witness fees, and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the California Civil Code, so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement described above or pertaining or relating to the furnishing of labor, materials, or equipment for it, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement described above, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under the contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond shall be construed most strongly against the Surety and in favor of all persons for whose benefit it is given, and under no circumstances shall Surety be released from liability to those for whose benefit the bond has been given, by reason of any breach of contract between the owner or DISTRICT and original contractor or on the part of any obligee named in the bond, but the sole

conditions of recovery shall be that claimant is a person described in Section 3181 of the California Civil Code, and has not been paid the full amount of his claim and that Surety waives notice of any change, extension of time, addition, alteration, or modification mentioned above.

Any claim under this bond may be addressed to:

(Name, Address & Telephone Number
of Surety)

(Name, Address & Telephone Number
of Agent or Representative)

AS WITNESSES, we have affixed our signatures and seals this _____ day of _____, 2001.

(Principal Seal)

PRINCIPAL

By: _____

Title: _____

(Surety Seal)

SURETY

By: _____

Title: _____

PAYMENT BOND FOR PUBLIC WORKS - Bid No. 2

BE ADVISED THAT:

The Bakersfield City School District of Kern County, California ("DISTRICT") by appropriate action, has awarded to _____ as Principal ("PRINCIPAL") the contract for the work described as follows:

Site Electrical and Hook-Ups for Relocatable Classrooms at Cesar Chavez.

The Principal is required by Chapter 7 (commencing at Section 3247) of the California Civil Code to furnish a bond in connection with the contract;

THEREFORE, we, the PRINCIPAL and _____ as Surety, are held and firmly bound unto the DISTRICT in the penal sum of \$_____, lawful money of the United States of America for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by this bond.

The condition of this obligation is that if the PRINCIPAL, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18806 of the California Revenue and Taxation Code, with respect to their work and labor, the surety or sureties will pay for them, in an amount not exceeding the sum specified above, and also, in case suit is brought upon this bond, all litigation expenses incurred by the DISTRICT, including reasonable attorneys' fees, court costs, expert witness fees, and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the California Civil Code, so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement described above or pertaining or relating to the furnishing of labor, materials, or equipment for it, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement described above, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under the contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond shall be construed most strongly against the Surety and in favor of all persons for whose benefit it is given, and under no circumstances shall Surety be released from liability to those for whose benefit the bond has been given, by reason of any breach of contract between the owner or DISTRICT and original contractor or on the part of any obligee named in the bond, but the sole

conditions of recovery shall be that claimant is a person described in Section 3181 of the California Civil Code, and has not been paid the full amount of his claim and that Surety waives notice of any change, extension of time, addition, alteration, or modification mentioned above.

Any claim under this bond may be addressed to:

(Name, Address & Telephone Number
of Surety)

(Name, Address & Telephone Number
of Agent or Representative)

AS WITNESSES, we have affixed our signatures and seals this _____ day of _____, 200__.

(Principal Seal)

PRINCIPAL

By: _____

Title: _____

(Surety Seal)

SURETY

By: _____

Title: _____

JOB CLASSIFICATION

The following Supplemental Conditions apply to school projects and are in addition to the General Conditions, Section 00701. Items in this Section modify the General Conditions and shall take precedence thereover. Unaltered portions of the General Conditions shall remain in effect.

1.01 The successful General Contractor shall submit a list of trades to be employed on this project for purposes of compliance with wage posting requirements. This list shall be delivered to the Architect with the executed Agreements, Bonds and Insurance Certificates.

1.02 If other trades are subsequently required, notice must be given to the District one week prior to the start of their work so that wage rates for these trades might be posted.

END OF SECTION
4/9/96

SUBSTITUTION WARRANTY

In addition to other requirements, the General Contractor shall warrant in writing that substituted materials shall perform as specified, and assume complete responsibility for same, including responsibility and costs required for modifications to building or other materials or equipment, and any additional coordination with work of other trades. Testing, if required, shall be paid by the General Contractor. The following is an *example* of the type of Substitution warranty which shall be executed by the Contractor, *on his own letterhead*.

SUBSTITUTION WARRANTY

We propose to provide

_____ (Describe items being proposed for substitution)

for _____ in lieu of and as
(List project name)

an equivalent to _____
(Describe specified product)

as indicated on the drawings and described in Section _____
of the Specifications.

We agree to assume the cost of any modifications to other portions of the work as necessary to accommodate our material (s) and system(s).

We hereby warrant that _____
(Provide description)

is the equivalent of _____
(Specified product)

in every respect and will perform satisfactorily under the conditions and use indicated on the Drawings and described in the Specifications

Signed: _____ Date _____
(Manufacturer/Supplier/Other)

Signed: _____ Date _____
(Subcontractor)

Signed: _____ Date _____
(Contractor)

NOTE: Affix Corporate Seal over Signatures.

ASBESTOS CERTIFICATION-Bid No. 1

PART 1 PRODUCTS OR MATERIALS

- a. The General Contractor agrees that asbestos-containing products or materials will not be used or substituted in performing the work of this project.
- b. At the completion of the work of this project, the General Contractor will certify in writing to the Owner that to the best of the General Contractor's knowledge, no asbestos-containing products or materials were used or substituted in performing work of this project.

END OF SECTION

**CONTRACTOR'S CERTIFICATE REGARDING USE OF ASBESTOS CONTAINING
MATERIALS- Bid No. 1**

Date

To: **The Bakersfield City School District**

Regarding:

Concrete and Handrails for the Relocatable Classrooms at Cesar Chavez.

The undersigned hereby certifies that no asbestos-containing products or materials were used in the construction of the above project.

Contractor

By _____
Title

ASBESTOS CERTIFICATION

PART 1 PRODUCTS OR MATERIALS

- a. The General Contractor agrees that asbestos-containing products or materials will not be used or substituted in performing the work of this project.
- b. At the completion of the work of this project, the General Contractor will certify in writing to the Owner that to the best of the General Contractor's knowledge, no asbestos-containing products or materials were used or substituted in performing work of this project.

END OF SECTION

CONTRACTOR'S CERTIFICATE REGARDING USE OF ASBESTOS CONTAINING MATERIALS

Date

To: The Bakersfield City School District

Regarding:

Site Electrical Hook-Ups for the Relocatable Classrooms at Cesar Chavez.

The undersigned hereby certifies that no asbestos-containing products or materials were used in the construction of the above project.

Contractor

By _____
Title

Contract Employers for Public Schools

- The fingerprint processing fee is \$32 for routine services and \$42 for expedite services.
- The employer must apply for and receive prior authorization from DOJ to submit fingerprints for processing (see Forms).
- The employer must submit fingerprints of employees, as designated by the school district, who may have any contact with pupils.
- Submission to the FBI is not authorized.
- The telephone number and name of the contract employer must be provided on the front of the BID-7 fingerprint card under the contributing agency and address.
- The contract employer will be notified by telephone and in writing if an employee has been convicted of a serious/violent felony.
- If the employee has *not* been convicted of a serious/violent felony, the employer will receive notification in writing only.
- The fingerprint card will be retained for subsequent arrest notification. Employers should submit a request for subsequent arrest notification service as soon as possible (see forms).

[Example for Public School \(Contract Employer\)](#)

[Type of Submission Menu](#)

[Applicant Fingerprint Submissions Main Page](#)

[Attorney General's Home Page](#)

APPLICANT FINGERPRINT CLEARANCE FEES

	<u>STATE</u>	<u>FEDERAL</u> (where applicable)	<u>FEDERAL FEE</u> <u>VOLUNTEER</u>
EMPLOYMENT, LICENSING OR CERTIFICATION (GENERAL)	\$32.00	\$24.00	\$18.00
Expedite Surcharge (17 working day turnaround)	10.00	N/E	
DEPARTMENT OF SOCIAL SERVICES LICENSING			
Community Care Facilities	52.00	24.00	18.00
Family Day Care	No Fee	24.00	18.00
Foster Home License	No Fee	24.00	18.00
Residential Child Care Facility with 6 or fewer children	No Fee	24.00	18.00
Residential Child Care Facility with more than 6 children	52.00	24.00	18.00
Residential Care for the Chronically Ill	52.00	24.00	18.00
Residential Care Facility for the Elderly	52.00	24.00	18.00
Day Care Facility with 6 or fewer children	No Fee	24.00	18.00
Day Care Facility with more than 6 children	52.00	24.00	18.00
EDUCATION CODE SUBMISSIONS			
Credentialed Employees (Submitted by District or COE)	32.00	N/E	
Temporary Certificate of Clearance	32.00	N/E	
Private Schools	42.00	24.00	
Public Schools-Classified	42.00	24.00	
Contract Employees-Public School	32.00	N/E	
DEPARTMENT OF DEVELOPMENTAL SERVICES			
(Community Residential Services Branch)			
Family Home Agencies for Disabled Adults	52.00	N/A	
All Other Categories	32.00	24.00	18.00
HUMAN RESOURCE AGENCIES AND YOUTH ORGANIZATIONS			
AUTHORIZED UNDER PENAL CODE SECTION 11106.3			
Non-Profit (must provide proof of non-profit status)	No Fee	24.00	18.00
All Other (for profit)	32.00	24.00	18.00
LAW ENFORCEMENT			
Criminal Justice Employment	32.00	No Fee	
Peace Officer (830 Penal Code)	46.00	No Fee	
OTHER			
Carry Concealed Weapon Initial Permit	49.00	24.00	
Record Review	25.00	N/A	
Immigration/VISA	32.00	N/A	

*Effective 9-1-95 the National Child Protection Act allows agencies to submit for volunteer applicants who provide care for children, the elderly or individuals who are handicapped.

N/A: Not Applicable

N/E: Not Eligible

Fees subject to change

BILL LOCKYER
Attorney General

State of California
DEPARTMENT OF JUSTICE



4949 BROADWAY, E231
SACRAMENTO, CA 95820
Public: (916) 227-2222
Facsimile: (916) 227-4815

RE: CONTRACTORS FOR PUBLIC AND PRIVATE SCHOOLS

Dear Interested Party:

In accordance with California Penal Code Section 11077, "The Attorney General is responsible for the security of criminal offender record information."

In accordance with California Education Code Sections 33 192 and 45 125.1, a school district or private school may require an entity that has an existing contract with a district or private school to obtain a criminal history clearance. In keeping with the restrictions and requirements set forth in California law, the following are guidelines and restrictions:

- 1) access is granted only to the primary contractor (there is no authority for subcontractors to gain direct access to DOJ records),
- 2) services provided under contract must be performed on school grounds,
- 3) the entity must have a contract (entities in the bid process are not authorized),
- 4) completed applications for authorization must have original signatures only (no photocopied signatures or faxed forms will be accepted or processed).

CONSTRUCTION CONTRACTORS
33 193 AND 45 125.2 EDUCATION CODE

In accordance with statutory, regulatory, and constitutional restrictions governing the use and dissemination of criminal offender record information, the above mentioned Education Code Sections allow for exemptions from backgrounding all employees under the following conditions:

1. The installation of a physical barrier at the worksite to limit contact with pupils.

Transmittal Form - *Prepaid (Cash)*
APPLICANT - Employment, Licenses/Permits, and Certifications
 See reverse for mailing address.

<i>Employment/Licensing/Certifications-General</i>	Number of Applicants	Fee	Total	DOJ USE ONLY		
				S - Trans	Fund	POE Code: _____
State Level		\$32		101	017	
Expedite Fee Only		\$10		150	017	Trans Count Total \$
Federal Level		\$24		111	017	029
Federal Level Volunteer		\$18		181	017	061
<i>15/30 Legislation</i>				32 - 101	017	101
State Level		\$52		30 - 167	017	103
Federal Level		\$24		111	017	105
Federal Level Volunteer		\$18		181	017	108
Child Abuse Index Licensing (Lic. 198/a)		\$15		148	142	111
Adoptions (BCIA 4066)		\$15		148	142	143
<i>Peace Officer</i>		\$46		32 - 101	017	148
				14 - 155	460	150
<i>CCW Permit</i>				32 - 103	017	155
Initial Permit		\$73		24 - 111	017	161
				17 - 172	460	167
Renewal Permit		\$25		8 - 105	017	172
				17 - 172	460	173
<i>Secondhand Dealer License</i>						176
Initial License		\$195		029	001	181
Renewal License		\$10		061	001	Total
Fingerprint Cards		\$32		101	017	\$
<i>POST Certification</i>						Comments
State Level		\$46		32 - 101	017	
				14 - 176	460	
Federal Level		\$24		111	017	
<i>Trustline Applications</i>		\$90		32 - 101	017	
				58 - 161	019	
<i>Record Review</i>		\$25		108	017	
<i>Visa/Immigration</i>		\$32		101	017	
<i>Fingerprint Rolling</i>		\$10		143	017	

Total _____

Adjustment _____

No. of REPRINTS: _____

Sup. Initial

TOTAL REMITTANCE \$ _____

Do not include a count for fee exempt prints on this form.

ATTACH A LIST OF NAMES FOR BACKUP.

Authorized Signature _____

Date _____

I certify that the above information is correct.

JCS 203 Rev. 9/96

Print Name _____

Agency Name _____

Address _____

City _____

Phone _____

Transmittal Form - ***Billed***
APPLICANT - Employment, Licenses/Permits, and Certifications
 See reverse for mailing address.

<i>Employment/Licensing/ Certifications-General</i>	Number of Applicants	Fee	Total Due	DOJ USE ONLY			
				\$ - Trans	Fund	POE Code: _____	
State Level		\$32		100	017	Trans	Comments
Expedite Fee Only		\$10		151	017		
Federal Level		\$24		110	017	028	
Federal Level Volunteer		\$18		182	017	060	
<i>15/30 Legislation</i>				32 - 100	017	100	
State Level		\$52		20 - 166	017	102	
Federal Level		\$24		110	017	104	
Federal Level Volunteer		\$18		182	017	110	
Child Abuse Index Licensing (Lic 198/a)		\$15		147	142	142	
Adoptions (BCIA 4066)		\$15		147	142	147	
<i>Peace Officer</i>		\$46		32 - 100 14 - 154	017 460	151	
<i>CCW Permit</i>				32 - 102 24 - 110	017 017	153	
Initial Permit		\$73		17 - 174	460	154	
Renewal Permit		\$25		8 - 104 17 - 175	017 460	166	
<i>Secondhand Dealer License</i>						174	
Initial License		\$195		028	001	175	
Renewal License		\$10		060	001	182	
Fingerprint Cards		\$32		100	017	Comments	
<i>Bureau of Security/Inv Svcs</i>							
License (State Level)		\$32		100	017		
Licensing with Firearm:				32 - 100 24 - 110 14 - 153	017 460 460		
• Initial Application		\$70					
• Renewal Application		\$14		14 - 153	460		
Fingerprint Rolling		\$10		142	017		

TOTAL BILLED \$ _____

No. of REPRINTS: _____

ATTACH A LIST OF NAMES FOR BACKUP.

Do not include a count for fee exempt prints on this form.

It is hereby understood that the attached material will be processed by the Department of Justice at applicable rates established by state and federal agencies (subject to change) and that said charges will be paid upon receipt of Department of Justice billing.

Agency Billing Code _____ <div style="text-align: right; font-size: small;">(mandatory)</div>

Client ID # _____
(Max 10 Char/Number, optional)

Agency Name _____

Address _____

City _____

Phone _____

Authorized Signature _____ Date _____

I certify that the above information is correct.

APPLICANT FINGERPRINT CARD FOLLOW-UP REQUEST

Submit in Duplicate

To: Bureau of Criminal Identification and Information
 Applicant and Public Services Section
 P.O. Box 903417
 Sacramento, CA 94203-4170
 Contributing Agency & Address (Mandatory)

Person Requesting Information

Telephone Number

Today's Date

Type of Application

☐ ROUTINE (45 working days)
 ☐ EXPEDITE (25 working days)
 ☐ LIVE SCAN (7 working days)

An applicant fingerprint card was submitted by this agency, and no reply has been received within the designated time frames (see above):

☐ BUREAU OF CRIMINAL IDENTIFICATION AND INFORMATION

☐ FEDERAL BUREAU OF INVESTIGATION

Applicant's Name Last		First		Middle	
Maiden or Alias		DOB (Mandatory)		Sex	Date Print Submitted
CI# (Optional)		SCC#		CL#	

Based upon the information supplied above, following is our response:

- ☐ We have no record of receipt of your fingerprint card. Please resubmit a fingerprint card with a copy of your transmittal form or a canceled check for proof of payment.
- ☐ Your fingerprint card was received and processed. The results are attached.
- ☐ A search of Bureau files did show the fingerprint card was partially processed. However, the card was rejected on _____ because of poor quality fingerprints. Please reprint applicant and resubmit. To avoid paying any additional processing fees, attach the rejected fingerprint card or this form to the new reprint.
- ☐ A fingerprint card for a subject with similar name and/or date of birth has been located and is in process. However, we are unable to determine if this is the fingerprint card submitted by your agency. If you do not receive a reply in 15 days, please resubmit a follow-up request with a copy of this form.
- ☐ Your fingerprint submission has been received, however, there has been a delay in processing. If you do not receive a reply in 15 days, please resubmit a follow-up request with a copy of this form.
- ☐ FBI card is _____
- ☐ Other _____

BILL LOCKYER
Attorney General

State of California
DEPARTMENT OF JUSTICE



P.O. Box 903417, CL21
SACRAMENTO, CA 94203-4170
Facsimile: (916) 227-4815
(916) 227-3460

RE: Authorization for Criminal Record Information

California Penal Code Section 11105.3 provides that a human resource agency or an employer may request criminal record information from the Department of Justice for a person who applies for a license, employment, or volunteer position in the human services field. Information released by the Department of Justice is restricted to arrests resulting in conviction or arrests which are pending adjudication involving specified sex, narcotic, or violent crimes.

"Human resource agency" is defined as a public or private entity responsible for determining the character and fitness of a person applying for a license, employment, or as a volunteer within the human services field that involves the care and security of children, the elderly, the handicapped, or the mentally impaired.

"Employer" is defined as any nonprofit corporation or other organization specified by the Attorney General in which employees or volunteers have supervisory or disciplinary power over children.

In order for us to determine whether your organization meets these requirements, please complete and return the attached form, incomplete forms will be returned unprocessed. All forms should be directed to my attention at the above address. **Please do not submit your fingerprint cards until approval has been granted.**

Sincerely,

A handwritten signature in cursive script, appearing to read "George Renfro".

GEORGE RENFROE, Manager

Communications Administration Program
Bureau of Criminal Information & Analysis

For **BILL LOCKYER**
Attorney General

Enclosures
JM

For Department of Justice use only:

Your request to receive state summary criminal history information for employees or volunteers who have supervisory or disciplinary powers over minors or who provide care for the elderly, the handicapped or mentally impaired is approved. Information regarding fingerprint procedural requirements will be forwarded under separate cover. Submission of fingerprints pursuant to penal Code Section 11105.3 does not fulfill licensing requirements.

☐ Volunteers Only.

☐ A processing fee of \$_____ must accompany each fingerprint card.

☐ As a non-profit organization, your agency is exempt from fingerprint processing fees.

George Renfroe, Manager
Communications Administration Program
Bureau of Criminal Information Analysis

Date



DEPARTMENT OF JUSTICE
DIVISION OF CRIMINAL JUSTICE INFORMATION SERVICES

REQUEST FOR AUTHORIZATION TO RECEIVE
STATE SUMMARY CRIMINAL HISTORY INFORMATION
PURSUANT TO PENAL CODE SECTION 11105.3

Name of Agency/Organization _____

Street Address _____

Mailing Address (if different) _____

City _____ State _____ Zip Code _____

Telephone _____ Custodian of Records _____

Are you a non-profit organization? Yes No

(If yes, attach proof of non-profit status, EX: IRS letters 1045, 1050; FTB 4206; or Xerox of IRS letter granting exemption under 501(c)(3) Internal Revenue Code).

Please give a brief description of the services and purpose of your organization.

1. Yes No Does your agency or organization provide direct services or use the services of volunteers or employees in positions that have immediate supervision of children?

2. Yes No Are you responsible for determining the fitness of a volunteer/employee who is responsible for the care and security of children, the elderly, the handicapped, or the mentally impaired?

3. Yes No Are your employees/volunteers referred by your agency to other entities where they provide services?

If yes, who pays the care providers _____

4. Yes No Is your agency responsible for the conduct of these individuals while providing services? If not, name the responsible entity _____

Who pays the provider for services rendered? Your agency _____

Or other _____
(Name of Agency)

5. Yes No Are these individuals subject to licensing where fingerprinting and a criminal background check are a requirement of a state or local licensing agency?

If yes, please name licensing agency _____

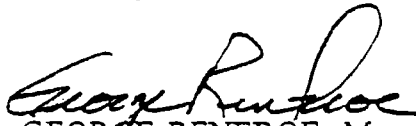
6. Yes No Are you a non-public school or agency that has an affidavit on file with the State Department of Education?

2. Continual supervision and monitoring of all employees of the entity by an employee of the entity whom the DOJ has ascertained has not been convicted of a violent or serious felony.
3. Surveillance of employees of the entity by school personnel.

Construction contractors are not required to comply with the backgrounding requirements set forth in the Michelle Montoya School Safety Act if one or more of the above-mentioned conditions exist.

If you have any questions, please call (916) 227-3460.

Sincerely,



GEORGE RENFROE, Manager
Communications Administration Program
Bureau of Criminal Information & Analysis

For BILL LOCKYER
Attorney General

Enclosures

P.O. Box 903417
SACRAMENTO, CA 94203-4170



DEPARTMENT OF JUSTICE

**REQUEST FOR AUTHORIZATION TO RECEIVE STATE SUMMARY CRIMINAL HISTORY
INFORMATION - CONTRACT EMPLOYEE FOR PUBLIC/PRIVATE SCHOOLS**

Name of Contractor _____

Street Address _____

City _____ State _____ Zip Code _____

Telephone _____ Fax Number _____

In accordance with California Education Code Section 45 125.1, a school district may require an entity that has an existing contract with a school district to obtain a criminal history clearance. In keeping with the restrictions and requirements set forth in California law, the following are guidelines and restrictions:

On behalf of the company named above, I hereby acknowledge and agree to the following:

1. The information provided by the Department of Justice (DOJ) to this agency is confidential and shall not be disseminated to any other person or agency not authorized by law (11105 PC). A violation of this section is a misdemeanor (11142 PC).
2. Your agency shall notify the DOJ with regard to any change in agency name, address, telephone number or contact person.
3. Fingerprints received will be retained by the DOJ per 11105.2 PC until notified that the affected individual is no longer employed.
4. Access is granted ONLY to the primary contractor (there is NO authority for subcontractors to gain direct access to DOJ records).
5. Services provided under contract must be performed on school grounds.
6. The entity must have a contract (entities in the bid process are not authorized).
7. Original signatures only (no photocopied signatures or faxed forms will be accepted or processed).

Signature _____ Date _____

Printed Name _____ Title _____

PLEASE PROVIDE A SIGNATURE FROM EACH DISTRICT VERIFYING THAT A BACKGROUND CHECK HAS BEEN REQUIRED OF YOUR COMPANY. (You may attach additional letters or signatures as necessary).

School District/County Office of Education

Background Check Requirement Verification: 1. _____
Name of Contracting School District

2. _____
Signature of School Official

3. _____
Phone and Fax Number

In accordance with statutory, regulatory, and constitutional restrictions governing the use and dissemination of criminal offender record information, the above mentioned Education Code Sections allow for exemptions from backgrounding all employees under the following conditions:

1. The installation of a physical barrier at the worksite to limit contact with pupils.
2. Continual supervision and monitoring of all employees of the entity by an employee of the entity whom the DOJ has ascertained has not been convicted of a violent or serious felony.
3. Surveillance of employees of the entity by school personnel.

Construction contractors are not required to comply with the backgrounding requirements set forth in the Michelle Montoya School Safety Act if one or more of the above-mentioned conditions exist.

For Department of Justice use only

Your request to receive state summary criminal history information pursuant to the Michelle Montoya School Safety Act is approved. Information regarding procedural requirements is enclosed or will be forwarded under separate cover.

George Renfro, Manager
Communications Administration Program
Bureau of Criminal Information & Analysis

DATE

MAILING ADDRESSES

Expedite Service requests to:

California Department of Justice
Applicant Expedite Service
P.O. Box 903347
Sacramento, CA 94203-3470

All other requests to:

California Department of Justice
Central Services
P.O. Box 903417
Sacramento, CA 94203-4170

[Forms Page](#)

[Applicant Fingerprint Submissions Main Page](#)

[Attorney General's Home Page](#)

NEW FINGERPRINT LEGISLATION

The Governor has signed a new bill that changes the law regarding fingerprinting of district employees and the employees of contractors who provide services to districts. AB 2102 is **urgency legislation** and is **effective immediately**. The following is a summary of its provisions. Note: all references in the analysis below to "current law" include the changes made to the law as of October 1 of 1997 by AB 1610 and 1612 enacted last year.

The governor vetoed an exception to the general fingerprinting requirements. AB 2447 would have allowed a school district to place a new employee on the job prior to the receipt of the DOJ clearance if it was determined that the person would have no contact with students.

If you have any questions, please feel free to contact us.

AB 2102 - Alby and Ortiz

Click here for the [full text](#).

This is the "clean up" to last year's AB 1610 and 1612. Click here for a [summary](#) of those bills.

SECTION 1: makes provisions regarding employees of contractors providing services applicable to private schools.

SECTION 2: makes a new provision regarding construction contractors applicable to private schools.

SECTION 3: amends provisions regarding private schools.

SECTION 4: amends provisions regarding private schools.

SECTION 5: **temporary certificates and temporary certificates of clearance** - amends Education Code section 44332.6

A. Under current law, a county office can issue a temporary certificate to a person whose application for a credential or children's center permit is being processed. However, as of October 1, 1997, certificates cannot be issued until the applicant has been fingerprinted and determined to be free of conviction for serious or violent felonies. This has resulted in a "gap" in service during which credential applicants - including applicants for credential renewal - cannot be paid or assigned pending fingerprint clearance.

B. Under current law, school districts can issue a temporary certificate of clearance while a credential applicant is awaiting FBI criminal history clearance (which can take months, even after DOJ clearance). However, DOJ clearance must first be obtained.

C. Under current law, a temporary certificate or temporary certificate of clearance can be issued to someone who has been convicted of a serious or

violent felony, provided he has obtained a certificate of rehabilitation and pardon under provisions of the Penal Code.

D. **The new law** also permits issuance of a temporary certificate or temporary certificate of clearance to someone who can prove to the sentencing court that he has been rehabilitated for purposes of school employment for at least one year. If the offense occurred out of state, the finding of rehabilitation can be made by the superior court that covers the school district in which he resides.

E. **The new law** permits a county office to issue a temporary certificate or a temporary certificate of clearance to "an employee currently and continuously employed by a school district within the county who is serving under a valid credential and has applied for a renewal of that credential or for an additional credential without obtaining a criminal record summary for that employee."

SECTION 6: hiring certificated employees - amends Education Code section 44830.1

A. Under current law, no person convicted of a serious or violent felony may be "employed" by a district in a certificated position (unless he has a certificate of rehabilitation and pardon). And no nonpermanent employee (i.e., temporary, substitute or probationary) may be retained if he has been convicted of these felonies. This requires that all nonpermanent employees be fingerprinted.

The new law changes "employed" to "hired," to reflect the fact that the legislature did not mean to apply this prohibition to existing permanent certificated employees.

The new law also provides that the prohibition does not apply to someone whose conviction was reversed and who has subsequently been acquitted or the charged were dismissed.

The new law also provides that a plea of nolo contendere (no contest) constitutes a conviction.

B. **The new law** provides that when prints are requested for a nonpermanent certificated employee, the district must send two print cards (manually or electronically) to the DOJ.

C. Under current law, DOJ reports to districts when an applicant for certificated employment has been convicted of a serious or violent felony.

The new law also requires DOJ to report convictions of sex or drug offenses which would prohibit employment under Education Code section 44836.

Under current law, notification is made by telephone and confirmed by mail.

The new law requires notification by telephone or electronic mail and eliminates confirmation by mail. It also eliminates notification once electronic fingerprinting (Live Scan) is returning responses within three working days.

The new law permits DOJ to charge a fee to cover its costs under this section.

D. The new law requires districts to apply for subsequent arrest notification service from the DOJ.

E. The new law makes the hiring ban inapplicable to an employee who:

- (1) Applies to renew a credential, and
- (2) His original credential application included fingerprinting, and
- (3) Has been continuously employed by one or more districts since the credential was last issued or renewed OR the credential has not expired between renewals.

The persons described above may be issued temporary certificates by a county office.

F. The new law makes the hiring ban inapplicable to a person who became a permanent employee of another district as of October 1, 1997.

G. The new law imposes confidentiality requirements on criminal history records:

- (1) Districts may not disclose contents or provide copies to anyone.
- (2) Criminal history information must be stored in separate, locked files, accessible only to the custodian of records.
- (3) Districts must comply with laws and regulations regarding these records.

SECTION 7: common lists of substitute and part-time employees - adds Education Code section 44830.2

A. The new law expressly authorizes a county office, or designated district, to maintain a common list of substitute or part-time employees and to process fingerprint requests. This eliminates the need for a substitute to be printed by each district.

B. The new law permits districts that hire off of a common list to see the criminal history record of persons on the list. However, the record must be viewed at the county office (or lead district maintaining the list) within 30 days after the record is received. Thereafter, the record must be destroyed or kept in accordance with law. The lead agency must submit an interagency agreement to DOJ to establish authority to act under this provision.

SECTION 8: sex and drug offenses - amends Education Code section 44836

A. **The new law** makes technical, nonsubstantive changes to the law prohibiting the employment of certificated employees who have been convicted of certain sex or drug offenses.

B. **The new law** provides that a person whose sex offense charge was dismissed under Penal Code section 1203.4, where the victim was a minor, may be employed.

SECTION 9: classified employees - amends Education Code section 45125

A. Under current law, districts must require all persons to be employed in noncertificated positions (classified and positions exempt from the classified service) to be fingerprinted.

The new law makes numerous technical, nonsubstantive changes.

B. Under current law, the DOJ must give notice under the Live Scan system within three working days if it cannot ascertain whether an applicant has been convicted of a serious or violent felony. Notice must be by telephone, followed by mail.

The new law permits notice by electronic mail and eliminates confirmation by mail.

C. **The new law** requires districts to request DOJ to forward one fingerprint card to the FBI, for the following persons:

- (1) Persons who have not resided in California for at least one year prior to applicant for employment.
- (2) Persons who have resided in California for more than one, but less than seven years, if DOJ determines they have been convicted of a sex offense where the victim was a minor, or a drug offense involving distribution to or use of a controlled substance by a minor.

D. Under current law, secondary students employed in temporary or part-time positions are exempted from the fingerprint requirement.

The new law eliminates inconsistent language in the old law and makes the exempt applicable only to secondary pupils employed by the board of the district that has jurisdiction over the school the pupil attends.

E. Under current law, districts were required to forward to DOJ a "request" indicating the number of current, noncertificated employees who have not been fingerprinted.

The new law eliminates confusion about what is being "requested" and

provides, instead, that districts shall "maintain" a list of those persons.

F. Under current law, districts "shall" charge applicants a fee to process fingerprints.

The new law provides that districts "may" charge applicants the fee.

G. Under current law, there is no exception for emergency hiring of noncertificated employees.

The new law allows the hiring of employees, prior to completion of a criminal records check, "if a school district determines that an emergency or an exceptional situation exists, and that a delay in filling the position in which the person would be employed would endanger pupil health or safety." Note: prints must still be processed but the applicant may be hired immediately. This exception is strictly limited to pupil health and safety requirements.

H. **The new law** permits DOJ to require use of the Live Scan system when it is reasonably accessible statewide.

I. **The new law** requires districts to apply for subsequent arrest notification service for noncertificated hires.

J. **The new law** imposes confidentiality requires for handling criminal history records.

SECTION 10: common lists of substitute and part-time employees - adds Education Code section 45125.01

A. **The new law** expressly authorizes a county office, or designated district, to maintain a common list of substitute or part-time employees and to process fingerprint requests. This eliminates the need for a substitute to be printed by each district.

B. **The new law** permits districts that hire off of a common list to see the criminal history record of persons on the list. However, the record must be viewed at the county office (or lead district maintaining the list) within 30 days after the record is received. Thereafter, the record must be destroyed or kept in accordance with law. The lead agency must submit an interagency agreement to DOJ to establish authority to act under this provision.

SECTION 11: entities providing contracted services to districts - amends Education Code section 45125.1

A. Under current law, entities providing certain specified services by contract to school districts must certify that their employees who "may have any contact" with pupils have not been convicted of serious or violent felonies.

The new law redefines the specified services by eliminating the reference to

"similar services" and adding the language shown in bold:

- (1) **School and classroom** janitorial
- (2) **Schoolsite** administrative
- (3) **Schoolsite ground and landscape maintenance**
- (4) **Pupil** transportation
- (5) **Schoolsite** food-related

The effect of these changes is to apply the requirement only to these specific services and only when they are performed at schoolsites or for pupil transportation. Contractors providing services away from schoolsites (or nonpupil transportation) are not required to comply.

B. **The new law** permits a district to determine on a case-by-case basis to require contractors providing services other than those listed above to comply with the certification requirements.

C. Under current law, the certification requirements do not apply if a district determines that contractor employees will have only limited contact with pupils and the district takes appropriate steps to protect the safety of pupils who may come in contact with those employees.

The new law allows district to make this same determination for contractor employees providing services other than those listed above.

D. **The new law** permits DOJ, at its discretion, to notify school districts when contractor employees whose prints have been submitted under this section have been convicted of a serious or violent felony or have a criminal proceeding pending.

E. **The new law** permits DOJ to forward one copy of contractor employee prints to the FBI and to notify contractors of convictions and pending proceedings (but not of criminal records).

F. **The new law** provides that the prohibition against use by contractors of convicted employees does not apply in cases of a certificate of rehabilitation and pardon or in cases of serious but nonviolent felonies where the employee has proved rehabilitation to the sentencing court.

G. Under current law, the contractor must certify to the district that none of its employees providing services under a contract, and who is required to be fingerprinted, has been convicted of a serious or violent felony.

The new law requires the contractor to make the same certification about himself.

H. **The new law** is made applicable to charter schools.

I. **The new law** permits DOJ to require use of the Live Scan system when it is accessible statewide.

SECTION 12: construction contractor employees - adds Education Code section 45125.2

A. **The new law** provides that, even when contractor employees will have more than limited contact with pupils, fingerprinting and certification is not necessary under the following circumstances:

- (1) The services being provided are construction, reconstruction, rehabilitation or repair of school facilities, and either
- (2) The district determines an emergency or exceptional situation exists, such as where pupil health or safety is endangered or repairs are needed to make school facilities safe and habitable, or
- (3) In nonemergency situations:
 - (a) contractor employees are continually supervised and monitored by a contractor employee who has been printed and cleared or by district personnel, or
 - (b) a physical barrier has been installed to limit contact with pupils.

GENERAL CONDITIONS

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GENERAL CONDITIONS

ARTICLE 1. DEFINITIONS

- a. Action of the governing board is a vote of a majority of the membership in a lawful meeting.
- b. Approval means written authorization by Architect or District for specific applications within the Contract.
- c. Architect – The person lawfully licensed to practice architecture or an entity lawfully practicing architecture is identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.
- d. As shown, as indicated, as detailed refer to drawings accompanying the specifications.
- e. Contract, contract documents include all contract documents, including: Notice to Contractors Calling for Bids, Information for Bidders, Bid Form, Designation of Subcontractors, Certificate Regarding Workers' Compensation, Performance Bond, Payment Bond, Insurance Policies, General Conditions, Supplementary General Conditions, if any, Drawings, Plans, Specifications, the Agreement, and all modifications, addenda, and amendments.
- f. Contractor, District, or Owner are those mentioned as such in the Agreement ("CONTRACTOR," "DISTRICT"). "Owner" means "DISTRICT". Throughout the contract documents they are treated as if they are of singular number and neuter gender.
- g. Locality in which the work is performed means the county in which the public work is performed.
- h. Project is the undertaking planned by DISTRICT and CONTRACTOR as provided in the contract documents.
- i. Provide includes "provide complete in place," that is, "furnish and install."
- j. Safety orders include those issued by the Division of Industrial Safety and OSHA Safety and Health Standards for Construction.
- k. Subcontractor includes those having a direct contract with the CONTRACTOR and those who furnish material worked to a special design according to plans, drawings, and specifications of this work, but does not include those who merely furnish material not so worked.
- l. Surety is the firm, or corporation executing the CONTRACTOR'S Performance Bond and Payment Bond as surety.
- m. Work of the CONTRACTOR or subcontractor includes labor or materials (including without limitation, equipment and appliances) or both, incorporated in, or to be incorporated in the construction covered by the complete Contract.

ARTICLE 2. DRAWINGS AND SPECIFICATIONS

- a. The contract documents are complementary, and what is required by one shall be as binding as if required by all. The contract is intended to include all labor and materials, equipment, and transportation necessary for the proper execution of the work. Except as otherwise expressly provided in these "General Conditions", materials or work described in words which have a well known technical or trade meaning shall be deemed to refer to those recognized standards.
- b. Interpretations. Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large scale details as to shape and details of construction shall take precedence over smaller scale drawings. Specifications shall govern as to materials, workmanship, and installation procedures. Drawings and specifications are intended to be fully

cooperative and to agree. However, if CONTRACTOR observes that the drawings and specifications are in conflict, CONTRACTOR shall promptly notify the Architect in writing. The specification calling for any higher quality material or workmanship shall prevail.

Questions regarding interpretation of drawings and specifications shall be clarified by the Architect. Should the CONTRACTOR commence work on any part without seeking clarification, CONTRACTOR waives any claim for extra work or damages as a result of any ambiguity, conflict, or lack of information.

- c. Execution of the contract by the CONTRACTOR is a representation that the CONTRACTOR has visited the site, become familiar with local conditions under which the work is to be performed, and correlated personal observations with requirements of the contract documents.
- d. Organization of the specifications into divisions, sections, and articles, and arrangement of drawings shall not control the CONTRACTOR in dividing the work among subcontractors or in establishing the extent of work to be performed by any trade.
- e. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

ARTICLE 3. COPIES FURNISHED

CONTRACTOR will be furnished 5 copies of the drawings and specifications free of charge. Additional copies may be obtained for the cost of reproduction.

ARTICLE 4. OWNERSHIP OF DRAWINGS

All drawings, specifications, and other contract documents, and copies furnished by DISTRICT, are the property of DISTRICT. They shall not be used by anyone other than DISTRICT in any other work, and with the exception of signed contract sets, are to be returned to DISTRICT upon completion of the project.

ARTICLE 5. DETAIL DRAWINGS AND SPECIFICATIONS

- a. In case of ambiguity, conflict, or lack of information, Architect shall furnish additional instructions or drawings, as the case may be, with reasonable promptness. All those drawings and instructions shall be consistent with this contract.
- b. Work shall be executed in conformity with those drawings and specifications, and CONTRACTOR shall do no work without proper drawings and instructions.

ARTICLE 6. EXTENSION OF TIME

Liquidated damages shall not be imposed because of any delays in completion of work due to unforeseeable causes beyond the control and without the fault or negligence of CONTRACTOR, including but not limited to: acts of God, acts of government, acts of DISTRICT or anyone employed by it, or acts of another contractor engaged in the performance of a contract for DISTRICT, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, or delays of subcontractor due to those causes. Within 10 days of the beginning of any delay (unless DISTRICT grants in writing a further period of time to file notice prior to

date of final settlement of the contract), CONTRACTOR shall notify DISTRICT in writing of the causes for the delay. DISTRICT shall then ascertain the facts and extent of the delay and may, in its sole discretion, grant an extension of time for completing the work. The DISTRICT'S findings of fact regarding any delay shall be final and conclusive, and binding on both parties.

ARTICLE 7. PROGRESS SCHEDULE

- a. Immediately after being awarded the contract, CONTRACTOR shall prepare an estimate progress schedule and submit it within 15 calendar days to the DISTRICT through the Architect for review. The schedule shall indicate the beginning and completion dates of all phases of construction.
- b. The progress schedule shall be updated and reviewed monthly with the DISTRICT, the District's Inspector and the Architect. Release of all current and future payments due to the Contractor by the DISTRICT shall be predicated upon the timely review and the subsequent acceptance of the schedule revisions, if any, by the DISTRICT, the District's Inspector and the Architect.

ARTICLE 8. NOT USED

ARTICLE 9. ASSIGNMENT

CONTRACTOR shall not assign all or any part of this contract without the prior written consent of DISTRICT. Any assignment of money due or to become due under this contract shall be subject to a prior lien for services rendered or materials supplied to perform the work required by this contract.

ARTICLE 10. CLAIMS FOR DAMAGES

If CONTRACTOR claims compensation for any damage allegedly sustained by reason of any acts of DISTRICT or its agents, CONTRACTOR shall submit to the Architect a written statement of the damage sustained within five days after sustaining the damage. On or before the 15th day of the month after the month in which the damage was sustained, CONTRACTOR shall file with DISTRICT an itemized statement indicating the factual basis in support of its claim and the amount of damage. If CONTRACTOR fails to comply with the provisions of this Article concerning the submission of a statement, its claim for compensation shall be forfeited and invalidated and it shall not be entitled to consideration for payment on account of any damage.

ARTICLE 11. SEPARATE CONTRACTS

- a. DISTRICT reserves the right to let other contracts in connection with this work. CONTRACTOR shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work, and shall coordinate its work with those other contractors.
- b. If any part of CONTRACTOR'S work depends upon work of any other contractor for proper execution or results, CONTRACTOR shall inspect and promptly report in writing to Architect any defects in the work that render it unsuitable for proper execution or results. CONTRACTOR'S failure to inspect and report shall constitute

its acceptance of any other contractor's work as fit and proper for reception of its work except as to defects which may develop in another contractor's work after execution of this work.

- c. To ensure proper execution of CONTRACTOR'S subsequent work, CONTRACTOR shall measure and inspect work already in place and shall report in writing to the Architect any discrepancy between executed work and this contract.
- d. CONTRACTOR shall ascertain to CONTRACTOR'S satisfaction the scope of the project and nature of any other contracts that have been or may be awarded by DISTRICT in connection with the project, in order that CONTRACTOR may perform this contract in the light of any other contracts. Nothing contained in this contract shall be interpreted as granting to CONTRACTOR exclusive occupancy of the project site. CONTRACTOR shall not cause any unnecessary hindrance or delay to

any other contractor working on the project. If simultaneous execution of any contract for the project is likely to cause interference with performance of some other contract or contracts, DISTRICT shall decide which contractor shall cease work temporarily and which contractor shall continue or whether work can be coordinated so that the contractors may proceed simultaneously. DISTRICT shall not be responsible for any damage suffered or extra costs incurred by CONTRACTOR resulting directly or indirectly from the award or performance or attempted performance of any other contract or contracts on the project, or caused by any decision or omission of DISTRICT regarding the order in performing the contracts.

ARTICLE 12. SUBCONTRACTING

- a. CONTRACTOR agrees to bind every subcontractor by the terms of this contract as far as the terms are applicable to the subcontractor's work. If CONTRACTOR subcontracts any part of this contract, CONTRACTOR shall be responsible to DISTRICT for any acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors. Nothing contained in this contract shall create any contractual relationship between any subcontractor and DISTRICT.
- b. DISTRICT'S consent to or approval of any subcontractor under this contract shall not in any way relieve CONTRACTOR of its obligations under this contract, and no such consent or approval shall be deemed to waive any provision of this contract.
- c. The submission or addition of subcontractors shall be permitted only as authorized by Public Contract Code Sections 4100, et seq.
- d. All subcontractors shall be appropriately licensed to perform the work for which employed in conformity with the laws of the State of California.
- e. The Contractor shall submit to the Architect a complete list of subcontractor's names, addresses and phone numbers at commencement of work. This list must be submitted in quadruplicate.

ARTICLE 13. DISTRICT'S RIGHT TO TERMINATE CONTRACT

- a. If CONTRACTOR refuses or fails to pursue the work, or any part, with sufficient diligence to ensure its completion within the time specified, or any extension, or fails to complete the work within the time required, or if CONTRACTOR should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if CONTRACTOR should persistently or repeatedly refuse or fail to supply enough

properly skilled workers or proper materials to complete the work in the time specified, except in cases for which extension of time is provided, or if CONTRACTOR should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances, or instructions of DISTRICT, or if CONTRACTOR or its subcontractors should violate any of the provisions of this contract, DISTRICT may serve written notice of its intention to terminate this contract upon CONTRACTOR and its surety, without prejudice to any other right or remedy. The notice shall contain the reasons for termination. Unless the condition or violation ceases and arrangements satisfactory to DISTRICT for correction are made within 10 days after the service of the notice, this contract shall terminate upon the expiration of 10 days. In that case, CONTRACTOR shall not be entitled to receive any further payment until the work is completed. In the event of termination, DISTRICT shall immediately serve written notice upon surety and CONTRACTOR, and surety shall have the right to take over and perform this contract, provided, however, that if within seven days after service upon surety of the notice of termination, surety does not give DISTRICT written notice of its intention to take over and perform this contract, or does not commence performance within 15 days after the date of service of the notice of termination by DISTRICT on surety, DISTRICT may take over and complete the work by contract or by any other method it deems advisable. CONTRACTOR and its surety shall be liable to DISTRICT for any excess cost or other damages incurred by DISTRICT. If DISTRICT takes over the work, as provided above, DISTRICT may take possession of and utilize in completing the work any materials, appliances, equipment, and other property belonging to the CONTRACTOR on the work site necessary for completion of the project without liability.

- b. If the unpaid balance of the contract price exceeds the expense of finishing the work, including without limitation compensation for additional architectural, managerial, inspection and administrative services, the excess shall be paid to CONTRACTOR. If the expense exceeds the unpaid balance, CONTRACTOR shall pay the difference to DISTRICT. Any expenses incurred by DISTRICT, and any damage incurred through CONTRACTOR'S default, shall be certified by the Architect.
- c. These provisions are in addition to and not a limitation on any other rights or remedies available to the DISTRICT.

ARTICLE 14. GUARANTEE

- a. In addition to any other guarantees provided in this contract, CONTRACTOR shall guarantee all work for a period of one year after the date of acceptance of the work by DISTRICT. CONTRACTOR shall repair or replace any work which may prove defective in workmanship and/or materials, together with any other work which may be displaced in so doing, within one year from the date of acceptance without any expense to DISTRICT, ordinary wear and tear, unusual abuse, or neglect excepted. DISTRICT shall give notice of observed defects with reasonable promptness. CONTRACTOR shall notify DISTRICT upon completion of repairs.
- b. In the event CONTRACTOR fails to commence and pursue with diligence any replacements or repairs within one week after being notified in writing, DISTRICT is authorized to proceed to have any defects repaired at the expense of CONTRACTOR and CONTRACTOR agrees to pay the costs and charges immediately on demand.
- c. If defective work creates a dangerous condition, in the opinion of the DISTRICT, or requires immediate correction or attention to prevent further loss to DISTRICT or to prevent interruption of operations of DISTRICT, DISTRICT shall attempt to give the notice required by this article. If CONTRACTOR cannot be contacted or does not

comply with the DISTRICT'S request for correction within a reasonable time, as determined by DISTRICT, without regard to the provisions of this article DISTRICT may proceed to make the correction or provide the attention, and the costs of correction or attention shall be charged against CONTRACTOR. Any action by DISTRICT shall not relieve the CONTRACTOR of the guarantees provided in this article or elsewhere in this contract.

- d. This article does not in any way limit the guarantee on any items for which a longer guarantee is specified, or any items for which a manufacturer gives a guarantee for a longer period. CONTRACTOR shall furnish DISTRICT with all appropriate guarantee or warranty certificates upon completion of the project.

ARTICLE 15 NOTICE AND SERVICE

Any notice from one party to the other under this contract shall be in writing and shall be dated and signed by the party giving the notice or by a duly authorized representative of the party. Any notice shall not be effective for any purpose unless served in one of the following ways:

1. If notice is given to DISTRICT, it shall be given by personal delivery to Architect or DISTRICT, or by depositing it in the United States mail, enclosed in a sealed envelope addressed to DISTRICT for attention of the Architect, postage prepaid and registered;
2. If notice is given to CONTRACTOR, it shall be given by personal delivery to CONTRACTOR or to CONTRACTOR'S Superintendent at the project site, or by depositing it in the United States mail, enclosed in a sealed envelope addressed to CONTRACTOR at CONTRACTOR'S regular place of business, or at any other address which may have been established for the conduct of work under this contract, postage prepaid and registered;
3. If notice is given to the surety or other person, it shall be given by personal delivery to the surety or other person, or by depositing it in the United States mail, enclosed in a sealed envelope, addressed to the surety or person at its address, postage prepaid and registered.

ARTICLE 16 WORKERS

- a. At all times, CONTRACTOR shall enforce strict discipline and good order among its employees and shall not employ any unfit person or anyone not skilled in the work assigned.
- b. Any person in the employ of the CONTRACTOR deemed by DISTRICT to be incompetent or unfit shall be dismissed from work and shall not be reemployed on the project except with the written consent of DISTRICT.

ARTICLE 17 WAGE RATES

- a. Pursuant to the provisions of Article 2 (commencing at Section 1770), Chapter 1, Part 7, Division 2 of the Labor Code of California, the governing body of the DISTRICT has ascertained the general prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the contract in the locality in which this public work is to be performed. The general prevailing rates of per diem wages are available at the DISTRICT office. In the event that the listed or posted rates are in error, CONTRACTOR is responsible to pay those rates determined to be applicable by the Director of Industrial Relations, and DISTRICT shall not be responsible for any damages arising from the error.

- b. When permitted by law, holiday and overtime work shall be paid at a rate of at least one and one-half times the specified rate of per diem wages, unless otherwise specified.
- c. Each worker of the CONTRACTOR and any of its subcontractors engaged in work on the project shall be paid not less than the prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the CONTRACTOR or any subcontractor and such workers.
- d. Each worker needed to execute the work on the project shall be paid travel and subsistence payments, as defined in the applicable collective bargaining agreements filed with the Department of Industrial Relations, in accordance with Labor Code Section 1773.8.
- e. As a penalty, the CONTRACTOR shall forfeit not more than \$50 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by CONTRACTOR on the project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates, shall be paid to each worker by the CONTRACTOR.
- f. Any worker employed to perform work on the project which is not covered by any classification available in the DISTRICT office, shall be paid not less than the minimum rate of wages specified for the classification which most nearly corresponds with work to be performed by him, and that minimum wage rate shall be retroactive to the time of initial employment of the person in the classification.
- g. Pursuant to Labor Code Section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, and similar purposes.
- h. CONTRACTOR and each subcontractor shall keep or cause to be kept accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by CONTRACTOR and/or each subcontractor in connection with this public work. All payroll records shall be made available for inspection as provided by Labor Code Section 1776. It is the responsibility of CONTRACTOR to comply with all the provisions of Labor Code Section 1776. Certified payroll records are required to be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division." See Labor Code § 1776 (as amended by Stats. 1992, ch. 1342 §10 [SB 2220]).
- i. At appropriate conspicuous points on the site of the project, CONTRACTOR shall post a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

ARTICLE 18 APPRENTICES

Apprentices of any crafts or trades may be employed, and when required by Labor Code Section 1777.5 shall be employed, provided they are properly indentured to the CONTRACTOR in full compliance with provisions of the Labor Code. CONTRACTOR agrees that it will comply with the provisions of Labor Code section 1777.5.

ARTICLE 19 HOURS OF WORK

- a. As provided in Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight hours of labor shall constitute a legal day of work. The

time of service of any worker employed at any time by the CONTRACTOR, or by any subcontractor on any subcontract under this contract, upon the work or upon any part of the work contemplated by this contract, is limited and restricted to eight hours per day and forty hours during any one week. Upon completion of all hours worked in excess of eight hours per day, work shall be permitted upon this project at not less than one and one-half times the basic rate of pay.

- b. As a penalty, the CONTRACTOR shall pay \$25 for each worker employed by CONTRACTOR or by any subcontractor in the performance of this contract for each calendar day during which the worker is required or permitted to work more than eight hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.
- c. Any work performed after regular working hours or on Sundays or other holidays shall be performed without additional expense to DISTRICT.

ARTICLE 20. WORKERS' COMPENSATION INSURANCE

- a. During the term of this contract, CONTRACTOR shall provide workers' compensation insurance for all of CONTRACTOR'S employees engaged in work under this contract on or at the site of the project, and in case any of CONTRACTOR'S work is sublet, CONTRACTOR shall require the subcontractor to provide workers' compensation insurance for all of subcontractor's employees. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the CONTRACTOR'S insurance. In case any class of employees engaged in work under this contract on or at the site of the project is not protected under the Workers' Compensation laws, CONTRACTOR shall provide or cause a subcontractor to provide adequate insurance coverage for the protection of those employees not otherwise protected. CONTRACTOR shall file with the DISTRICT certificates of insurance.
- b. Worker's Compensation insurance shall be provided by a California admitted insurer and rated A or A+ in the current Best's Key Rating Guide.

ARTICLE 21 PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

- a. During the term of this contract, CONTRACTOR shall secure and maintain public liability and property damage insurance, in amounts provided in the Agreement, to protect CONTRACTOR, the DISTRICT and its officers, agents, and employees, and the Architect and his officers, agents and employees from all claims for personal injury, including accidental death, as well as from all claims for property damage arising out of CONTRACTOR'S performance of this contract.
- b. Public liability and property damage insurance shall be provided by a California admitted insurer and rated A or A+ in the current Best's Key Rating Guide.
- c. CONTRACTOR shall require that any subcontractors secure and maintain similar public liability and property damage insurance in appropriate amounts.

ARTICLE 22. PROPERTY INSURANCE

CONTRACTOR shall purchase and maintain and cause to be maintained "all risk" property insurance on all work subject to loss or damage by fire. Property insurance shall be provided by an insurer authorized to transact business in California and rated A or up in the current Best's Key Rating Guide. The amount of property insurance shall be sufficient to protect against loss or damage in full until the work is accepted by DISTRICT.

ARTICLE 23. PROOF OF INSURANCE

CONTRACTOR shall not commence work or allow any subcontractor to commence work under this contract until CONTRACTOR has obtained all required insurance and certificates which shall be delivered, in seven (7) copies, to and approved by the Architect. DISTRICT and its officers, agents, and employees and the Architect and his officers, agents and employees shall be named as additional insureds in all insurance policies. If the CONTRACTOR'S insurance company refuses to add the DISTRICT-T and the Architect as additional insureds, a separate Owner's Protective Insurance policy covering the DISTRICT and the Architect shall be required.

1. Certificate and insurance policies shall include the following clause:

CONTRACTOR shall not commence work or allow any subcontractor to commence work under this contract until CONTRACTOR has obtained all required insurance and certificates which shall be delivered, in seven (7) copies, to and approved by the Architect. DISTRICT and its officers, agents, and employees and the Architect and his officers, agents and employees shall be named as additional insureds in all insurance policies. If the CONTRACTOR'S insurance company refuses to add the DISTRICT and the Architect as additional insureds, a separate Owner's Protective Insurance policy covering the DISTRICT and the Architect shall be required.

2. Certificate and insurance policies shall include the following clause:
"This policy shall not be cancelled or reduced in required limits of liability or amounts of insurance until notice stating date of cancellation or reduction has been mailed to DISTRICT. Date of cancellation or reduction may not be less than 30 days after the date of mailing the notice."
3. Certificates of insurance shall state those insured, extent of insurance, location and operation to which the insurance applies, expiration date, and cancellation and reduction notice.

ARTICLE 24 LAWS AND REGULATIONS

- a. CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations relating to the work required by this contract. If CONTRACTOR observes that the drawings and specifications are in conflict, CONTRACTOR shall promptly notify Architect in writing, and any changes deemed necessary by the Architect shall be made as provided in the contract for changes in work. If CONTRACTOR performs any work which he knows, or through the exercise of reasonable care should have known to be contrary to any laws, ordinances, rules or regulations, and fails to notify Architect, CONTRACTOR shall bear all costs arising from the violations.
- b. The owner has determined that employees of the Contractor, Subcontractors and Suppliers (referred to collectively hereafter in this section as "contractor employees") will have only limited contact, or no contact, with pupils under this contract, provided that conditions imposed by the Owner are strictly complied with. Those conditions are stated below. The Contractor is required to familiarize itself with the conditions and to comply with and enforce them at all times until the completion and acceptance of all work under this contract. To the extent that the Contractor asserts, and the owner in writing agrees, that compliance with those conditions is not feasible, the Contractor will be required to comply with the

fingerprinting and certification requirements. In that case, compliance will not delay the issuance of the Notice to Proceed and there will be no allowance for delay beyond the date of issuance for compliance by the Contractor or Subcontractors.

1. Conditions to Protect Student Safety
Under Education Code Section 42125.1

a. Contractor will install and maintain chain link fencing, or other fencing approved by the district, around the perimeter of the work site (each phase of work as designated on the plans) to prevent contractor employees from having contact with students and to prevent students from entering the work site.

b. Contractor will place at each entrance to the work site a sign, in lettering at least one inch in height, with the following wording:

NOTICE
RESTRICTED WORK SITE

Students are prohibited from entering. All persons working on this site (including suppliers) are prohibited from contacting students. All persons needing to enter the school site outside of the designated work site must first report to the school office and must be accompanied by school personnel at all times on the school site."

c. Contractor shall provide toilet facilities at the work site for use by all contractor employees and shall not permit students to enter those toilet facilities. Contractor employees shall not be permitted access to school site toilet facilities.

d. Contractor shall provide to the Owner a list of the names of all contractor employees and shall maintain a daily log of all contractor employees who come on to the work site.

e. Contractor shall have one of its employees present at the work site to monitor compliance with these conditions at any time that any contractor employee is present at the work site during times when students are present on the school site, unless specifically relieved of this responsibility by a designated representative of the Owner.

f. Contractor shall be responsible to enforce these conditions and shall report any violation known to contractor to the Owner.

ARTICLE 25. PERMITS AND LICENSES

All necessary permits and licenses shall be secured and paid for by CONTRACTOR, unless otherwise provided in this contract.

ARTICLE 26 SURVEYS

The DISTRICT shall furnish all surveys describing the physical characteristics, legal limitations, and utility locations for the site of the project, and a legal description of the site.

ARTICLE 27. EXCISE TAXES

If any transaction under this contract constitutes a sale on which a federal excise tax is imposed under federal excise tax law, and the sale is exempt from such excise tax because it is a sale to a state or local government for its exclusive use, upon request the DISTRICT will execute a certificate of exemption which will certify (1) that the DISTRICT is a political subdivision of the State for the propose of such exemption, and (2) that the sale is for the exclusive use of the DISTRICT. No excise tax for materials shall be included in any bid price.

ARTICLE 28 INDEMNIFICATION

CONTRACTOR shall indemnify and hold harmless DISTRICT and its governing board, officers, agents and employees and Architect and his officers, agents and employees from and against any and all suits, actions, claims, demands, damages, liabilities, costs and expenses, including attorneys' fees and costs, arising out of or in any manner related to any act, omission or negligence of CONTRACTOR, or anyone acting under CONTRACTOR'S direction, control, or on its behalf, in connection with or incident to its performance of this contract. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the work as well as during the progress of the work.

ARTICLE 29 MATERIALS

- a. Except as otherwise specifically stated in this contract, CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of every kind, and all other services and facilities necessary to perform and complete this contract within the time specified.
- b. Unless otherwise specified, all materials shall be new and of good quality.
- c. Materials shall be furnished in ample quantities and at times to ensure uninterrupted progress of the work and shall be properly stored and protected. CONTRACTOR shall be solely responsible for any damage or loss by weather or other causes to materials or work under this contract.
- d. No material, supplies, or equipment for work under this contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest in all or any part is retained by the seller or supplier. CONTRACTOR warrants good title to all material, supplies, and equipment installed or incorporated in the work, and upon completion of all work agrees to surrender the premises to DISTRICT, together with all improvements and appurtenances constructed or placed by CONTRACTOR, free from any claims, liens, or charges. CONTRACTOR further agrees that neither CONTRACTOR nor

any person, firm, or corporation furnishing any materials or labor for any work covered by this contract shall have any right to a lien upon the premises or any improvement or appurtenance, except that CONTRACTOR may install metering devices or other equipment of utility companies or of political subdivisions, title to which is commonly retained by the utility company or political subdivision. In the event of the installation of any metering device or equipment, CONTRACTOR shall advise DISTRICT as to its owner. Nothing contained in this article, however, shall defeat or impair the legal right of persons furnishing material or labor to look to funds due and owing CONTRACTOR for payment. This provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

ARTICLE 30 SUBSTITUTIONS

- a. Whenever any material, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, in the specifications, that specification shall be deemed to be used for the purpose of facilitating the description of material, process, or article desired and shall be deemed to be followed by the words "or equal". Unless otherwise stated CONTRACTOR may offer any material, process, or article, which is substantially equal to or better in every respect to that indicated or specified. If the material, process, or article offered by CONTRACTOR is not substantially equal to or better in every respect to that specified, in the opinion of the Architect, or DISTRICT, CONTRACTOR shall furnish the material, process or article specified. The burden of proof as to the equality of any material, process, or article shall rest with CONTRACTOR. CONTRACTOR shall submit a request for substitution of any "or equal" item, together with substantiating data and a certificate certifying that the proposed item to be substituted is an equal to the product specified in every way, (a sample has been provided in these specifications - see Section 00630) no later than ten (10) working days prior to Bid. Requests for Substitutions for which documentation would be required other than as noted above will not be considered. The decision of the Architect or DISTRICT to accept or deny any request for substitution shall be final and binding. The provision authorizing submission of "or equal" justification data shall not in any way authorize an extension of time for performance of this contract. {Public Contract Code 3400, amended stats 1998 ch 857 § 2 (AB 2084)}.

1. Substitution Request:

a. Cost to Contractor or Bidder for review of Substitution Request.

1. Each review of a Substitution Request by the Architect will be billed to the submitter (Contractor or Bidder) at an hourly rate of \$90.00 an hour, two hour minimum for each review, whether approved or rejected.
 - a. The Architect may waive the review cost if, in his sole opinion, the submittal was complete and the time involved in the review was not substantial, and it was in the best interest of the owner.

b. Content of Request:

1. Complete the attached Substitution Request Form (at the end of this Section) and the Substitution Warranty (see Section 00603), substantiating compliance of proposed substitution with Contract Documents.
2. For products, attach to the Substitution Request Form:
 - a) Product identification, including manufacturer's name and address.

- b) Manufacturers literature including product description, performance and test data and reference standards.
 - c) Samples.
 - 3. For construction methods, attach to the Substitution Request Form:
 - a) Detailed description of Proposed methods.
 - b) Drawings illustrating methods.
 - 4. Attach to the Substitution Request Form an itemized comparison of proposed substitution with product or method specified.
 - c. In making request for substitution, Contractor or Bidder attests that:
 - 1. He has personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - 2. He will provide the same guarantee or warranty for substitution as for product or method specified.
 - 3. He will coordinate installation of accepted substitution into work, making such changes as may be required for work to be complete in all respects.
 - 4. He waives all claims for additional costs related to substitution, which subsequently become apparent.
 - d. Submit three (3) copies of Substitution Request and Substitution Warranty prior to submittals required.
- 2. Acceptance of Substitutions
 - a. Procedures:
 - 1. The Contract is based on materials, equipment and methods described in the Contract Documents.
 - 2. Architect will consider proposals submitted in accordance with the Substitution Request.
 - 3. Substitutions will be considered when submitted no later than ten (10) working days prior to bid date.
 - 4. Architect is solely responsible for judging the acceptance of substitutions.
 - 5. Substitute materials, equipment or methods shall not be used unless such substitution has been specifically approved for this work by the Architect and DSA.
 - 6. Substitutions will not be considered if:
 - a) They are indicated or implied on product submittals without formal request submitted in accordance with Substitution Request.
 - b) Acceptance will require substantial revision of Contract Documents.
 - c) They are submitted no later than ten (10) working days prior to bid, unless the specified or drawing item has been verified to be discontinued or is otherwise unavailable, or the owner desires a cost savings for the product or system.
 - b. In the event BIDDER/CONTRACTOR furnishes any material, process, or article more expensive than that specified, the difference in cost of the material, process or article so furnished shall be borne by BIDDER/CONTRACTOR.
 - c. If the substitution is accepted, the BIDDER/CONTRACTOR shall be solely and directly responsible for fitting accepted substitute materials and equipment into the available space in a manner acceptable to the Architect, and for the proper operation of the substituted equipment with all other equipment with which it may be associated. The BIDDER/CONTRACTOR shall bear all costs of meeting the above requirements for presenting a proposed substitution, and if the substitution is accepted the BIDDER/CONTRACTOR must bear all costs involved.

ARTICLE 31 SHOP DRAWINGS

CONTRACTOR shall check and verify all field measurements and shall promptly submit seven copies of all shop or setting drawings, schedules, and material lists required for the work of various trades, checked and approved by CONTRACTOR, so as to preclude any delay. Architect shall check and approve or disapprove those schedules and drawings, only for conformance with the design concept of the project and compliance with the information provided by this contract, within 21 days. CONTRACTOR shall make any corrections required by the Architect, file three corrected copies with the Architect, and furnish other copies as needed for construction. Architect's approval of the drawings or schedules shall not relieve CONTRACTOR of its responsibility for deviations from drawings or specifications unless CONTRACTOR has called Architect's attention to the deviations, in writing, at the time of submission, and secured Architect's written approval. Nor shall it relieve CONTRACTOR from its responsibility for errors in shop drawings or schedules. No portion of the work requiring submission of a shop drawing shall be commenced until submittal has been acted upon by the Architect. All such portions of the work shall be in accordance with the reviewed submittals.

ARTICLE 32 SAMPLES

Within 35 days following award of the contract, CONTRACTOR shall furnish for approval all samples as required in the specifications, together with catalogs and supporting data required by the Architect. This provision shall not authorize any extension of time for performance of this contract. Within 10 working days of receipt, Architect will check and approve or disapprove the samples as to conformance with the design concept of work and for compliance with information provided in this contract. Work shall be in accordance with approved samples.

ARTICLE 33. COST BREAKDOWN AND PERIODICAL ESTIMATES

- a. On forms approved by the Architect, CONTRACTOR shall furnish the following:
 - 1. A detailed estimate giving a complete breakdown of the contract price within 10 days of award of the contract; and
 - 2. A periodical itemized estimate of work done for the purpose of making partial payments; and
 - 3. A schedule of estimated monthly payments due CONTRACTOR within 10 days of request by DISTRICT.
- b. Values used in preparing the schedules shall be used only for determining the basis of partial payments, and shall not be considered as fixing a basis for additions to or deductions from the contract amount.

ARTICLE 34. PAYMENTS

Each month, within 30 days after receipt of an approved periodic estimate for partial payment, CONTRACTOR shall be paid a sum equal to 90 percent of the value of work performed and materials delivered on the ground, or stock subject to or under the control of DISTRICT and unused up to the last day of the previous month, less aggregate previous payments. Monthly payments shall be made only on the basis of monthly estimates, which shall be prepared by CONTRACTOR on a form approved by Architect and filed before the fifth day of the month during which payment is to be made. Work completed, as estimated, shall be an

estimate only and no inaccuracy or error in the estimate shall operate to release CONTRACTOR or any surety from any damages arising from the work or from enforcing each and every provision of this contract. DISTRICT shall have the right to correct any error made in any estimate for payment. CONTRACTOR shall not be entitled to have any payment estimate processed or any payment for work performed so long as any lawful or proper direction given by DISTRICT or Architect concerning the work, or any portion, has not been complied with. The final payment of 100 percent of the value of the work done under this contract, if unencumbered, shall be made 35 days after recordation by DISTRICT of the Notice of Completion. Acceptance will be made only by an action of the governing board of DISTRICT. If the Owner does not pay the Contractor within thirty days after receipt of an undisputed and properly submitted payment request for a progress payment, excluding that portion of the final payment designated by the contract as retention earnings, then the Owner shall pay interest to the Contractor as provided by Public Contract Code § 20104.50. If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for payment, the number of days available to Owner to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the Owner exceeds the seven-day return requirement set forth in paragraph (2) of subdivision (c) of Public Contract Code § 20104.50. As further provided by Public Contract Code § 20104.50, said interest penalty is the sole recourse of Contractor and Contractor shall have no right to stop the Work until payment of the amount owing has been received, nor shall the Contract Time be extended, nor shall the Contract Sum be increased in any way, including by reason of any costs incurred by Contractor, except to the extent of said interest payment.

Pursuant to Public Contract Code § 7107, in the event of a dispute between the Owner and Contractor, the Owner may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. Except as so provided, the Owner shall release the retention withheld within 60 days after the date of completion of the work of improvement, as "completion" is defined in Public Contract Code § 7107.

In the event that retention payments are not made within the time periods required by Public Contract Code § 7107, the Owner shall be subject to the interest provisions of Public Contract Code § 7107.

ARTICLE 35. PAYMENTS WITHHELD

- a. In addition to any amount(s) which DISTRICT may retain under the article entitled "PAYMENTS", DISTRICT may withhold sufficient amount(s) of any payment (s) otherwise due to CONTRACTOR, as in its judgment may be necessary to cover:
 - 1. Payments which may be past due and payable for claims against CONTRACTOR or any subcontractors for labor or materials furnished in the performance of work under this contract.
 - 2. Defective work not remedied.
 - 3. Failure of contractor to make proper payments to its subcontractor(s) or materialmen for materials or labor.
 - 4. Completion of contract if there exists a reasonable doubt that this contract can be completed for the balance then unpaid.
 - 5. Damage to another contractor.
 - 6. Failure to maintain current record drawings.

7. Costs and expenses of alternate educational facilities if the CONTRACTOR fails to complete the project within the period of time required by the contract documents.
 8. Failure of the Contractor to respond to Proposal Requests and/or Supplemental Instructions issued by the Architect in a timely manner such that a job delay is not caused.
- b. DISTRICT may apply the withheld amount(s) to the payment of any claims or obligations at its discretion. In so doing, DISTRICT shall be deemed the agent of CONTRACTOR and any payment made by DISTRICT shall be considered to be a payment made under this contract by DISTRICT to CONTRACTOR, and DISTRICT shall not be liable to CONTRACTOR for the payments made in good faith. The payments may be made without prior judicial determination of the claim or obligations. DISTRICT shall submit to CONTRACTOR an accounting of the funds disbursed on behalf of CONTRACTOR.

ARTICLE 36. CHANGES AND EXTRA WORK

- a. Changes to approved drawings and specifications shall be made by addendum or change orders approved by D.S.A. as required by Section 4-338, Part 1, Title 24, CCR.
- b. Without invalidating this contract, DISTRICT may order extra work or make changes by altering, adding to, or deducting from work, and the contract sum shall be adjusted accordingly. All the work shall be subject to the conditions of this contract except that any claim for extension of time caused by changes shall be adjusted at the time of ordering the change.
- c. In giving instructions, the Architect shall have authority to make minor changes in work not involving a change in cost, and not inconsistent with purposes of the project. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless made pursuant to a written order from DISTRICT, and no claim for any addition to the contract amount shall be valid unless by order of the DISTRICT.
- d. At the discretion of the DISTRICT, the value of any extra work, change order deduction shall be determined in one or more of the following ways:
 1. By acceptable lump sum proposal from CONTRACTOR.
 2. By unit prices contained in CONTRACTOR'S original bid and incorporated in the contract documents or fixed by subsequent agreement between DISTRICT and CONTRACTOR.
 3. By cost of material and labor and percentage for overhead and profit. The following formula shall be used by DISTRICT and CONTRACTOR in determining the total amount of compensation due CONTRACTOR for any changes or extra work provided by this paragraph:

For changes that increase the contract price, the CONTRACTOR may include the following amounts for overhead and profit, in addition to labor and materials. CONTRACTOR'S overhead and profit shall include, but not be limited to: job site facilities costs, office costs, administrative costs, including Superintendent's time, and costs of related project time extensions.

- (a) CONTRACTOR'S overhead, profit and additional bond costs on the cost of work performed by CONTRACTOR shall be a total sum not exceeding 16 percent of those costs.
- (b) CONTRACTOR'S overhead, profit and additional bond costs on the cost of work performed by subcontractors shall be a total sum not exceeding 16 percent of cost of that work.

- (c) Subcontractor's overhead and profit on the cost of work performed by subcontractor shall be a total sum not exceeding 15 percent of the cost of labor, materials, rentals, etc.
- (d) Overhead and profit shall not be applied to taxes, delivery charges, and insurance by the CONTRACTOR or its subcontractors.

Before the CONTRACTOR is authorized to proceed with extra work or changes on the basis set forth in subdivision 3., above, the DISTRICT and the CONTRACTOR shall be in complete agreement on what the term "costs" shall include and the percentage amount of fixed fee the CONTRACTOR IS TO CHARGE.

All unit prices, whether set forth in the contract or subsequently agreed upon, shall include overhead, profit and increased premium on the surety bonds.

- e. If CONTRACTOR should claim that any instruction, request, drawing, specification, action, condition, omission, default or other situation obligates DISTRICT to pay additional compensation to CONTRACTOR or to grant an extension of time for the completion of this contract, or constitutes a waiver of any provision of this contract, CONTRACTOR shall notify the DISTRICT in writing of its claim within 10 days from the date it has actual or constructive notice of the factual basis supporting the claim. The CONTRACTOR'S failure to notify DISTRICT within the 10-day period shall be deemed a waiver and relinquishment of the claim against DISTRICT. If the notice is given within the specified time, the procedure for its consideration shall be as stated above in this article.

- f. As used in this article, the following definition shall apply:

1. "Labor" means any amount(s) paid directly to non-supervisory workers in the form of employee wages and benefits in order to perform the work.
2. "Material" means all products, equipment, and devices which are physically incorporated in the work to be performed. Any costs or expenses for equipment, facilities, or services not physically incorporated in the work to be performed but necessary for its completion shall be considered "overhead".
3. "Overhead" means any necessary costs and expenses which are incurred in the performance of the work excluding "labor" and "materials" as defined in subdivisions 1 and 2 above.

ARTICLE 37. DEDUCTIONS FOR UNCORRECTED WORK

If DISTRICT deems it inexpedient to correct work, faulty or not, which is done pursuant to this contract, an equitable deduction for the contract price shall be made.

ARTICLE 38 PAYMENTS BY CONTRACTOR

CONTRACTOR shall pay:

1. For all transportation and utility services not later than the 20th day of the calendar month following the month in which the services are rendered;
2. For all materials, tools, and other expendable equipment, to the extent of 90 percent of the cost, not later than the 20th day of the calendar month following the month in which the materials, tools, and equipment are delivered to the project site, and the balance of the cost not later than the 30th day following completion of that part of the work in which the materials, tools, and equipment are incorporated or used; and

3. To each of its subcontractors, not later than the fifth day following each payment to CONTRACTOR, on account of work performed by that subcontractor.

ARTICLE 39 CONTRACTOR'S SUPERVISION

- a. Unless personally present on premises where the work is being done, CONTRACTOR shall maintain a competent Superintendent, satisfactory to Architect, on the work site during its progress. The Superintendent shall not be changed except with the written consent of the Architect. The Superintendent shall represent CONTRACTOR in its absence and all directions given to the Superintendent shall be binding on CONTRACTOR.
- b. CONTRACTOR shall provide efficient supervision. CONTRACTOR shall carefully study and compare all drawings, specifications, and other instructions and shall immediately report any error, inconsistency, or omission to the Architect.

ARTICLE 40. DOCUMENTS ON WORK

CONTRACTOR shall keep one copy of all contract documents, including addenda, change orders, shop drawings, and other modifications on the job at all times. The documents shall be kept in good order and accurately marked to record all changes made during construction. The documents shall be available to the Inspector and Architect and their representatives at all times. CONTRACTOR shall be acquainted with and comply with all statutes and regulations as they relate to this project.

ARTICLE 41. UTILITIES

- a. All utilities, including but not limited to electricity, water, gas, and telephone used on the work, shall be furnished and paid for by CONTRACTOR. CONTRACTOR shall furnish and install necessary temporary distribution systems, including meters, if necessary, from distribution points to points on the site where the utility is necessary to perform the work. Upon completion of the work, CONTRACTOR shall remove all temporary distribution systems.
- b. If this contract is for an addition to or modernization of an existing facility, CONTRACTOR may use DISTRICT'S existing utilities, with the written permission of DISTRICT, by making prearranged payments to DISTRICT for utilities used by CONTRACTOR for construction.

ARTICLE 42. SANITARY FACILITIES

CONTRACTOR shall provide temporary, sanitary toilet facilities, as required by law, and additional facilities as directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition and shall be left at the site until removal is directed by the Inspector. Use of toilet facilities contained in the project under construction shall not be permitted except with the approval of the Inspector.

ARTICLE 43. PROTECTION OF WORK AND PROPERTY

- a. CONTRACTOR shall be responsible for all damages to persons or property which occur as a result of CONTRACTOR'S fault or negligence in connection with the performance of this contract, and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by DISTRICT. With the exception of damage to the work caused by "acts of God", as defined in Government Code Section 4151(b), CONTRACTOR assumes the risk for all work performed under this contract. CONTRACTOR shall adequately protect adjacent property from settlement or loss of lateral support as provided by law and this contract. CONTRACTOR shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the work is being performed. As required by conditions and progress of work, CONTRACTOR shall erect and properly maintain at all times all necessary safeguards, signs, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created in the course of construction. CONTRACTOR shall designate a responsible member of its organization whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to DISTRICT by CONTRACTOR.
- b. In an emergency affecting safety of life, work, or adjoining property, the CONTRACTOR is permitted to act at its discretion, without special instruction or authorization from Architect or DISTRICT, to prevent any threatened loss or injury; and CONTRACTOR shall act if authorized or instructed by Architect or DISTRICT. Any compensation claimed by CONTRACTOR on account of emergency work shall be determined by this contract.
- c. CONTRACTOR shall provide heat, covering, and enclosures necessary to protect all work, materials, equipment, appliances, and tools against damage by weather conditions.
- d. CONTRACTOR shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property, and structures, and avoid damage to them, and repair any damage caused by construction operations.
- e. CONTRACTOR shall:
 1. Enclose the work area with a substantial barricade and arrange work to cause a minimum of inconvenience and danger to students and staff in their regular school activities.
 2. Provide substantial barricades around any shrubs or trees to be preserved.
 3. Deliver materials to the building area over a route acceptable to the Architect and DISTRICT.
 4. Take preventative measures to eliminate objectionable dust.
 5. Confine apparatus, the storage of materials, and the operations of its workers within limits indicated by law, ordinances, permits, or directions of Architect and not unreasonably encumber the premises with materials; enforce all instructions of DISTRICT and Architect regarding signs, advertising, fires, danger signals, barricades, and smoking, and require that all persons employed on the work comply with all regulations while on the construction site.
 6. Exercise reasonable care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If markers are disturbed, they shall be replaced by an approved civil engineer at no cost to DISTRICT.

ARTICLE 44. LAYOUT AND FIELD ENGINEERING

All field engineering required for laying out this work and establishing grades for earthwork operations shall be furnished by CONTRACTOR at its expense. The work shall be done by a qualified civil engineer approved by the Architect. "As-Built" drawings of site development and utilities' location and inverts shall be prepared by an approved civil engineer.

ARTICLE 45. CUTTING AND PATCHING

- a. CONTRACTOR shall do all cutting, fitting, or patching of the work as required to make its several parts come together properly, and fit it to receive or be received by work of other contractors indicated on or reasonably implied by the drawings and specifications.
- b. Any cost caused by defective or ill-timed work shall be borne by CONTRACTOR.
- c. CONTRACTOR shall not endanger any work by cutting, excavating, or otherwise altering work, and shall not cut or alter work of any other contractor except with the written consent of the Architect.

ARTICLE 46. CLEANING UP

- a. At all times, CONTRACTOR shall keep the premises free of debris such as waste, rubbish, and excess materials and equipment caused by the work; debris shall be removed from the premises. CONTRACTOR shall not leave debris under, in, or about the premises. Upon completion of the work CONTRACTOR shall clean the interior and exterior of the building, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected so surfaces are free from foreign material and discoloration; CONTRACTOR shall clean and polish all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment, and remove temporary fencing barricades, temporary utilities, construction toilet, and similar temporary facilities from the site.
- b. If the CONTRACTOR fails to clean up at the completion of the work, the DISTRICT may do so and the cost for such cleanup shall be charged back to the CONTRACTOR.

ARTICLE 47. CORRECTION OF WORK BEFORE FINAL PAYMENT

- a. CONTRACTOR shall promptly remove from the premises all work identified by DISTRICT as failing to conform to this contract, whether incorporated or not. CONTRACTOR shall promptly replace and repair its own work to comply with this contract without additional expense to DISTRICT and shall bear the expense of making good all work of other contractors destroyed or damaged by that removal or replacement, including compensation for the Architect's additional services.
- b. If CONTRACTOR does not remove work within a reasonable time following written notification, DISTRICT may remove and store the material at CONTRACTOR'S expense. If CONTRACTOR does not pay the expenses of removal within 10 days, DISTRICT may sell the materials at auction or private sale, upon 10 days written notice, and shall account for any net proceeds after deducting all costs and expenses that should have been borne by CONTRACTOR.

ARTICLE 48. ACCESS TO WORK

DISTRICT and its representative shall at all times have access to the work. CONTRACTOR shall provide safe and proper facilities for access so that DISTRICT'S representatives may perform their functions under this contract.

ARTICLE 49 OCCUPANCY

DISTRICT reserves the right to occupy buildings at any time before completion. Any occupancy shall not constitute final acceptance of any part of the work covered by this contract, nor shall any occupancy extend the mutually agreed date specified for completion of the work.

ARTICLE 50 DISTRICT'S INSPECTOR

- a. An Inspector employed by DISTRICT in accordance with the requirements of Title 24 Part 1 of the California Code of Regulations will be assigned to the work.
- b. The Inspector shall have free access to any or all parts of the work at any time. CONTRACTOR shall furnish the Inspector reasonable opportunities for obtaining information necessary to keep the Inspector fully informed regarding progress and manner of work and character of materials. Inspection of the work shall not relieve CONTRACTOR from any obligation to fulfill this contract. The Inspector and Architect shall have authority to reject work whenever the provisions of this contract are not being complied with. In addition, the Inspector may stop any work which poses a probable risk of harm to persons or property. CONTRACTOR shall instruct its employees accordingly.

ARTICLE 51. TESTS AND INSPECTIONS

- a. If this contract, any DISTRICT instructions, laws, ordinances, or any public authority require any work to be specifically tested or approved, CONTRACTOR shall give notice of its readiness for observation or inspection at least two workdays prior to being tested or covered up. If inspection is required by parties other than DISTRICT, CONTRACTOR shall inform DISTRICT of the date fixed for the inspection. Required certificates of inspection shall be secured by CONTRACTOR. Observations by DISTRICT shall be promptly made, and where practicable, at the source of supply. If any work is covered up without approval or consent of DISTRICT, if required by DISTRICT, it must be uncovered for examination and satisfactorily reconstructed at CONTRACTOR'S expense in compliance with this contract. The cost of testing any materials which are not in compliance with the contract shall be paid for by DISTRICT and charged back to CONTRACTOR. Other costs for tests and inspection of materials shall be paid by DISTRICT unless otherwise provided in this contract.
- b. Where the inspection and testing will be conducted by an independent laboratory or agency, the materials or samples of materials to be tested shall be selected by the laboratory or agency, or DISTRICT'S representative, and not by CONTRACTOR.
- c. CONTRACTOR shall notify DISTRICT a sufficient time in advance of the manufacture of materials to be supplied to him under this contract, which must by the terms of this contract be tested, in order that DISTRICT may arrange for testing at the source of supply. Any materials shipped by CONTRACTOR from the source of supply prior to having satisfactorily passed testing and inspection, or

prior to receipt of notice from the representative that the testing and inspection will not be required, shall not be incorporated in the work without the prior approval of DISTRICT and subsequent testing and inspection.

- d. Reexamination of questioned work may be ordered by DISTRICT and if so ordered, any work must be uncovered by CONTRACTOR. If the work is determined to be in accordance with this contract, DISTRICT shall pay the costs of reexamination and replacement. If the work is not in accordance with this contract, CONTRACTOR shall pay the costs.

ARTICLE 52. SOILS INVESTIGATION REPORT

When a soils investigation report obtained from test holes at the work site is available, the report shall not be a part of this contract. Any information obtained from the report or any information given on drawings as to subsurface soil conditions or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed, and does not form a part of this contract.

ARTICLE 53. ARCHITECT'S STATUS

- A. The Architect/Engineer, as an agent of the DISTRICT, shall be DISTRICT'S representative during the construction period and shall observe the progress and quality of the work on behalf of DISTRICT. Architect/Engineer shall have authority to stop work whenever stoppage may be necessary, in Architect/Engineer's reasonable opinion, to ensure the proper execution of this contract.
- B. Nothing contained in the Contract Documents shall create any contractual relationship between the Architect/Engineer and the CONTRACTOR.
- C. Architect/Engineer as appearing in these specifications means the Architect/Engineer whose signature appears on the cover sheet of these specifications as having prepared the drawings and specifications, if applicable.
- D. The Architect/Engineer will provide general Administration of the Construction Contract, including the performance of the functions hereinafter described. The Architect/Engineer will perform his duties in accordance with Title 24, Part 1, CCR, Section 4-333(a) and 4-341. The Architect/Engineer will submit verified reports in accordance with Title 24, Part 1, CCR, Section 4-336.
- E. The Architect/Engineer will be the DISTRICT'S representative during construction until final payment. The Architect/Engineer will have authority to act on behalf of the DISTRICT to the extent provided in the Contract Documents, unless otherwise modified by written instrument which will be shown to the CONTRACTOR. The Architect/Engineer will advise and consult with the DISTRICT, and all of the DISTRICT'S instructions to the CONTRACTOR shall be issued through the Architect/Engineer.
- F. The Architect/Engineer shall at all times have access to the Work wherever it is in preparation and progress. The CONTRACTOR shall provide facilities for such access so the Architect/Engineer may perform his functions under the Contract Documents.
- G. The Architect/Engineer will make periodic visits to the site to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. On the basis of his on-site observations as an Architect/Engineer, he will keep the DISTRICT informed of the Progress of

the Work and will endeavor to guard the DISTRICT against defects and deficiencies in the Work of the CONTRACTOR. The Architect/Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect/Engineer will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work.

- H. Based on such observations and the CONTRACTOR'S Applications for Payment, the Architect/Engineer will determine and verify the amounts owing to the CONTRACTOR and will issue recommendations to the DISTRICT for payment as provided herein.
- I. The Architect/Engineer will be, in the first instance, the interpreter of the requirements of the Contract Documents. The Architect/Engineer will, within a reasonable time, render such interpretations as he may deem necessary for the proper execution or progress of the Work.
- J. The Architect/Engineer will have authority to reject Work which does not conform to the Contract Documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the CONTRACTOR to stop the work or any portion thereof, or to require special inspection or testing of the Work as provided herein whether or not such Work be then fabricated, installed or completed. However, neither the Architect/Engineer's authority to act under this direction, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect/Engineer to the CONTRACTOR, any Subcontractor, any of their agents or employees, or any other person performing any of the Work.
- K. The Architect/Engineer will review Shop Drawings and samples as provided in the Contract Documents.
- L. The Architect/Engineer will prepare Change Orders in accordance with Contract Documents and will have authority to order minor changes in the Work. Upon a Change Order request by the DISTRICT or the DISTRICT'S representative, the CONTRACTOR is to submit a breakdown of all costs and/or credits incurred to accomplish the requested change. The breakdown is to be of sufficient detail to allow justification of additional costs and/or credits. It is suggested that the actual completed takeoff and pricing be submitted. Time extension will not be granted for insufficient breakdown data that requires re-submittal, or for pricing that in the judgment of the DISTRICT is not consistent with reasonable cost. All change orders shall be signed by the DISTRICT, Architect/Engineer and CONTRACTOR. Approval by the Governing Board and the Division of the State Architect is required, Article 36, notwithstanding.
- M. The Architect/Engineer will conduct project reviews to determine the date of Final Completion, will receive written guarantees and related documents required by the Contract and assembled by the CONTRACTOR.
- N. The Architect/Engineer will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

ARTICLE 54. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted, and this contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the contract shall be amended to make the insertion or correction. All references to statutes and regulations shall include all amendments, replacements, and enactments on the subject which are in effect as of the date of this contract, and any later changes which do not materially and substantially alter the positions of the parties.

ARTICLE 55. UTILITIES: REMOVAL, RESTORATION

- a. Pursuant to Government Code Section 4215, DISTRICT assumes the responsibility for removal, relocation, and protection of utilities located on the construction site at the time of commencement of construction under this contract with respect to any utility facilities which are not identified in the plans and specifications. CONTRACTOR shall not be assessed for delay in completion of the project caused by the failure of DISTRICT to provide for removal or relocation of utility facilities. DISTRICT shall compensate CONTRACTOR for the costs of locating and repairing damage not due to the failure of CONTRACTOR to exercise reasonable care, and removing or relocating utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment necessarily idle during the work.
- b. This article shall not be construed to preclude assessment against CONTRACTOR for any other delays in completion of the work. Nothing in this article shall be deemed to require DISTRICT to indicate the presence of existing service laterals or appurtenances whenever the presence of those utilities on the construction site can be inferred from the presence of other visible facilities, such as buildings or meter junction boxes on or adjacent to the construction site.
- c. If while performing work under this contract, CONTRACTOR discovers utility facilities not identified by DISTRICT in the contract plans or specifications, CONTRACTOR shall immediately notify in writing the DISTRICT and the utility.

ARTICLE 56. NONDISCRIMINATION

In connection with the performance of work under this Contract, the Contractor agrees (as prescribed in Chapter 6 of Division 3 of Title II of the Government Code of the State of California, commencing at Section 12900 and by Labor Code § 1735) not to discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, or age. The aforesaid provisions shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. The Contractor further agrees to insert the foregoing provisions in all sub-contracts hereunder, except subcontracts for standard commercial supplies of raw materials.

ARTICLE 57. USE OF ASBESTOS MATERIALS/PRODUCTS

- a. CONTRACTOR shall not use any asbestos or asbestos containing products or materials in performing the work under this contract. Upon completion of the project, CONTRACTOR shall certify in writing to DISTRICT that no asbestos or asbestos containing materials or products were used by CONTRACTOR or any subcontractor in performing the work required by this contract.
- b. In the event CONTRACTOR encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the CONTRACTOR shall immediately stop work in the area affected and report the condition to the DISTRICT and Architect in writing. The work in the affected area shall not thereafter be resumed except by written agreement of the DISTRICT and CONTRACTOR if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless, by written agreement of the DISTRICT and CONTRACTOR.
- c. The CONTRACTOR shall not be required to perform any work relating to asbestos or polychlorinated biphenyl (PCB) without its consent.

ARTICLE 58. SUBSTITUTION OF SECURITIES

This project is subject to the provisions of Public Contract Code § 22300 whereby the Contractor may elect to enter into an escrow for the deposit of securities and/or funds withheld to ensure performance of the contract. Any escrow used shall be established using the escrow agreement form specified in the Contract Documents. Pursuant to the provisions of Public Contract code Section 22300, CONTRACTOR may substitute certain securities for any funds withheld by DISTRICT to ensure its performance under this contract. At the request and expense of CONTRACTOR, securities equivalent to any amount withheld shall be deposited, at the discretion of DISTRICT, with either DISTRICT or a state or federally chartered bank, as the escrow agent, who shall then pay any funds otherwise subject to retention to CONTRACTOR. Upon satisfactory completion of this contract, the securities shall be returned to CONTRACTOR. Securities eligible for investment under this article shall include those listed in Government Code Section 16430, bank and savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by CONTRACTOR and DISTRICT. CONTRACTOR shall be the beneficial owner of any securities substituted for funds withheld and shall receive any interest. The escrow agreement shall be on the form provided by the District, attached as Attachment 1, which is substantially similar to the form provided in Public Contract Code section 22300. Such securities, if deposited by the contractor, shall be valued by the Owner, whose decision on valuation of the securities shall be final.

ARTICLE 59. CONTRACT CLOSEOUT

- a. Utility Connections: The building and/or buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.
- b. Record Drawings:
 1. CONTRACTOR shall keep one complete set of blueline prints of all drawings which form a part of the contract, in good order on the job. they

- shall be used only for the purpose intended. Drawings shall be kept up to date as the work progress and shall be available at all times for inspection.
2. The intent of this procedure is to obtain an exact "as built" record of the work upon completion of the project. The following information shall be carefully and correctly drawn on the prints and CAD files and all items shall be accurately located and dimensioned from finished surfaces of building walls on all record drawings.
 - (a) Any work not installed as indicated on drawings.
 - (b) The exact locations and elevations of all covered utilities, including valves, clean-outs, electrical conduit, computer/data conduit, gas lines, etc.
 - (c) Any and all changes made to the originally approved plans to include all Supplemental Instructions, Addenda, Change Orders and all other changes, revisions and modifications made during the course of construction.
 3. CONTRACTOR is liable and responsible for inaccuracies in as-built drawings, even though they become evident at some future date.
 4. Upon completion of the work and as a condition precedent to approval of final payment, CONTRACTOR shall obtain from the District Inspector's approval of the corrected blueline prints.

The CONTRACTOR shall employ a competent draftsman to transfer the "as-built" information to a complete set of mylar sepia.

When completed, CONTRACTOR shall have one complete set of reproducible plans and three (3) complete sets of bluelines made from the reproducible plans. All sets shall be delivered to Architect for review and acceptance prior to delivery to the DISTRICT.
 5. In addition, CONTRACTOR shall deliver to the Architect three complete sets of operational and maintenance manuals, repair parts lists, service instructions for all electrical and mechanical equipment, and equipment warranties.
- c. Maintenance Manuals: At least 30 days prior to final inspection, three copies of complete operational and maintenance manuals shall be submitted for review. All installation, operating, and maintenance information and drawings shall be bound in 8-1/2" x 11" binders. Provide a table of contents in front and all items shall be indexed with tabs. Each manual shall also contain a list of subcontractors, with their addresses and the names of persons to contact in case of emergencies. Identifying labels shall provide names of manufacturers, their addresses, ratings, and capacities of equipment and machinery.
- d. Inspection Requirements:
1. Before calling for final inspection, Contractor shall determine that the following work has been performed:
 - (a) General construction has been completed.
 - (b) Mechanical and electrical work complete, fixtures in place, connected and ready for tryout and test.
 - (c) Electrical circuits scheduled in panels and disconnect switches labeled.
 - (d) Painting and special finishes complete.
 - (e) Door complete with hardware, cleaned of protective film and relieved of sticking or binding and in working order.
 - (f) Tops and bottoms of doors sealed.
 - (g) Floors waxed and polished as specified.
 - (h) Broken glass replaced and glass cleaned.
 - (i) Grounds clear of Contractors equipment, raked clean of debris and trash removed from site.

- (i) Work cleaned, free of stains, scratches and other foreign matter, replacement of damaged and broken material.
 - (k) Finished and decorative work shall have marks, dirt and superfluous labels removed.
- 2. Final inspection will be made by Architect upon written notification from Contractor that work has been completed. Contractor shall receive a list (Punch List) of items found unacceptable and shall promptly correct them. Upon written notification from Contractor that all items have been corrected, Architect will re-inspect for final acceptance of the project. Failure of Contractor to complete punch list items will necessitate further re-inspection by Architect. Costs of re-inspection will be deducted from Contract amount. Notice of Completion cannot and will not be filed, nor will the project be accepted until all punch list items and all other conditions have been met to the satisfaction of both the District and the Architect.
- 3. Deliver keys (labeled) to Owner's representative. Master keys shall be accounted for in writing.
- 4. Furnish a letter to Owner stating that a responsible representative of Owner (give name and position) has been instructed in working characteristics of mechanical and electrical equipment.

ARTICLE 60 ASSIGNMENT

In accordance with Section 7103(b) of the Public Contract Code, the Contractor and subcontractors shall conform to the following requirements. 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 167000 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.

ARTICLE 61 ENVIRONMENTAL INDEMNIFICATION

From and after the execution of this Contract, Contractor shall indemnify, defend and hold harmless Owner and Architect from all losses or damages resulting from injury to or death of any person and damage to property, and any fine which is occasioned by or arises out of any breach of the environmental or toxic warranty, representations or covenants of the Contractor under his Contract.

Contractor further agrees to indemnify, defend and hold harmless Owner, Architect, their officers, employees and agents, from and against any and all liability as follows:

- 1. From all foreseeable and all unforeseeable consequential damages, directly or indirectly arising out of the use, generation, storage, or disposal of hazardous materials by Contractor; and

2. Without limitation, from the cost of any required or necessary repair, cleanup or detoxification and the preparation of any closure or other required plans, whether such action is required or necessary prior to or following filing of the Notice of Substantial Completion, to the full extent that such action is attributable, directly or indirectly, to the presence or use, generation, storage, release, threatened release or disposal of hazardous materials by any person on the project prior to filing of the Notice of Substantial Completion. Contractor's obligations pursuant to the foregoing indemnity shall survive the filing of Notice of Completion of the Project.

This agreement, as to indemnity and reimbursement as above set forth to be undertaken by the Contractor, shall survive the performance of the remainder of said Contract and shall remain in full force and effect notwithstanding such performance.

END OF SECTION

1/21/99

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between
_____ SCHOOL DISTRICT ("District"), whose address is
_____ and
_____ ("Contractor"), whose address is
_____ and
_____ ("Escrow Agent"), whose address is
_____.

For the consideration described below, the District, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to the Construction Contract ("Contract") entered into between the District and Contractor for the _____ in the amount of \$ _____ dated _____.

When Contractor deposits the securities as a substitute for contract earnings, the Escrow Agent shall notify the District within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the District and Contractor. Securities shall be held in the name of _____, and shall designate the Contractor as the beneficial owner.

2. The District shall make progress payments to the Contractor for funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.
3. Alternatively, the District may make payments for the benefit of the District in the amount of retention directly to Escrow Agent until this escrow is terminated.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the escrow account. These expenses and payment terms shall be determined by the Contractor and Escrow Agent.
5. The interest earned on the securities or the money market accounts held in escrow, and all interest earned on that interest, shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time, and from time to time, without notice to the District.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent that District consents to the withdrawal of the amount sought to be withdrawn by Contractor, accompanied by written authorization from District to the Escrow Agent.
7. The District shall have the right to draw upon the securities in the event of default by the Contractor. Upon seven days written notice of the default by the District to the Escrow Agent, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the District.
8. Notwithstanding any provision of this Escrow Agreement to the contrary, for a period of 35 days following the recordation of a Notice of Completion, District shall have unlimited access to the securities to respond to stop notice claims and punch list and warranty items. Pursuant to this

paragraph, District may withdraw from the escrow sufficient cash to cover 125 percent of the principal amount claimed in any stop notice, and 150 percent of the estimated amount necessary to remedy any punch list and/or warranty item. To withdraw funds, District shall present to the Escrow Agent copies of any and all stop notices, and/or a letter from its architect concerning the punch list and/or warranty items, together with written notification from District making demand for the funds. In response to District's demand, upon seven days written notice, Escrow Agent shall immediately convert sufficient securities to cash and distribute the cash to District. In no event will Escrow Agent have any obligation to pay to District more than the amount Escrow Agent is holding. District's rights under this paragraph are in addition to and do not supplant any other rights or remedies contained in this Section or the remainder of this Escrow Agreement.

9. Upon receipt of written notification from the District certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all monies and securities on deposit and payment of fees and charges.
10. Escrow Agent shall rely on the written notifications from District and Contractor pursuant to Sections 4 through 7 of this Agreement, and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.
11. The names of the persons authorized to give written notice or to receive written notice on behalf of the District and on behalf of Contractor in connection with this Agreement, and exemplars of their respective signatures are as follows:

On behalf of District:

(Title)

(Name)

(Signature)

(Address)

On behalf of Contractor:

(Title)

(Name)

(Signature)

(Address)

On behalf of Escrow Agent:

(Title)

(Name)

(Signature)

(Address)

At the time the Escrow Account is opened, the District and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

AS WITNESSES, the parties have executed this Agreement by their proper officers on the first date shown above.

DISTRICT

CONTRACTOR

(Title)

(Title)

(Name)

(Name)

(Signature)

(Signature)

SUBSTITUTION REQUEST FORM

To: _____ Specified or Drawing

Item: _____

Project: _____

We hereby submit for your consideration the following product instead of the specified item for the above product:

Section	Page	Paragraph	Description
---------	------	-----------	-------------

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION:

[illegible]

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents which the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. The proposed substitution does not affect dimensions shown on the Drawings.
2. The undersigned will compensate the architect at a rate of \$90.00 an hour for changes required to the building design, including engineering design, detailing, and construction costs caused by the requested substitution. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. Attach all cost data with explanations if different from Specified or Drawing item. Include in that explanation a discussion on quality or proposed substitution and cost differential.
6. The undersigned will pay for any subsequent changes in incorporating the proposed substitution that were not apparent at the time of approval into the Work, including compensation to the Architect as described in item 2 above.

The undersigned states that the function, appearance and quality are equivalent or superior to the specified or drawing item.

Submitted By:

Signature_____

Firm_____

Address_____

Date_____

Telephone(_____)_____

For Use by Design Consultant

Accepted _____

Accepted as Noted _____

Not Accepted _____

By_____

Date_____

Remarks_____

CONTRACT DOCUMENTS

PART 1 DRAWINGS AND SPECIFICATIONS

- a. The drawings which form a part of the Contract Documents are as follows, including such large scale and full size details as may be furnished later:

Architectural: A0.0, A1.0, A1.1, A1.2, A1.3, A3.0, A4.0

Mechanical: M 1

Electrical: E 1, E 2

PACESETTER INDUSTRIES, INC. 24'X40'

Architectural: A, A1, A2, A3, A4, A5, A5.1, A6, A6.1

Structural: S0.1, S0.2, S0.3, S2.2, S2.3, S2.4, S2.5, S5.1W, S8.1, S8.2, S8.3, S8.4, S9.1, S9.2

Plumbing: P1, P1.1

Mechanical: M 1

Electrical: E 1

PACESETTER INDUSTRIES, INC. 36'X40'

Architectural: A, A1, A2, A2.1, A3, A3.1, A4, A5, A5.1, A6, A6.1

Structural: S0.1, S0.2, S0.3, S2.3, S2.4, S2.5, S2.7, S2.8, S2.9, S2.10, S5.1W S8.1, S8.2, S8.3, S8.4, S9.1, S9.2, S9.3

Mechanical: M 1

Electrical: E 1

AMERICAN MODULAR SYSTEMS. 24'X40'

Architectural: TS-1, N-1, 1, 2, 3, 4

Structural: S1, S1A, S1B, S1E, S2, S2A, S3, S3A, S4

Mechanical: M 1

Electrical: E 1

AMERICAN MODULAR SYSTEMS 36'X40'

Architectural: TS-1, N-1, 1, 2, 3, 4

Structural: S1E, S2, S2A, S3, S3A, S4

Mechanical: M 1

Electrical: E 1

- b. The Contractor shall study and compare all drawings, specifications and instructions. He shall report any error, inconsistency or omission before commencing work and take the Architect's further instructions in regard thereto; and any duplication of work made necessary by failure or neglect to comply with this injunction shall be done at the expense of the Contractor.
- c. Large scale drawings govern smaller scale and figured dimensions govern scale measurements. No measurement shall be scaled. If figures or information on any drawings are insufficient, the Contractor shall secure the Architect's instructions before proceeding.
- d. Details and Shop Drawings, either furnished by or approved by the Architect, are considered as amplifying and not as modifying the drawings and specifications on which proposals were made.

- e. Misplacement, addition or omission of any word, letter, figure or punctuation mark in no way changes the true spirit, intent or meaning of the drawings and specifications. The Contract Documents are to be taken together, and what is called for by one shall be as binding as if called for by all. Any work or material necessary to complete the work, and which may be fairly implied as included in the Contract shall be done and provided by the Contractor without extra charge.
- f. For convenience, these specifications are arranged in several trade sections, but such separation shall not be considered as the limits of the work required of any subcontractor or trade. The terms and conditions of such limitations are wholly between the Contractor and his subcontractors.
- g. Wherever ASTM or other specifications or bulletins are referenced, it is understood that the latest approved published edition or revision is to be used, except when a specific date of issue is stated in Title 24 or 1994 U.B.C. with 1995 California Building Code Amendments.
- h. Drawings and specifications are instruments of service, remain the property of the Architect and are to be returned or accounted for before the final certificate of payment is issued.

PART 2 ADDENDA

The Architect may issue addenda to all Contractors bidding this project at any time between the date the project was advertised to the date set for the opening of bids. These addenda shall take precedence over the plans and specifications *only* where they contradict them; all other provisions shall remain unchanged. All addenda will be signed by the Architect and shall become part of the Contract. It shall be the sole responsibility of the Contractor to advise all of his subcontractors of the information contained in these supplementary documents. Before submitting his bid, the Contractor shall contact the Architect's Office to ascertain whether he has received all addenda. All addenda shall be approved by the Division of the State Architect and/or other governing authorities but not necessarily at time of bid.

PART 3 INTERPRETATION

Drawings, specifications and all other Contract Documents are intended to be self-explanatory. Should any discrepancy appear to exist, or any misunderstanding arise involving the intent and meaning of the drawings and/or specifications or the sufficiency or performance of the work thereunder, the decision of the Architect shall be final and binding upon the Contractor.

PART 4 LOCATION OF PROJECT

The property upon which the work is to be done is located at 4201 Mesa Marin Drive, Bakersfield and is that property owned by the Bakersfield City School District.

END OF SECTION
06/21/00

REGULATORY REQUIREMENTS

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

The following Supplemental Conditions apply to school projects and are in addition to the General Conditions, Section 00701. Items in this Section modify the General Conditions and shall take precedence thereover. Unaltered portions of the General Conditions shall remain in effect.

PART 1 GOVERNING (REVIEWING AND APPROVING) AGENCY

- 1.01 The Governing (Reviewing and Approving) Agency for this project shall be:

DIVISION OF THE STATE ARCHITECT

PART 2 STATE LAWS AND REGULATIONS

- 2.01 The project shall be constructed under the complete jurisdiction of all laws of the State of California governing the construction of public buildings, to-wit:

1997 U.B.C. with 1998 C.B.C. Amendments

- a. Contractor shall comply with California Building Code C.B.C., Titles 19 and C.C.R. Title 24 (1995 C.B.C.), 1991, Parts 1, 2, 3, 4, 5, 9 & 12 in addition to all other applicable regulations. Contractor shall keep a copy of the latest edition of Titles 19, and Title 24, Parts 2, 3, 4 & 5, on the job site at all times, and keep it available for reference use. Nothing in these plans or specifications shall be construed to permit work not conforming to these codes. A copy of stamped plans and specifications shall be kept on the job site and made available to the Owner's Inspector. The provisions of all applicable building codes and ordinances shall be considered a minimum requirement. Where the requirements of these Contract Documents exceed those of such codes or ordinances, these Contract Documents shall govern.
- b. All laws governing the employment of labor, qualifications for employment, posting of minimum wage rates, hours of work, employment of aliens, payment of employees, convict-made materials, domestic and foreign materials and accident prevention.
- c. Title 19 of the California Code of Regulations entitled "Public Safety".
- d. General Industrial Safety Orders: Each and every Contractor shall observe and conform to the provisions of Title 8, California Code of Regulations bearing upon safe and proper use, construction, disposal, etc., of materials, machinery and building appurtenances as therein set forth.
- e. Code Rules and Safety Orders: All work and materials shall be in full accordance with the latest rules and regulations of the California State Fire Marshal; the safety orders of the Division of Industrial Safety, Department of Industrial Relations, and any State Laws or Ordinances. Nothing in these plans and specifications is to be construed to permit work not conforming to these Codes.
- f. Title 24, CBC, Part 2, 1998 C.B.C. (1997 UBC)
- g. Title 24, CBC, Part 3, 1998 C.E.C. (1996 NEC)
- h. Title 24, CBC, Part 4, 1998 C.M.C. (1997 UMC)
- i. Title 24, CBC, Part 5, 1998 C.P.C. (1997 UPC)

SECTION 01060

- j. Title 19, CCR, Public Safety, Div. 1, State Fire Marshal Regulations.
- k. Occupational Health & Safety Act. (OSHA)

All of the above laws and regulations, through referral herein, are as much a part of the Contract as if they were incorporated in their entirety in this Section.

PART 3 TESTS AND INSPECTIONS

- a. Tests and Inspections shall be as specified in Section 01402.
- b. The Architect or Registered Engineer in general responsible charge shall designate the testing of materials consistent with the needs of the project and shall issue specific instructions to the testing agency.

END OF SECTION
3/13/00

SUBMITTALS

The following Supplemental Conditions apply to school projects and are in addition to the General Conditions, Section 00701. Items in this Section modify the General Conditions and shall take precedence thereover. Unaltered portions of the General Conditions shall remain in effect.

PART 1 GENERAL**1.01 SECTION INCLUDES**

- a. Submittal procedures
- b. Construction Progress Schedules
- c. Proposed Products List
- d. Shop Drawings
- e. Product Data
- f. Samples
- g. Manufacturers' Instructions
- h. Manufacturers' Certificates

1.02 RELATED SECTIONS

- a. Section 01402 - Quality Control: Manufacturers' field services and reports.
- b. Section 00701, Article 59, Contract Closeout.

1.03 SUBMITTAL PROCEDURES

- a. Transmit each submittal with AIA Form G810 or Architect-approved form.
- b. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
- c. Identify project, general contractor, construction manager, prime contractor or supplier; pertinent drawing sheet and detail number(s), and specification section number, as appropriate.
- d. Apply general contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and contract documents.
- e. Deliver to Architect at business address. Coordinate submission of related items. Architect shall have a minimum of 21 calendar days for review of all submittals.
- f. Identify variations from contract documents and product or system limitations which may be detrimental to successful performance of the completed work.
- g. Provide space 4" x 4" for contractor and architect review stamps.
- h. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- i. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

- j. All submittals, except shop drawings, required shall be submitted within 15 days unless noted otherwise or as shown on drawing from date of award of contract for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner.

1.04 PROPOSED PRODUCTS LIST

- a. Within 15 days after date of award of contract, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- b. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.05 SHOP DRAWINGS

- a. Submit in the form of one reproducible transparency and seven opaque reproductions.
- b. After review, distribute in accordance with Paragraph 1.03 above and for Record Documents described in Section 00701, Article 59 - Contract Closeout.
- c. All shop drawings shall be submitted within 30 days after the award of the contract.

1.06 PRODUCT DATA

- a. Submit the number of copies which the contractor requires, plus three copies which will be retained by the Architect.
- b. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.
- c. After review, distribute in accordance with Paragraph 1.03 above and provide copies for Record Documents described in Section 00701, Article 59 - Contract Closeout.

1.07 SAMPLES

- a. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- b. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect's selection.
- c. Include identification on each samples, with full project information.
- d. Submit the number or samples specified in individual specification sections; one of which will be retained by Architect.
- e. Reviewed samples which may be used in the work are indicated in individual specification sections.

- f. Submit particleboard samples 3, 4"x6" sample boards along with test reports indicating product meets specifications per Section 12300, 2.01 d., if applicable.

1.08 MANUFACTURER'S INSTRUCTIONS

- a. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- b. Identify conflicts between manufacturers' instructions and contract documents.

1.09 MANUFACTURER'S CERTIFICATES

- a. When specified in individual specification sections, submit manufacturers' certificate to Architect for review, in quantities specified for Product Data.
- b. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- c. Certificates may be recent or previous test results on material or product, but must be acceptable to the Architect.

END OF SECTION
6/19/97

QUALITY CONTROL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this Section shall include the furnishing of all labor, materials and equipment required to complete all the tests and inspections of materials indicated on the drawings and as specified herein.

1.02 WORK INCLUDED

- a. Earthwork: Inspection of subgrade improvement operations, compacted fill and field density tests.
- b. Concrete Work: Testing and certification of concrete ingredients, compression cylinders, reinforcing steel and placement inspections.

1.03 OWNER'S INSPECTOR

- a. An inspector employed by the Owner in accordance with the requirements of State of California Code of Regulations, Title 24 will be assigned to the work. His duties are specifically defined in Part 1, Title 24, C.C.R., Sec. 4-342.
- b. The work of construction in all stages of progress shall be subject to the personal continuous observation of the inspector. He shall have free access to any or all parts of the work at any time. The General Contractor shall furnish the inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the General Contractor from any obligation to fulfill this Contract.
- c. The Owner shall have the right to reject materials and workmanship, which are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the Owner. If the General Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the Owner may correct same and charge the expense to the General Contractor. Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of the work already completed by removing or tearing out the same, the General Contractor shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any respect due to the fault of the General Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the General Contractor.

1.04 COOPERATION

- a. Laboratory: Shall cooperate with all trades whose work affects or is affected by the tests and inspections.
- b. Cooperation: The General Contractor to cooperate with and provide testing laboratory opportunity and assistance in taking samples, making field tests and making inspections.

1.05 SPECIAL PROVISIONS

- a. Governing Agency: Shall be as specified in Section 01060.
- b. Laboratory: To be approved by Owner, Architect, Structural Engineer and Governing Agency. Laboratory shall be in the employ of the Owner. (Laboratory of Record may not be selected or known at time of bid or award of contract).
- c. Duties of Testing Laboratory: Inspect stock, mark identified stock, select and mark test specimens, perform required tests, inspections as specified, furnish required reports and certificates.
- d. Reports: To be executed immediately upon conclusion of each procedure and forwarded to:

Architect	Structural Engineer	Contractor
Owner	Subcontractor	Job Inspector
Governing Agency		

- (1) One copy of all tests reports shall be forwarded to The Division of the State Architect by the testing agency. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of Title 24 and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
- (2) Verification of Test Reports: Each testing agency shall submit to the Division of the State Architect a verified report in duplicate covering all of the tests which are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering all tests.
- e. Payment: The Owner shall pay for all tests. When in the opinion of the Architect or the Division of the State Architect, additional tests are required, then such tests and inspection shall be paid for by the Owner but the amount paid shall be deducted from the Contract Price. Examples of such additional tests are: Tests of material substituted for previously accepted materials, unidentified materials, retests made necessary by the failure of materials to comply with the requirements of the specifications and load tests necessary because certain portions of the structure have not fully met specification or plan requirements.

- f. Selection of Samples: All samples and specimens for testing shall be selected by the inspector or by the testing laboratory, but not by the Contractor. The Contractor shall, at his own expense, furnish, package, mark and deliver all samples to be tested, when so directed by the inspector, testing laboratory, or as required by the specifications. Delivery of samples to the testing laboratory shall be made in ample time to allow tests to be made without delaying construction. No extra time will be allowed for the completion of the work by reason of delay in testing samples. The General Contractor shall allow free access at all times to the representatives of the testing laboratory to the sources from which samples are taken.
- g. Preparation of Specimens: Taken by and at expense of fabricator under direction of testing laboratory and machined or prepared to conform to appropriate ASTM specification. Cost of machining specimens is considered part of the testing.
- h. Architect and Structural Engineer reserve the right to demand for test and special examination any materials or part thereof to insure compliance with specifications, and may reject for satisfactory replacement, any material or part judged defective as a result thereof. Applies also to materials or sources of same substituted for those previously approved. Such tests or examinations, even though not specified shall be performed as and when required. Costs paid for by Owner, but the amount paid shall be deducted from the Contract.

PART 2 EXECUTION

2.01 EARTHWORK (Refer to Section 02200)

- a. Testing Agency: Any required foundation consultation, examination or testing shall be done by an approved Geotechnical Engineer, per T24, Section 3301.1. Costs paid by Owner.
- b. Consultation or Procedures for this part of the work shall be only as requested by the Architect and Structural Engineer at the timework on the site is commenced and may consist of the following:
 - (1) Examination of exposed subgrades resulting from the cutting operation, including field density tests if considered necessary.
 - (2) Verify completed foundation excavations.
 - (3) Periodic inspection of any required filling and backfilling, including field density tests if considered necessary.
 - (4) Imported or Native Fill Material: Approved material, perform suitability tests for compaction, qualities and optimum moisture if required.
 - (5) Provide Continuous Inspection Supervision during removal and recompaction of existing soil and placement of fill.
 - (6) Inspect and approve completed footing excavations.
 - (7) Field Density Tests: Shall be made on samples from material in place as required to verify proper compaction densities of fills and backfills.
- c. Densities and Method: Densities specified relate to ASTM Designation D-1557-78 Method A.

2.02 CONCRETE WORK (Refer to Section 02550)

a. Inspections:

- (1) Notification: The General Contractor shall notify the following people, giving advance notice prior to commencing the designated work:

Person Notified	Advance Notice	Prior to Commencing	For Inspection
Architect	24 hours	Form Work	Excav.
Architect & Inspector	24 hours	Pouring Conc.	Form & Steel
Governing Agency	48 hours	Pouring Conc.	Form & Steel

- (2) No concrete shall be poured except in the presence of the Owner's Inspector and only after the forms and reinforcing steel have been approved by the Structural Engineer or his representative.
- (3) Batch Plant Inspections: When transit mixed concrete is used, continuous inspection shall be maintained at the plant by a qualified concrete technician who shall issue tickets certifying that quantities and quality of all materials used in the concrete are in accordance with these specifications and the approved design mix. The Owner will pay the costs of this inspection. This inspection will not be required for non-structural concrete (as defined in Paragraph (4) following).
- (4) Bonded Weightmaster Certificates: Non-structural concrete such as floor slabs on grade, walks, curb & gutter, etc., shall not require continuous batch plant inspection, but instead, a bonded weightmaster shall furnish notarized affidavits certifying that quantities and quality of all materials used in the concrete are in accordance with these specifications and the approved mix design. Waiver of batch plant inspection shall comply with Title 24, 1998 C.B.C., 1997 UBC, Vol 2, Sec. 1929A.5, A.6

b. Tests: All concrete materials to be tested and reported prior to any use of same.

- (1) Portland Cement: Shall be tested in accordance with T24, Section 1903A.2, 1929A.1 and ASTM C-150. One sample shall be taken for each 100 tons of cement except that when used in bulk loading ready mix plants where separate bins for pretested cement are not available, grab samples shall be taken for each shipment of cement placed in the bin with not less than one sample being taken for each day's pour and such samples shall be subsequently tested if required by the Architect, structural engineer or the Division of the State Architect.
- (2) Aggregate: Shall be in conformance with T24, Sec. 1903A.3
- (3) Reinforcing Steel: To be tested prior to use for compliance with T24, Sections 1929A.2 and 1903A.5 and ASTM A-615-89 requirements, and comply with quality standards of 2102.2.10. Welded rebar shall be inspected and certified per T24, Section 1929A.12.

(Are these instructions continued on reverse: Yes No ☒ x

GUARANTEEGuarantee for (describe project)

We guarantee that the construction work described above has been performed in accordance with and complies with the contract documents. We agree to repair or replace any or all of the work, together with any other adjacent work which may be required in connection with it, that may prove to be defective in workmanship or material within a period of _____ years from the date of acceptance of the project by the _____ School District, ordinary wear and tear excepted.

In the event of our failure to comply with these conditions within a reasonable period of time, as determined by District, but not later than _____ days after being notified in writing by District, we authorize District to proceed to have the defects repaired at our expense, for which we will pay the costs and charges upon demand.

Dated: _____

General Contractor

By _____

Title

Representative (General Contractor)
to be Contacted for Service:

Name: _____

Address: _____

Telephone: _____

EARTHWORK

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this section shall include the furnishing of all labor, materials and equipment required to complete the clearing and grubbing, excavation, backfilling and compacted fill work as indicated on the drawings and as specified herein.

1.02 WORK INCLUDED (But not limited to the following items)

- a. Clearing and removal from site of all vegetation, rubbish and material (concrete, glass, wood, etc.) from previous use of the property not indicated on the drawings to remain.
- b. Excavating soil under buildings for compacted fill, if required.
- c. Preparing of area upon which fill is to be placed and placing of compacted fill.
- d. Furnish imported fill material, if required.
- e. Excavating for all footings, floor slabs, walks, walls, curbs, pits, etc.
- f. Proper bracing and shoring of all excavation where necessary to prevent caving.
- g. Backfilling foundations, placing and compacting fill for slabs and as required for area grading.
- h. Subgrading and preparation of subgrade for asphaltic concrete surfacing.
- i. Applying water to obtain compaction required in fills.
- j. Final finish grading.
- k. Top soil fill in areas indicated.
- l. Cleaning of site of all material excavated and not used and disposing of away from site.

1.03 RELATED WORK

- a. Excavating, trenching and backfilling for the plumbing, electrical or mechanical trades which is specified under the section to which it applies.
- b. Vapor barrier under concrete floor slabs is specified in Section 03010.

1.04 OWNER'S REPRESENTATIVE

- a. The earthwork operations will be under the direct inspection of the Geotechnical Engineer of Record for this Project, who shall be registered by the State as a Professional Engineer and who will be employed by the Owner. Refer to Section 01402, Tests and Inspections.
- b. The Geotechnical Engineer shall be the Owner's representative in control of all earthwork. The Geotechnical Engineer will approve or disapprove fill materials; will make appropriate tests and pass or reject compacted fill and will designate for removal any unsuitable materials, which may remain at the bottom of the excavated area after the limits of excavation indicated by the drawings have been reached.

- c. The contractor shall comply with the instructions of the Geotechnical Engineer as to the aspects of the work described above and shall cooperate with the Geotechnical Engineer in his performance of these duties.

1.05 GEOTECHNICAL REPORT

Unless otherwise noted, the recommendations found in the soils report for site preparation shall be followed but shall not be considered a part of this section. It shall be incumbent upon this contractor to review the soils report on file in the Architect's office. No additional monies will be allowed for any costs incurred due to negligence of the contractor in not reviewing the soils report.

1.06 PROTECTION

- a. Protection of Property: Care shall be taken to prevent damage to adjoining property and this contractor shall make good any damage resulting from this operation.
- b. Maintain protections and barricades as required. Cooperate with other trades requiring access.
- c. Survey work furnished by the owner, such as horizontal and vertical control survey monuments, bench marks, etc., shall be carefully maintained. Said work, if disturbed or destroyed, shall be replaced by the contractor's surveyor at the contractor's expense.
- d. Loads of material moving to or from the site shall be trimmed to prevent droppings along the street.

1.07 UNDERGROUND PIPES, CONDUITS AND UTILITIES

- a. Observe applicable regulations in work affecting underground utilities. Protect active utilities from damage and remove or relocate only as indicated or specified. Remove and plug or cap inactive or abandoned utilities encountered in excavating or grading. In absence of specific requirements, plug or cap at least 5 feet outside building walls.
- b. Excavating or trenching for new pipe, conduit or utility lines within five feet of building lines and under exterior walks, drives or pavement is subject to provisions of these specifications with respect to protection from moisture, backfilling and grading.
- c. Lines Containing Liquid: Check for leaks and certify to owner. Run such lines at least 5 feet outside building lines wherever possible.
- d. Notify utility companies and owner for all utilities to be cut off, modified or relocated. Maintain active utilities and protect same. No utilities shall be cut off without first obtaining permission from the Owner.

1.08 DRAWINGS AND SPECIFICATIONS

Cuts and Fills: The grades shown on the drawings do not necessarily indicate a balance of cut and fill. Any excess earth not needed for filling shall be removed from the site. Any earth required for filling shall be furnished by the contractor and shall meet the requirements under materials section for earth fill.

1.09 INSPECTION OF SITE

The contractor shall accept the site as he finds it at the time of submitting his bid for this work and no allowances will be made for any error or negligence resulting from his failure to inspect the site prior to submitting his bid proposal.

1.10 LAWS AND ORDINANCES

All excavating, bracing, barricading, backfilling, etc., shall be done in accordance with all applicable laws and/or ordinances.

1.11 ASTM STANDARD SPECIFICATIONS

Where reference is made to ASTM Standard Specifications, the latest issue of such specifications shall apply, except where other specific issue dates are identified in the Soils Report, T24, Part 2, or the applicable U.B.C. Standard.

1.12 SURFACE WATER

Surface water shall be controlled by grading as necessary to prevent erosion, damming or ponding in the bottom of structural excavations.

1.13 ALLOWABLE TOLERANCES

Maximum variation from indicated grades shall be 1/10 of one foot.

PART 2 PRODUCTS**2.01 MATERIALS**

- a. Earth for filling and backfilling shall be acceptable to the Architect and Geotechnical Engineer and shall be free from all objectionable material and shall be a clean, granular material suitable for compaction. Must be tested and approved by the Soils Engineer.
- b. Top Soil: A fertile, friable, loamy soil, free from toxic amounts of acids and alkalis, capable of sustaining healthy plant life. To be approved by Architect.

PART 3 EXECUTION**3.01 SITE CLEARING**

Clear the building site of all vegetation and rubbish, including all brush, grass, weeds, trees, roots, concrete slabs and footings, A.C. paving, tin cans, glass, wood, brick and large rocks (1-1/2" or larger), etc. Strip the entire property and easements down to bare earth. All vegetation and rubbish cleared and stripped from the site shall be removed from the site and legally disposed of.

3.02 PREPARATION OF AREA UPON WHICH FILL IS TO BE PLACED

- a. **Clearing and grubbing-** should consist of stripping grasses; removing existing structures...foundations, slabs, and miscellaneous concrete; removing buried utility lines; locating and removing or disposing of abandoned septic tanks and seepage pits (dry well) if any are encountered during site clearing and grubbing operations.
- b. **Stripping-** Prior to soil compaction, existing ground surfaces should be stripped of surface vegetation. A stripping depth of one inch should be adequate. In no instances should stripped material be used in engineered fill or blended with and compacted in original ground.
- c. **Slabs and Pavements-** Shall be completely removed. Asphaltic concrete fragments may be used in fill provided they are broken down to a maximum dimension of two inches and adequately disbursed within a friable soil matrix. Soil-AC mixtures should not be used above the elevation bottom of the lowest structure footing.
- d. **Foundations-** Existing at the time of grading should be completely removed.
- e. **Basements and septic tanks-** located in proposed structure areas should be completely removed. Basements or septic tanks situated outside the structure areas may be removed or disposed of by breaking the walls down to not less than two feet below finished grade; breaking the bottom out to provide drainage, and back-filling and compacting the resulting cavity using a sand slurry or by placing and compacting acceptable soils engineered fill. If a sand slurry is used, no compaction tests will be required.
- f. **Seepage pits-** in proposed structure areas should be removed to a minimum depth of five feet below finished grade or two feet below existing ground, whichever is lower. If a portion of the pit liner is to be abandoned in place, the void should be backfilled with sand slurry. In no instances should liners be left in place within a depth of two feet below existing ground.
- g. **Backfilling Cavities-** All voids or depressions created by clearing and grubbing operations should be backfilled with either on-site soils or acceptable imported fill materials. Materials used to backfill cavities should be placed and compacted in accordance with Paragraph 3.06.
- h. After the area to be filled is cleared, it shall be plowed or scarified to the depth of at least twelve (12) inches, and until the surface is free of ruts or uneven features which will tend to prevent uniform compaction. It shall then be compacted to a depth of at least twelve (12) inches in accordance with specifications for compacting fill material in Paragraph 3.03.

3.03 PLACING, SPREADING AND COMPACTING FILL MATERIAL

- a. The fill material shall be placed in layers which, when compacted, shall not exceed six inches (6"). Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to insure uniformity of material in each layer. When the moisture content of the fill material is below that specified by the Engineer, water shall be added until the moisture content is as specified. When the moisture content of the fill material is above that specified by the Engineer, the fill material shall be aerated by blading or other satisfactory methods until the moisture content is as specified.
- b. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than ninety percent (90%) of maximum dry density in accordance with ASTM D 1557-78, Method A, shall be by self-propelled multiple-wheel pneumatic tired rollers or other approved types of rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling shall be accomplished while the fill material is at the specified moisture content. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient trips to insure that the desired density has been obtained.
- c. Field density tests shall be taken as directed by the Engineer and when these tests indicate that the density of any layer of fill or portion thereof is below the required ninety percent (90%) density, that particular layer or portion shall be reworked until the required density has been obtained.
- d. The fill shall be brought to within 0.1' plus or minus of the finished grades and the surface shall be bladed to a smooth and uniform surface.
- e. Placing on Slope: Where the slope of the sub-grade surface on which fill is to be placed is 10:1 or steeper, bench the sub-grade in flat benches or at least ten feet (10'-0") in width prior to filling thereon. Prepare and compact each bench in accordance with the specifications for site preparations. Benching, preparation and compaction of the benched sub-grade may be done simultaneously with the filling operation; and the material excavated in benching may be mixed and compacted with new fill unless deemed unsuitable by the Soils Engineer. All fill materials shall be subject to the approval of the Engineer as excavated and placed.

3.04 PREPARATION OF FLOOR SLAB SUBGRADE IN CUT AREAS

Subgrade for concrete floor slabs in cut areas shall be prepared as in 3.02 above. The compacted subgrade shall be bladed to a smooth and uniform surface.

3.05 EXCAVATIONS

- a. The bottom of all excavations shall be smooth, level and firm and at the depth called for on the drawings. Any excavation made deeper than indicated on the drawings shall not be backfilled but filled with concrete by the concrete contractor. Concrete mix shall be of the same mix as specified for footings.
- b. All excavations shall be kept free of standing water by pumping, draining or any means necessary to this end.

- c. Sides of footings may be formed by neat excavations if banks will stand without caving. If caving results, footing excavations shall be made to a line not less than 18" beyond each face of the footing to permit installation and removal of forms. Faces of footings abutting a property line shall be formed in all cases.
- d. The contractor shall bear all costs for additional work on account of overexcavation.

3.06 BACKFILLING

- a. After forms are stripped and concrete surfaces approved, the space between the earth banks and the concrete shall be filled with clean earth. The backfill material shall be placed in layers, which, when compacted, shall not exceed six (6) inches in depth. It shall be moistened with water to bring it to the optimum moisture content and thoroughly compacted by means of mechanical compactors to indicated grades and to a density equal to that of the soil at the bottom of the footings, but not less than 90% of the maximum dry density in accordance with ASTM D 1557-78T, Method A.
- b. The backfill may be compacted by means of flooding (ponding) and jetting if the backfill and foundation material is granular (sandy) and free draining after compaction. This method shall be used only if approved ahead of time by the Structural Engineer. This method shall *not* be used under areas that will receive concrete slabs or A.C. paving. The backfill shall be placed in layers not over three (3) feet deep. Flooding shall not be used to compact the top foot below finish grade - use two 6" moistened layers as called for above. It may be necessary to use vibratory or other compaction equipment along with the flooding to obtain the required 90% compaction.

3.07 TOP SOIL

Place 12" of specified material in planters and planted areas; 6" of same in lawn or turf areas.

3.08 GRADING

After fill and backfill work has been completed, the areas outside of the building shall be finish graded to the indicated grades. Finish grades of lawn areas in general: 1" below walk grades; planted areas: 2" below walk grades; in planters: 6" below tops of planter walls. The areas inside of the building to receive slabs or other construction work shall be fine finish graded to the required grades. All grading shall be left even and free of all debris, shall be to the grades indicated on the drawings and shall be raked clean just prior to the owner's acceptance of the completed building.

3.09 DISPOSAL AND CLEANUP

- a. Rubbish, Debris, Rocks, Trees, etc.: Hauled away from site promptly and legally disposed of.
- b. Topsoil Strippings: Legally dispose of off site.
- c. Excess earth resulting from cutting and excavation to be legally disposed of off the site or hauled to an area as designated and stockpiled.
- d. Dust and Noise Abatement: During entire period of construction and during loading, keep area and material being loaded sprinkled to reduce dust in air and annoyance to premises and neighborhood. Exercise all reasonable means to abate undue noise.
- e. Clean up site, remove all debris and leave premises in clean and orderly condition.

3.10 CERTIFICATION OF GRADES

The contractor and the soils engineer shall, at the conclusion of the grading work, certify to the Architect that the grading has been performed in accordance with the specifications and is satisfactory for its intended use.

END OF SECTION
3/27/00

TERMITE CONTROL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this section shall include the furnishing of all labor, materials and equipment required to complete the "preconstruction" soils treatment under and adjacent to structures to provide a uniform toxic barrier in all routes of termite entry.

1.02 PROTECTION

Allow no disturbance of treated soil between application of poison and pouring of concrete.

1.03 GUARANTEE

Upon completion of soil treatment and as a condition of its final acceptance, furnish owner written guarantee against subterranean termite infestation for a period of at least five years from acceptance date of Project. Treat evidence of infestation within guarantee period at no cost to Owner.

PART 2 PRODUCTS

2.01 MATERIALS

Apply one of the following chemicals as a water emulsion at concentrations and volume specified. If impervious soils make a reduction in volume of solution necessary, increase percentage of toxicant used in proportion to insure same amount of insecticide be used per linear or square foot.

Durasban T.C., as manufactured by Dow Chemical.
Equal as approved by Architect. See Article 30, Section 00701.

PART 3 EXECUTION

3.01 APPLICATION

- a. Apply in strict conformance with the manufacturer's recommendations.
- b. All termite control must be performed by a state licensed structural pest control company.

3.02 APPLICATION RATES

- a. One gallon per 10 sq. ft. as overall treatment under slab and attached porches.
- b. 4 gallons per 10 lin. ft. along inside and outside of exterior foundation walls, and around utility services and other features that will penetrate slab.
- c. 2 gallons per 10 lin. ft. in voids of unit masonry foundation walls or piers.

END OF SECTION
4/10/96

VEGETATION CONTROL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this Section shall include the furnishing of all labor, materials and equipment required to complete the sterilization to prevent seed germination and plant growth, under paving, sidewalks and other areas indicated on the drawings.

1.02 PROTECTION

Take necessary precautions to protect adjoining property and areas designated for planting on building site.

PART 2 PRODUCTS

2.01 Acceptable Materials:

- a. Monobor Chlorate, as manufactured by Best Chemical Co.
- b. Dyclomec AG, as manufactured by PBI/Gordon Corp.

PART 3 EXECUTION

3.01 Apply in accordance with the manufacturer's recommendation.

END OF SECTION

4/10/96

CHAIN LINK FENCES AND GATES

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this Section shall include all labor, material, equipment and appliances and required to complete the fencing indicated on the drawings and specified herein.

1.02 WORK INCLUDED

- a. All chain link fencing, posts, headrails, braces, fittings, fabric, hardware and gates.
- b. Excavation and concrete footings for chain link fence work.

1.03 RELATED WORK

Concrete design and concrete mow strips - see Section 03010.

1.04 GENERAL REQUIREMENTS

- a. Workmanship: Only skilled workmen experienced in their respective trades and work shall be employed. All work shall be performed in a first-class workmanlike manner and shall be subject to the approval of the Architect.
- b. Measurements: The contractor shall take measurements of the building site and verify the dimensions indicated on the drawings.
- c. Completeness: The contractor shall furnish and install all appurtenances required to give a complete and satisfactory fence.
- d. Responsibility: The contractor shall be responsible for properly locating the fence within the property lines.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- a. MASTER-HALCO
- b. USA Industries, (801) 972-5124
- c. Substitutions: Whenever any material is specified by name and/or number thereof, such specifications shall be deemed to be used for the purpose of facilitating a description of the materials and establishing quality, and shall be deemed and construed to be followed by the words "or approved equal". No substitution will be permitted which has not been submitted for prior approval by the Architect. All materials shall be new and the best of their class and kind and free of visible defects. Sufficient descriptive literature and/or samples must be furnished for any materials submitted as "equal" substitutes. All materials shall be guaranteed for a period of one (1) year against material defects and workmanship.

2.02 MATERIALS

- a. Chain Link Fencing: Shall be 6'-0" high typically or as indicated on drawings.
- (1) Fabric shall be "Galv-After" chain link wire heavily zinc coated (galvanized) by the hot-dip process AFTER WEAVING full heights as shown on plans. Fabric shall be made of No. 9 gauge class cone (1) coated wire with 2" mesh and 1.202/ft.2 zinc coating.
 - (2) Tensile Strength Test: The wire pickets of which this fabric is made is to stand a tensile strength test of 70,000 pounds per square inch based on the cross sectional area of the galvanized wire.
 - (3) Galvanizing Test: Chain link fabric to comply with ASTM A239.
- b. Posts shall conform to Table 1. Length of posts shall be compatible with the specified fence height, or shall be as detailed. The term "Terminal posts" shall apply to end, corner, and pull posts. The term "Line posts" is defined as the vertical posts installed between terminal posts. The term "Gate posts" shall apply to the post supporting the weight of the gate.

TABLE 1

<u>Post Type</u>	<u>Fabric Heights</u>	<u>Size</u>	<u>Weight (lb./l.f.)</u>
Terminal	6 ft. or less	2.875" o.d.	5.79
	6'-1" to 12'-0"	4" o.d.	9.11
	Over 12'-0"	6.625" o.d.	18.97
Line	12'-0" or less	2.375" o.d.	3.65
	Over 12'-0"	2.875" o.d.	5.79
	<u>Gate Leaf Widths</u>	<u>Post Size</u>	
Gate	6'-0" or less	2.875" o.d.	5.79
	6'-1" to 13'-0"	4" o.d.	9.11
	13'-1" to 18'-0"	6.625" o.d.	18.97
	18'-1" to 23'-0"	8.625" o.d.	28.55
Sliding Gate	Varies	Same as terminal post	

- c. Line Posts: Shall be hot-dip galvanized, Class I steel pipe, Grades A and B, 1.2 oz. zinc-coated, Schedule 40, per ASTM A-120. See Table 1 for pipe diameter and weights for applicable heights.
- d. End, Corner, Pull and Gate Posts: Shall be hot-dip galvanized, Class I steel pipe, Grades A and B, 1.2 oz. zinc-coated, Schedule 40, per ASTM A-120. See Table 1 for pipe diameter and weights for applicable heights. Install corner posts at the beginning and at all ends of all radii.

- e. Depth and Setting of Posts: All posts shall be set three feet (3') min. in concrete footings. Concrete base shall be 39" deep x 10" diameter for line posts and 39" deep x 14" diameter for end/gate posts, unless otherwise noted. The cement shall extend three inches (3") below bottom of all posts.
- f. Top Rail and Bracing: Shall be hot-dip galvanized pipe (1.66") o.d., weight 2.27 pounds per linear foot. Attach fabric to top rail with 13 Ga. annealed galvanized wire, double wrapped at 12" o.c.
- g. Post Tops: Shall be hot-dip galvanized. All posts fitted with heavy ornamental tops.
- h. Fittings: Shall be heavy weight malleable wrought iron or heavy weight pressed steel and shall be hot-dip galvanized. Fabric shall be fastened to end corner and gate posts with 1/4" x 3/4" stretcher bars and not less than 1/8" x 3/4" wide stretch bar bands at one foot (1'-0") center to center.
- i. Fabric Attachment: Fabric shall be fastened to line posts with 9 ga. annealed galvanized wire, single wrapped approximately at eighteen inch (18") centers minimum 5 per post..
- j. Gates: Gate frames to be made of hot-dip galvanized pipe (1.90") o.d., weight 2.72 pounds per linear foot. Gate corners shall be welded. Fabric to be same as in fence. Gates to be complete with heavy weight malleable iron hinges and catches. Single gate to have a fork latch with padlock attachment, double gates shall have drop-bar with gate holdbacks.
- k. Rolling Gates: Supply 6" round wheels with two (2) (1.66") o.d. rail track on the side of the fence.
- l. Concrete: See Section 03010.
- m. Latches: Shall be fork-latch type and attachments for padlock locking on all gates.
- n. Finish: All materials entering into the construction of this fence shall be heavily hot dip galvanized.
- o. Tension Wire: Shall be 7 ga. coil spring class III steel wire, 1.2 oz. zinc coated attached to fabric with 9 ga. hog rings at 24" o.c.
- p. Slatted Chain Link: Shall be 3-1/2"x 5"x 9 gauge galvanized chain link "Woodlink" with 1/4"x 2-1/4" redwood slats per manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION AND VERIFICATION OF DRAWINGS AND SITES

It shall be The Contractor's responsibility to report to the Architect any deviations between the drawings, specifications and the site. Failure to do so prior to the installing of equipment, shall be done at The contractor's expense.

3.02 ORDINANCES AND REGULATIONS

All local, municipal and state laws and rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications and their provisions shall be carried out by the contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations or requirements of same. However, when these specifications and/or drawings call for or describe materials, workmanship or construction of a better quality, higher standard or larger size, specification and/or drawings shall take precedence over the requirements of said rules and regulations.

3.03 INSTALLATION

- a. Headrails and top of fabric shall be level and true to line.
- b. Posts shall be spaced not over ten foot (10'-0") centers or where shown on plans.
- c. Fencing shall stair-step up or down retaining walls, grades, curbs, etc., in a level, perpendicular and satisfactory fashion.

3.04 CLEAN UP

All excess soil, debris, rubbish, etc., which results from work performed under this section shall be cleaned up and removed from the site. It shall be legally disposed of off site.

END OF SECTION
6/7/99

ASPHALTIC CONCRETE

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this Section shall include all labor, material, equipment and appliances required to complete all the work shown on the drawings and/or specified hereunder.

1.02 WORK INCLUDED

- a. Rolling and preparing the finish sub-grade to receive asphaltic concrete.
- b. Laying of aggregate base and paving with asphaltic concrete of all areas as indicated on the drawings.
- c. Redwood header boards around the areas to be paved with asphaltic concrete unless otherwise noted.
- d. Fog seal.

1.03 RELATED WORK

- a. Vegetation control is specified under Section 02282.
- b. Finish grading is specified under Earthwork, Section 02200, however, rolling preparation of finish grade under asphalt paving is part of this contract.

1.04 GUARANTEE

In addition to the guarantee as specified elsewhere in these Specifications, this Contractor shall repair or restore to first class condition any portion of the asphaltic concrete paving in which ~~creeping, shoving, cracking, ravelling, softening or other defects~~ that are due to improper placing or defective materials that appear or become apparent within one (1) year from the date of acceptance.

PART 2 PRODUCTS

2.01 MATERIALS

- a. Hot-Mix Asphaltic Concrete, uniformly graded aggregate to 1/2" maximum medium grading, graded as per State of California Division of Highways, Standard Specifications Section 39 and intimately mixed with 5 - 6-1/2% of AR 8000 or AR 4000 paving asphalt or as determined by the Architect.
- b. Redwood: All heart foundation grade redwood.
- c. Redwood Headers: 3x6 redwood.
- d. Aggregate Base: Class 2, 3/4" aggregate graded as per State of California Division of Highways, Standard Specifications, Section 26.
- e. Fog Seal: Asphalt emulsion SS-1/SS-1h mixed with water 1:1.

PART 3 EXECUTION**3.01 INSPECTION**

- a. Verify gradients and elevations of sub base are correct.
- b. Beginning of installation means acceptance of substrate.

3.02 TOLERANCES

- a. Flatness: Maximum variation of 1/4 inch, measured with 10 foot straight edge.
- b. Compacted Scheduled Thickness: Within 1/4 inch of design thickness.
- c. Variation from True Elevation: Within 1/2 inch.

3.03 INSTALLATION

- a. Preparation of Grade: All base over which asphaltic concrete is to be placed shall be rolled with a three (3) to five (5) ton roller, making seven (7) passes over all of the areas to receive asphaltic concrete.
- b. Paving for Vehicular Traffic: Asphaltic concrete and aggregate base shall be placed to thicknesses shown on the plans. Asphalt concrete shall be placed and compacted in accordance with Section 39 and base material shall be spread and compacted in accordance with Section 26 of the State of California, Division of Highways Standard Specifications. The finish shall have no variations greater than one-quarter inch (1/4") in ten feet (10'-0") and the texture of finish shall be uniform and at a maximum density for the type of aggregate used.
- c. Header boards: Unless otherwise noted, place redwood header boards around the areas to be paved with asphaltic concrete. To secure the header boards, use 1" x 4" x 1'-6" long redwood stakes at four feet (4'-0") on center.
- d. Fog Seal: Spray the entire area after the paving is completed at a rate of approximately 0.1 gallon per square yard as per Section 37 of the State specifications.

3.04 GENERAL REQUIREMENTS

- a. Layout of Work: This contractor shall lay out his work and be responsible for the accuracy of the measurements.
- b. Cooperation: This contractor shall cooperate with the other trades in establishing the time of commencing and completing the work of this section.
- c. Approvals: The material source from which asphaltic concrete is procured shall be approved by the Architect.
- d. Protection of Other Work: Care shall be taken to prevent damage to existing property, concrete slabs and to any of the new work performed under the contract and shall make good any damage resulting from this operation.
- e. Inspection of Site: This contractor shall be held to have examined the site and satisfied himself to the existing conditions and the conditions under which he will be obliged to operate.

END OF SECTION
4/10/96

CONCRETE PAVING

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

- a. Site concrete paving, including sidewalks, fire lane.
- b. Curbs, gutters.

1.02 RELATED SECTIONS

- a. Site grading
- b. Asphalt concrete paving
- c. Landscaping
- d. Reinforcing steel
- e. Sewerage and drainage (storm sewer)

1.03 QUALITY ASSURANCE

- a. Comply with the latest publications for materials and operations of the following:
 - 1. The American Society for Testing and Materials (ASTM).
 - 2. American National Standards Institute (ANSI).
 - 3. The American Concrete Institute (ACI).
 - 4. The American Welding Society (AWS).
 - 5. Portland Cement Associations (PCA).
 - 6. State Building Codes.
 - 7. State of California, Department of Transportation (CALTRANS) Standard Specifications, latest edition.
- b. Certify in writing that Contractor has not less than five years experience in the field of providing specified finishes.
- c. Perform work specified herein under the personal and constant supervision of a competent construction superintendent experienced in this class of work.
- d. Provide slump tests for checking consistency of concrete mixture shall be made in accordance with ASTM C-143.
- e. Pay for any and all re-inspection, re-testing, re-design required due to the failure of concrete to meet requirements.
- f. For additional reference information, consult Portland Cement Association booklet; Cement Mason's Guide to Building Concrete Walks, Drives, Patios, and Steps.
- g. All concrete work: True to lines and grade as indicated on the drawings. Be responsible for proper drainage, without birdbaths, on all concrete paving surfaces. Bring discrepancies or omissions on drawings, or conditions on the site which prevents proper drainage to the attention of the Architect in writing for corrections before work proceeds.
- h. All Construction: Conform to current applicable codes and ordinances.
- i. Coordinate placement of embedded items to avoid block-outs and cutting in finished work.

1.04 SUBMITTALS

- a. Submit manufacturer's certification that materials meet specification requirements.
- b. Submit concrete mix design.

1.05 PACKAGING, DELIVERY, STORAGE AND HANDLING

- a. Deliver packaged materials in manufacturer's original, unopened containers bearing manufacturer's name and brand.
- b. Protect materials delivered against inclusion of foreign matter.
- c. Store materials in dry location and protect against water.

1.06 JOB CONDITIONS

- a. Inspection:
 - 1. Examine areas for conditions under which work is to be performed. Report in writing to Architect all conditions contrary to those shown on the drawing or specified herein and all other conditions that will affect satisfactory execution of work such as improperly constructed substrates or adjoining work. Do not proceed with work until unsatisfactory conditions have been corrected.
 - 2. Start of work constitutes acceptance of the conditions under which work is to be performed. After such acceptance, be responsible for correcting all unsatisfactory and defective work resulting from such unsatisfactory condition at own expense.
- b. Do not start work until temperature is at least 50 degrees F and rising, or if rain is predicted within eight hours.
- c. Owner will select a qualified testing laboratory to take samples for testing during the course of the work as considered necessary. Cost of such test will be paid for by Owner. Cooperate in making tests and be responsible for notifying the designated laboratory in sufficient time to allow taking of sample at time of placement.
- d. If test shows that concrete is below specified strength, remove all such concrete, as directed by Architect. Pay for removal of low strength concrete and its replacement with concrete of proper specified strength and testing.

PART 2 PRODUCTS

2.01 MATERIALS

- a. Cement: Shall conform to ASTM C-150, Type II, low alkali.
- b. Concrete: Shall be 2500 psi, Class B, 5.25 sack mix unless otherwise indicated; conforming to Section 90 of the State Standard Specifications.
- c. Aggregate: Shall be 1 inch maximum, conforming to ASTM C-33.
- d. Water/cement ratio: Shall not exceed 7.6 gals./sack cement.
- e. Reinforcing: Shall conform to ASTM A-615, Grade 40, deformed bars or smooth dowels.
- f. Curing Compound: Shall conform to AASHTO Des. M148, Type 2, Class A, white pigmented, except the loss of water in the water retention test should not exceed 0.04 grams per square centimeter of surface.

- g. Preformed Joint Filler: Shall conform to ASTM D-1751 or ASTM D-994, 1/2 inch thick unless otherwise indicated.
- h. Water: Shall be clean and free from deleterious acids, alkali, oil, and organic matter, and shall be potable.
- i. Slump: Maximum slump shall be 4", conforming to ASTM C-143.
- j. Form Release: Shall be a 100% chemically reactive release agent conforming to Corps of Engineers CEGS-03300, Section 10.8. Form oil, diesel oil or kerosene not allowed.

PART 3 EXECUTION

3.01 SUBGRADE PREPARATION

- a. Subgrade for the curb, gutter, fire-lane, valley-gutters, concrete paving and sidewalks: Grade to plus or minus 0.1 feet. Compact all subgrade on which concrete is to be placed to a depth of 6 inches to a relative compaction of 90 percent prior to placing of any concrete.
- b. Protect the subgrade from damage after the preparation has been completed. This contractor shall be responsible for all additional fine grading as required.
- c. Test the completed subgrade for grade and cross section by means of a template supported on side forms. Wet the subgrade and forms thoroughly, immediately in advance of placing concrete.

3.02 FORMS

- a. Forms: Shall be smooth on the side placed next to the concrete, with a true smooth upper edge, and rigid enough to withstand the pressure of fresh concrete without distortion.
- b. All forms shall be thoroughly cleaned and coated with form release to prevent the concrete from adhering to them. Depth of face forms for concrete curbs, equal to the full face height of the curb.
- c. Carefully set forms to alignment and grade; conform to the required dimensions. Hold forms rigidly in place by stakes. Brace at 12" o.c. at plywood (5/8" min.) forms and 24" o.c. at 2x forms. Use clamps, spreaders and braces where required to insure rigidity in the forms.
- d. Do not remove the form on the front of curbs in less than one hour nor more than six hours after the concrete has been placed. In no event shall forms be removed while the concrete is sufficiently plastic to slump. Do not remove side forms for gutters and sidewalks in less than 12 hours after the finishing has been completed.

3.03 CURB AND GUTTER CONSTRUCTION

- a. Expansion joints 1/2 inch wide shall be constructed in curbs and gutters at 30 foot intervals, at each side of structures and at the ends of curb returns. Expansion joints shall be filled with pre-molded joint filler conforming to the provisions in State Standard Specifications, Section 51-01.12C, "Premolded Expansion Joint Fillers". Expansion joint filler shall be shaped to the cross section of the curb and gutter. Contraction joints shall be constructed at 10 foot maximum spacing. Cut contraction joints minimum 1-1/4 inch deep with a jointing tool after surface has been finished. Joints shall be constructed at

right angles to the curb lines. Concrete shall be placed and compacted in forms without segregation.

- b. Prior to the removal of the forms, the surface shall be finished true to grade by means of a straightedge float, not less than 10 feet in length, operated longitudinally over the surface of the concrete. Form clamps shall be so constructed as not to interfere with the operation of this float.
- c. Immediately after removing the front curb forms, the face of the curb shall be troweled smooth to the flow line of the integral curb and gutter, and then finished with a steel trowel. The top shall be finished and the front and back edges rounded as shown on the plans.
- d. After the face of the curb has been troweled smooth, apply a final fine brush finish with brush strokes parallel to the line of the curb. Give gutters a broom finish with strokes parallel to the line of the gutter.
- e. Top and face of the finished curb: Shall be of uniform width, free from humps, sags or other irregularities. When a straightedge 10 feet long is laid on the top of face of the curb or on the surface of gutters, the surface shall not vary more than 0.01 foot from the edge of the straightedge, except at grade changes or curves.
- f. Depress curbs to provide entrances for driveways and wheelchair ramps. The entrances shall be of the dimensions shown on the plans.
- g. Clean, at own expense, all discolored concrete. The concrete may be cleaned by abrasive blast cleaning or other methods approved by the Architect.
- h. Make repairs by removing and replacing the entire unit between scoring lines or joints.

3.04 VALLEY GUTTER, CONCRETE PAVING AND SIDEWALKS

- a. Fresh concrete shall be struck off and compacted until a layer of mortar has been brought to the surface. The surface shall be finished to grade and cross section with a float, troweled smooth and finished with a broom. The float shall not be less than 10 feet in length and not less than 6 inches in width. Brooming shall be transverse to the line of traffic and, if water is necessary, it shall be applied to the surface immediately in advance of brooming. Test all valley gutters to prove conformance with Article 3.03 e.
- b. Expansion joints 1/2 inch wide shall be constructed at all turns and opposite expansion joints in adjacent curb. Where curb is not adjacent, expansion joints shall be constructed at intervals of 30 feet. Expansion joints shall be filled with pre-molded joint filler conforming to the provisions in Section 51-1.12c, "Premolded Expansion Joint Fillers". Contraction joints shall be constructed at 10 foot maximum spacing. Cut contraction joints minimum 1-1/4 inch deep with a jointing tool after surface has been finished.
- c. Where concrete borders are to be placed around or adjacent to manholes, drop inlets, or other miscellaneous structures in gutter depressions, island paving, or driveway areas, such structures shall be constructed to final grade before the borders are constructed.

3.05 CONCRETE FINISHES

Broom Finish: Texture with burlap bag or broom device to produce a uniform, non-skid (broom) finish.

3.06 CONCRETE CURING

- a. Spray the entire surface of the concrete uniformly with a white pigmented curing compound. Should the film of compound be damaged from any cause before the expiration of 72 hours, repair the damaged portions immediately with additional compound.
- b. Surface so newly placed concrete to be cured by the pigmented curing compound shall be kept moist or wet until the curing compound is applied and the curing compound shall not be applied until all patching or surfacing finishing has been completed.
- c. The curing compound shall be delivered to the work in ready-mixed form. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. The compound shall not be diluted or altered in any manner.
- d. Curing compound that has become chilled to such an extent that it is too viscous for satisfactory application shall be warmed to a temperature not exceeding 100 degrees F.
- e. Apply the curing compound to the exposed surface at a uniform rate of one gallon per 150 square feet of area.

3.07 CLEAN UP

- a. Upon completion of other work in buildings, all concrete paving surfaces shall be swept clean and all mortar and stains removed therefrom.
- b. This Contractor shall remove from the premises all surplus material, equipment and debris as a result of work in this Section.

END OF SECTION
4/10/96

CONCRETE WORK

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION.

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this section shall include the furnishing of all labor; materials and equipment required to complete the concrete work as indicated on the drawings and as specified herein.

1.02 WORK INCLUDED (But not limited to the following items)

- a. Provide and install concrete, plain, and reinforced, in place.
- b. Provide and install formwork and shoring.
- c. Placing only of bolts anchors frames, inserts, etc.
- d. Provide and install control and expansion joints.
- e. Curing, protection and patching of concrete.
- f. Finishing concrete surfaces.
- g. Precast concrete units.
- h. Concrete pits and slabs for plumbing, electrical, heating and ventilation.
- i. Cost of concrete mix designs.
- j. Vapor barrier and sand fill under concrete floor slabs.
- k. Clean up work related to this Section.
- l. Special finish on cast-in-place concrete

1.03 RELATED WORK

- a. Reinforcing steel is specified in Section 03210.
- b. Filling, backfilling and compaction are specified under Section 02200.
- c. Furnishing of bolts, anchors, frames, inserts, etc. is specified in Sections 05120 and 06100.
- d. Concrete valve boxes for plumbing work are specified in Section 15400.
- e. The cost of testing all materials, *including cement and aggregate*, shall be paid by the Owner. The Contractor shall cooperate in furnishing test materials so that test may be completed prior to their installation.
- f. Concrete encased electrical conduit is specified in Section 16050.
- g. Vegetation control is specified in Section 02282.
- h. Termite control is specified in Section 02281.

1.04 TESTS AND INSPECTIONS

- a. Refer to Section 01402, Quality Control, for these requirements.
- b. No work of this Section shall be covered until inspected by the Engineer or his authorized representative.
- c. Tests and evaluation shall conform to T24, Sec. 1903.

1.05 SPECIAL REQUIREMENTS

All concrete shall be mixed, formed, placed and cured, finished and protected in conformance with the recommendations of the Portland Cement

Association and the American Concrete Institute unless otherwise shown or noted in these specifications.

1.06 DEFECTIVE CONCRETE

Concrete not meeting the minimum strength requirement, not formed as indicated, not true to intended alignment, which has large voids or rock pockets, which has wood or debris embedded in it, which has a surface deviation of greater than one-eighth inch (1/8") in ten feet (10'-0") or does not fully conform to the specifications shall be deemed defective and if so directed by the Architect, shall be removed and replaced with concrete complying with the drawings and specifications. Precast panels or other concrete damaged due to erection operations shall be deemed defective concrete.

PART 2 PRODUCTS

2.01 MATERIALS

- a. Portland Cement: Shall conform to ASTM C 150-89, Type II, and T24, Sec. 1903A.2, 1929A.1 with the following modifications:
 - (1) The cement shall not contain more than 0.60% total alkali when calculated as Sodium Oxide.
 - (2) The percentage of Tricalcium Silicate shall not be limited.
 - (3) Cement shall be stored in such a manner as to protect it from inclusion of foreign material and damage by moisture. Only one (1) brand of cement shall be used for this work.
- b. Aggregates: Shall conform to ASTM C-33-86 except as modified below.
 - (1) Fine aggregate: Shall consist of a washed natural sand of hard, strong and durable particles, which do not contain more than two percent (2%) by weight of deleterious substances such as clay lumps, shale, schist, alkali, mica, coated grains, or soft and flaky particles. Fine aggregate shall be graded uniformly from fine to coarse and when combined with coarse aggregate shall meet the requirements of Table 1.
 - (2) Coarse Aggregate: Shall consist of a clean, hard, fine grained, sound crushed rock, or washed gravel. It shall contain not more than five percent (5%) by weight of flat, thin, elongated, or laminated material nor more than two percent (2%) by weight shale or cherty material. Coarse aggregate shall be graded uniformly from one fourth inch (1/4") in size to maximum size and when combined with fine aggregate shall meet the requirements of Table 1.

TABLE I

GRADING OF COMBINED AGGREGATES
Complies with Table 19A - J of 1995 C.B.C. Title 24

Sieve Number or Size in Inches (Woven Wire Cloth)	Percent by Weight 1-1/2" Max.	1" Maximum	3/4" Maximum
Passing a 1-1/2"	95-100	---	---
Passing a 1"	70-90	90-100	---
Passing a 3/4"	50-80	70-95	90-100
Passing a 3/8"	40-60	45-70	55-75
Passing a #4	35-55	35-55	40-60
Passing a #8	25-40	27-45	30-46
Passing a #16	16-34	20-38	23-40
Passing a #30	12-25	12-27	13-28
Passing a #50	2-12	5-15	5-15
Passing a #100	0-3	0-5	0-5

- c. Water: Shall be clean and free from deleterious acids, alkali, oil, and organic matter and shall be potable.
- d. Concrete Slab Control Joints: Shall be one of the following types as indicated and located on the drawings:
 - (1) Construction Joints: Shall be Burke #NC-203 "Keyed Kold Joint", or approved equal, 26 gauge galvanized steel continuous joint form with #54-505 removable kap at exterior slabs and #54-510 kap at interior slabs. Seal exterior joints with Sikaflex 2c, color as selected.
 - (2) Expansion Joints: Shall be formed with Burke 1/2" x 4" fiber expansion joint with Burke 1/2" x 1/2" removable plastic cap. Sealant shall be two-part polyurethane, Sikaflex 2c, color as selected.
 - (3) Control Joints: Shall be 1/8" w x 1-1/4" d tooled or saw-cut joints. Control joints may be plastic "Zip-Strips" by Burke or W.R. Meadows (1-1/2" dp. min.).
- e. Sand Fill under Slabs: Shall be clean sand conforming to the fine aggregate specification in 2.01b. above, except that mesh grading will not be required.
- f. Vapor Barrier: Shall be 10-mil polyvinyl chloride, "Vinyl Flash" by Pascal Corp. or approved equal.
- g. Vapor Barrier Adhesive: Shall be Nervaplast or approved equal.
- h. Sealer/Hardener/Curing Compound: Shall conform to ASTM C-309-89, Type I, Class A. The compound shall *not* be of wax base and shall not impair in any way the application of floor coverings, W.R. Meadows "Med-Cure"; Nox-crete Inc. "Bro-Cure"; Curecrete Chemical Co. "Ashford Formula", or approved equal.

OR USE

- h. For concrete scheduled to receive finish flooring surfaces (i.e. ceramic tile, carpet, vinyl tile, sheet vinyl, etc.), provide CS2000 spray applied curing compound or approved equal on all freshly poured concrete. Sealer/Hardener/Curing Compound: Shall conform to ASTM C-309-89, Type I, Class A. The compound shall *not* be of wax base and shall *not* impair in any way the application of floor coverings.

- i. Abrasive Aggregate: Shall be aluminum oxide grits or crushed emery, factory graded, packaged, rustproof and non-glazing. "GRIP IT", manufactured by L&M Construction Chemicals, Inc.
- j. Rock Salt: Shall be standard brand in chips, similar to that packaged for use by the general public in ice cream freezers.
- k. Color Admixture: Shall be 'Chromix-Admixture' and cured with 'Lithochrome-Colorwax', as manufactured by L.M. Scofield Company or approved equal. Color as selected by Architect from earthtone ranges.
- l. Stamped Concrete: Shall be "Bomanite", or approved equal, using Bomanite Color Hardener and Color Curing Compound or approved equals.
- m. Admixture: Water-reducing admixture shall be Pozzoloth 322N, Zeecon "H", Grace WRDA-79 or approved equal, conforming to 1994 UBC Materials, Testing & Installation Standards No. 19-1.
- n. Manufactured Grout: Shall be non-shrink, non-metallic, non-corrosive, and high strength, conforming to Corps. of Engineers CRD-621. SilagROUT 212, W.R. Meadows #588 grout or approved equal.
- o. Form Release: Provide form-coating material, which conforms to the regulations of the local air quality management district in force at the time of application. Use a non-staining, non-residual, chemically active release agent. DEBOND FORM COATING, manufactured by L&M Construction Chemicals, Inc. or "Crete Lease 880 VOC", by Cresset Chemical Company.
- p. Imprint Concrete, as manufactured and licensed by Bomanite Corp., 81 Encina Avenue, Palo Alto, CA 94301, phone 415/321-0718, Lasting Impression, or approved equal.

PART 3 EXECUTION

3.01 PROPORTIONING OF CONCRETE MIXES

- a. Strength: The minimum ultimate (28 day) compressive strength of structural concrete shall be 3000 p.s.i. Its strength shall be at least 1800 p.s.i. at the age of 7 days and at least 3000 p.s.i. at 28 days. Where non-structural 'concrete paving' is required, its compressive strength shall be 2500 p.s.i. Its strength shall be at least 1500 p.s.i. at 7 days and at least 2500 p.s.i. at 28 days.
- b. Proportions: The Contractor shall propose to the Architect and Engineer *Laboratory Designed Mixes* based on the following limitations. The mix design shall be approved prior to use. The mix designer shall determine the relative amounts of fine and coarse aggregate and mixing water in accordance with T24 Method B or Method C, Section 1904A, 1905A.1, A.2, A. The Contractor shall pay the costs of concrete mix designs, including the cost of aggregate gradation analysis where required.

TABLE II
CONCRETE MIXES
Complies with table 19A-A3 of C.B.C. Title 24

Gallons Concrete Type	Maximum Size per Cubic yard. of Aggregate of Concrete	Minimum 94 lbs. Sacks of Cement	Maximum
		Water per 94 lbs. Sack of Cement	
3000 psi	3/4"	5.75	7.3
	1"	5.50	7.3
	1-1/2"	5.25	7.3
2500 psi	3/4"	5.50	7.6
	1"	5.25	7.6
	1-1/2"	5.50	7.6
3000 psi	3/8"	6.75	5.8

* Special mix design to be used for "stamped Concrete" slabs on grade only. The aggregate gradation of this mix shall be as required by the "Stamped Concrete" sub-contractor; the cement and water content shall be designed by the Laboratory.

- c. Minimum Cement Content: The minimum cement contents indicated above may be reduced by a maximum of 0.25 sacks per cubic yard, subject to the approval of the Engineer, if the resulting mix design can be substantiated by:

- (1) The recent experience of the laboratory with the materials and facilities of the manufacturer, and
- (2) Documented test results of trial batching or of the use of the specific mix on prior work.

- d. Admixture: The admixture shall not be used to replace cement.

- e. Slump: The amount of mixing water used (including free moisture carried by the aggregate) shall not exceed the maximum allowed in Table II. In addition, the amount used shall be the minimum necessary to produce the following maximum allowable slumps:

Concrete cast on metal deck 3" maximum
Precast wall panels/slabs (Flatwork) 4" maximum
All other concrete 5" maximum

The slump test shall conform to ASTM C-143-89.

- f. Aggregate Size:

Type of Work	Max.	Aggregate	Size
Joists or walls	Less than 5" wide		3/4"
Beams or walls	5" to less than 8" wide,		
slabs above grade	Less than 6" thick,		

floor slabs on grade
All other concrete

1"
1-1/2"

3.02 PROPORTIONING OF GROUT AND DRYPACK (Handmixed)

- a. Grout: Shall be composed of one (1) volume of portland cement and three (3) volumes of fine aggregate and only enough water to make the mixture flow under its own weight.
- b. Drypack: Shall be composed as for grout except that only enough water shall be added to set the mixture (no free water and no slump). Drypack will be tamped into place.
- c. Do not use grout or drypack that has been mixed longer than thirty (30) minutes.

3.03 GROUT (Manufactured)

Manufactured grout shall be used at all 'blocked-out' and imbedded steel or aluminum items and as shown on structural drawings.

3.04 FORMS

- a. General Construction Requirements: Forms shall be constructed of wood built true to line and grade, mortar tight, and sufficiently rigid to prevent excessive deflection between supports. The arrangement and construction shall be subject to the approval of the Engineer, but responsibility for adequacy of the forms shall rest with this Contractor. Forms shall be arranged so as to properly receive and engage other construction and all anchorage sleeves, inserts, bolts, conduit, or other devices shall be installed prior to the placing of concrete.
- b. Forms for Exposed Concrete: All exposed concrete shall be formed with 5/8" (minimum) Douglas Fir "Plyform" placed with the grain of the outer plys in the direction of their span. Form construction shall insure that the concrete surfaces will conform to the tolerances of "Recommended practices for Concrete Form Work" (A.C.I. 347). The supporting studs or joists shall be spaced not more than twelve inches (12") center to center. The surfaces of the forms shall be smooth and free from irregularities. Wall form panels shall be placed with their long dimension horizontal and so as to form continuous horizontal joints. All exposed sharp corners shall be formed with 3/4" chamfers or fillets.
- c. Form Ties or Bolts: Shall be used to fasten the forms. They shall be of sufficient strength and number to prevent spreading of the forms. They shall be of such type that they can be entirely removed or cut back one inch (1") or more from the finished concrete surface. Wire ties will not be permitted.
- d. Form Coating: Forms shall be coated with form release applied shortly before the concrete is placed but prior to placing the reinforcement.
- e. Cleaning: All dirt, chips, sawdust, nails and other foreign matter shall be completely removed from the forms before concrete is placed. Forms previously used shall be thoroughly cleaned of all dirt, mortar, and other foreign matter before being reused.

- f. Removal: The forms shall not be removed until the concrete has sufficiently hardened to permit their removal with safety, but in no case in less time than as follows:

Columns, Walls, Vertical Forms 24 hours
 Slabs. 7 days
 Joists, Beams and Girders. 14 days

All removal shall be accomplished in such a manner as to prevent injury to the concrete. Comply with T24, Sec. 1906A.2.

- g. Foundation Concrete: Shall be placed directly into neat excavations provided the trench walls are stable as determined by the Structural Engineer or his representative. In such cases, the minimum formwork shown on the structural drawings shall apply.

3.05 VAPOR BARRIER

Place a 10 mil polyvinyl chloride membrane over the compacted earth subgrade with all side seams lapped a minimum of 6 inches and cemented with the specified adhesive. At perimeters, membrane shall be turned up against footings or walls and cemented with adhesive. Penetrations through membrane required by piping, conduit, drains, reinforcing, and anchors shall be formed by cutting slits in membrane material and then sealing membrane surface and sealing against the riser.

3.06 SAND FILL

Fill Under Interior Floor Slabs: Place vapor barrier over compacted earth subgrade. Apply two inches (2") of sand fill over the completed membrane, moisten, grade smooth and level and roll to smooth, even surface. Keep sand cover moist during subsequent work but do not allow to become saturated. Exterior concrete slabs will not require this fill except where indicated on the drawings.

3.07 EMBEDDED ITEMS

- a. This Contractor shall cooperate with all tradesmen to insure that all conduit, anchor bolts, sleeves, inserts, hangers, etc., are properly installed and secured in correct position. All embedded items shall be thoroughly clean and free from rust, scale, oil, or other foreign matter. All embedded items, including bolts, shall be securely held in their final positions by means of wood templates *before* any concrete is poured.
- b. Pipes, other than electrical conduit, shall not be embedded in structural concrete. Conduit shall be located within the middle half of the slab and its outside diameter shall not be greater than one third (1/3) of the slab thickness.
- c. This Contractor shall properly form all reglets and rebates required in the concrete to receive flashings, frames, and other equipment. Dimensions and details shall be obtained from the equipment to be provided for.

3.08 MIXING

Transit Mixed Concrete: Shall be mixed and delivered in accordance with the requirements of UBC Materials Testing & Installation Standard 19-3 and T24, Section 1905A.1. Transit mixed concrete shall not be delivered to the work with the total specified amount of water incorporated therein. Two and one-half (2-1/2) gallons of water per cubic yard shall be withheld but may be incorporated in the mix under the supervision of the project Inspector. Transit mixed concrete shall be mixed for a period of not less than ten (10) minutes at a peripheral drum speed of approximately two hundred (200) feet per minute and mixing shall be continued until discharge is complete. Concrete will be rejected if not discharged within one and one-half (1-1/2) hours during normal weather or forty-five (45) minutes during hot weather after the addition of cement to the aggregates. The manufacturer of the transit mixed concrete shall furnish with each mixer truck a certificate stating the quantity of cement water, fine aggregate, coarse aggregate and admixture (if used) in each batch delivered to the job.

3.09 PLACING

- a. General: Concrete shall be used while fresh and before it has taken an initial set. Retempering partially hardened concrete with additional water will not be permitted. Concrete shall be placed in horizontal layers of such thickness that can be satisfactorily consolidated with vibrators. The concrete shall be placed as nearly as possible in its final position and the use of vibrators for extensive shifting of fresh concrete shall not be permitted. Fresh concrete shall not be permitted to fall more than six feet (6'-0") without the use of adjustable length pipes of "elephant trunks". The use of chutes in conveying concrete will not be permitted except with the Structural Engineer's approval and only if segregation does not occur and concrete of proper consistency flows freely. Once concreting is started, it shall be carried on as a continuous operation at such a rate that the concreting surface is at all times plastic and flows readily until the section is completed between predetermined construction joints.
- b. Compacting: All concrete, including slabs, shall be thoroughly compacted by means of high frequency internal vibrators. The vibrators shall not be attached to or held against the forms or reinforcing.
- c. Concrete Slab Construction Joints: Per T24, Sec. 1906A.4.
 - (1) All vertical members, such as walls and columns, shall be poured at least two (2) hours before horizontal members are poured therein to permit the concrete in the vertical members to take its initial settlement.
 - (2) After the pour has been completed to the construction joint and the concrete has hardened, the entire surface of the joint shall be thoroughly cleaned of surface laitance.
 - (3) A modified mix of concrete as hereinbefore specified with fifty percent (50%) of the coarse aggregate omitted may be deposited on horizontal construction joints before proceeding with the regular specified mix. This same modified mix may be used where conditions make puddling difficult or where reinforcing is congested.
 - (4) The location of construction joints shall be as shown on the plans or as approved by the Structural Engineer and the Architect. All construction joints shall be keyed.

- (5) Maximum spacing shall be 30 feet on center for sidewalks, 30 feet on center for curbs and gutters, 10 feet on center for mow strips, 30 feet on center for retaining walls.
- d. Concrete Slab Expansion Joints:
 - (1) Expansion joints shall be placed around all steel columns, buttresses, etc. to relieve restriction of movement.
 - (2) Expansion joints shall be placed at sidewalks/concrete paving spaced at 20' o.c. max.
 - (3) Expansion joints shall be placed at sidewalks used to separate buildings. Place parallel with walk on one side min.
 - (4) Expansion joints shall be placed at curbs/gutters and V-gutters spaced at 20' o.c. max.
 - (5) Expansion joints shall be placed at mow-strips, spaced at 10' o.c. max.
 - (6) Expansion joints shall be placed at all change of directions in concrete slabs, walls, sidewalks, curbs, etc., typical unless noted otherwise.
- e. Concrete Slab Control Joints:
 - (1) Joints in concrete slabs on grade shall be spaced a maximum of 20'-0" o.c. for interior reinforced slabs and 4'-0" o.c. for exterior non-reinforced & reinforced concrete slabs. Joints shall be located where shown on plans.
 - (2) Saw-cut control joints shall be cut within eight (8) hours of finishing slab.
 - (3) Control joints 20' or shorter in length may be done with zip strips, only if strip can be installed in straight line.
- f. Cold Weather Requirements: Concrete shall not be placed on frozen ground, nor shall it be mixed or placed when atmospheric temperature is below 35 degrees F., unless means are employed to heat the aggregates and water so the concrete shall have a minimum temperature of 50 degrees F. The concrete shall then be protected from freezing or frost for a period of five (5) days after placing by a means acceptable to the Structural Engineer and the Division of the State Architect. Calcium Chloride shall not be added to the mix.
- g. Hot Weather Requirements: The maximum placing temperature of concrete, when deposited, shall be 90 degrees F. Concrete (excepting foundations) shall not be placed when the maximum air temperature is expected to exceed 100 degrees F. on the day of placement unless specifically approved by the Structural Engineer. Such approval may require any or all of the following precautions:
 - (1) Provide shade for slabs to be finished after 11:00 a.m.
 - (2) Store all materials and equipment in the shade.
 - (3) Take special care to obtain the coolest mixing water available. Note that the use of ice may be required in order that the maximum temperature of the mix at the time of depositing does not exceed 90 degrees F.
 - (4) Forms to receive concrete shall be kept cool by sprinkling until the pour has started.
 - (5) A fog spray of water shall be used to keep concrete surfaces moist during the finishing operation and until curing is commenced.
 - (6) The use of an approved water reducing retarder (admixture).

3.10 CONCRETE FINISH AND LOCATION

- a. Abrasive Aggregate Finish: Shall be located on exposed finish concrete ramps, and landings.
- b. Steel troweled Finish: Shall be located on areas to receive resilient flooring.
- c. Hard, Trowel-Burnished Finish: Shall be located in exposed concrete maintenance rooms only.
- d. Rock Salt Finish: Shall be located on exposed finish concrete steps and where indicated on drawings.
- e. Sealer/Hardener/Curing Compound: Shall be applied to all interior concrete floors and bases, typical, unless noted otherwise.
- f. White Pigmented Curing Compound*: Shall be applied to all exterior concrete slabs/walks/curbs/gutters, etc., verify applications of clear or white with Architect.
- g. Clear Curing Compound*: Shall be applied to all exterior concrete slabs/walks/curbs/gutters, etc., verify application of clear or white with Architect.
- h. Colored Concrete: Shall be as indicated on drawings.
- i. Stamped Concrete: Shall be as indicated on drawings.
- j. Broomed Concrete Finish: (Medium) Shall be applied to all concrete paving, sidewalks, valley gutters, gutters, typical, unless noted otherwise.
- k. Exposed Aggregate Finish: Shall be provided as indicated on drawings.

3.11 FORMED SURFACES

- a. After form removal, all fins and ridges shall be removed from the concrete surfaces. All exterior form bolts shall be removed to a depth of at least one-inch (1") below the surface of the concrete. Voids and holes left by removal of form ties shall be cleaned and filled with mortar. Mortar shall consist of one (1) part by volume of cement to two (2) parts of sand. Rock pockets shall be chipped out down to sound material and filled with mortar.
- b. Architectural concrete or concrete surfaces to be left permanently exposed shall be patched as mentioned above and then honed smooth, rubbed and sacked. Coat areas completely with grout, wood float, let set and then rub with burlap.

3.12 TOOLING AND MARKINGS (EXTERIOR)

- a. General: All exposed flat work shall be tooled as indicated on drawings with additional markings as required where structures and/or items penetrate through slab. Tooling to be uniform, straight, and minimum 1/8" wide x 1-1/4" deep.
- b. Planter walls, curbs, etc., shall have chamfer joints, tool markings, etc., as directed, to control cracking. Markings, etc., shall be continuous across tops and down backs.

*Clear or white curing compounds shall not be applied to curbs or slabs, which are to receive paint or striping.

3.13 CONCRETE FINISHING GENERAL REQUIREMENTS

- a. Workmanship: Employ only skilled workmen, experienced in their respective trades and work. All work performed in a first class workmanlike manner, subject to approval of Architect, or project Inspector
- b. Markings: Notify Architect in sufficient time prior to completion of setting forms for exterior flat work to permit on-site review of proposed control, construction and expansion joint locations.
- c. Finishing Samples: Prepare three-(3) foot square flatwork samples of the following finishes (where indicated for use on this job) for Owner's approval:

Rock salt finish	Stamped concrete
Broom finish (medium)	Colored concrete
Exposed aggregate	Abrasive aggregate finish

Samples of finished surfaces shall be made and submitted to the Architect for approval not less than (10) days prior to installing concrete work. Samples to remain intact for comparison until flat work completed.

- d. Finishing: Concrete shall be allowed to stand long enough to evaporate excess surface water, but not until initial set takes place. Surfaces to receive ceramic tile to be broomed. Other surfaces wood floated to a true, level surface and then hand troweled to a smooth surface, free from imperfections. Finish surfaces shall not deviate more than one-eighth inch (1/8") from a ten-foot straight edge laid in any direction. Exposed concrete wearing surfaces troweled, additionally, to a hard polished finish. Unless otherwise directed, brooming, if selected, to be performed at right angles to slope. Follow slopes and lines as indicated.
- e. Curing:
 - (1) All newly placed concrete shall be kept moist until application of permanent curing.
 - (2) Slabs poured in hot or dry weather shall have a fog spray applied to them commencing during the troweling and they shall be kept wet until the placement of permanent curing, which shall be done immediately after final troweling.
 - (3) All concrete shall be permanently cured by one of the following methods:
 - (a) Sealer/Hardener/Curing compound spray-applied per manufacturer's recommendations.
 - (b) Pigmented curing compound spray-applied per manufacturer's recommendations.
 - (c) Clear curing compound spray-applied per manufacturer's recommendations.
- f. Abrasive Aggregate Finish: Shall be provided on ramps, sloped walks, and landings and other areas indicated on the drawings. Wet abrasive aggregate and distribute evenly over surface at the rate of 1/2 lb. per square foot of surface. Tamp flush with surface, taking care not to bury the particles. Float and trowel as specified in paragraph d. Before final acceptance of work, treat all non-slip surfaces with a mild solution of hydrochloric acid to expose the abrasive particles.
- g. Rock Salt:
 - (1) When concrete has sufficiently set up, hand distributes the rock salt evenly over the entire surface at the rate of 5 lbs. per 100 square feet. Tamp salt into surface with a floating tool or other suitable implement.

- (2) Apply specified curing compound and at such time as concrete has sufficiently hardened, dissolve remaining rock salt crystals with clear water.
- h. Integrally Colored Concrete: All concrete designated as colored in plans shall be colored with the proper proportion of Colored Admixture. The concrete shall contain no calcium chloride. The slump shall not exceed four inches. Surfaces shall be finished uniformly with the specified finish or texture and cured with Lithochrome Colorwax in the matching color. The concrete shall never be covered with plastic sheeting. All batching placing, finishing and curing shall be in accordance with Schofield's Tech-Data Bulletin A-304.07 on Chromix Admixtures and Application Instructions A-503.06 for Lithochrome Colorwax.
- i. Stamped Concrete:
 - (1) Stamped concrete shall be provided and installed by a subcontractor who is currently licensed, tooled, and trained in stamped concrete construction. Only trained and experienced (a minimum of three high quality installations) workmen and supervisors shall be used on this project.
 - (2) See paragraph 3.01* for special mix design requirements.
 - (3) The special concrete mix shall be placed and screened to the proper grade and floated to a uniform surface in the normal manner.
 - (4) Color Hardener, (color as selected), shall be applied evenly to the plastic surface by the dry-shake method using a minimum of 60 pounds per 100 sq. ft. It shall be applied in two or more shakes, floated after each, and troweled only after the final floating.
 - (5) While concrete is still in the plastic stage of set, the imprinting tools shall be applied to make the desired patterned surface, (12" square tile pattern with grouted joints).
 - (6) Color curing compound, (color as selected), thinned in the proportion of 1 part cure to 1 part mineral spirits (paint thinner), shall be then applied uniformly for curing with a roller or sprayer. The coverage shall be approximately 600 to 650 sq. ft. per gallon of unthinned curing compound.
 - (7) After initial curing, the impressions shall be grouted. A slurry of grout shall be spread over the surface. The surplus grout shall be removed.
 - (8) The surface shall be cleaned to remove residual dust or grout.

3.14 AREA AND FINISH

- a. Imprint Concrete:
 - 1. All work in this section shall be as designated imprint concrete in the plans. The work shall include all labor, material, equipment and transportation required to install imprint concrete. The contractor for this work shall be licensed, tooled and trained by the manufacturer to utilize the process and tools described by U.S. Patent No. 3,406,618. The Contractor shall be required to provide a foreman or supervisor who has done at least three imprint concrete installations of high quality.
 - 2. Preparation work, including finish grading, setting of forms and screeds, and finishing and installation of reinforcing wire (or bar) shall be done by this Contractor.

3. Work provided by the imprint concrete contractor shall include:
 - (a) Provide materials; concrete, colored hardener, wax sealer, and grout.
 - (b) Provide special patented forming tools
 - (c) Place concrete
 - (d) Apply colored hardener
 - (e) Apply patented forming tools
 - (f) Apply colorwax curing membrane coat
 - (g) Apply final surface treatment.
4. Concrete Mix Design: The concrete shall have a minimum compressive strength of 2,500 psi. Portland cement shall conform to ASTM C150, Type I, II, or V, depending on soil conditions. Aggregates shall conform to ASTM C33 and be minus 3/8". Mixing water shall be fresh, clean, and potable. An air-entraining agent complying with ASTM C260 and/or normal-set or retarded-set water reducing admixture complying with ASTM C494 may be used but nothing containing calcium chloride is permitted in the mix.
5. Colored Hardener: Lithochrome Color Hardener, manufactured by L.M. Scofield Company, Los Angeles, CA 90040, and clearly labeled Bomanite Approved. These ready-to-use, dry-shake type colored hardeners are streak-free intergrids of pigments, surface conditioning and dispersing agents, and portland cement, blended with hard, graded aggregate. (While not usually required, integral color may be used as a supplement, but not a substitute for the colored hardener. Integral color shall be Chromix Admixture for Color-Conditioned Concrete, manufactured by L.M. Scofield Company, Los Angeles, CA 90040, and clearly labeled Bomanite Approved.) The particular color and design shall be selected by the Architect.
6. Colorwax Curing and Finishing Compound: Lithochrome Colorwax, manufactured by L.M. Scofield Company, Los Angeles, CA 90040, complying with ASTM C309 as a curing membrane and with all applicable air pollution regulations and clearly labeled Bomanite Approved.

3.15 CLEAN UP

- a. Upon completion of all other work in the building, all interior and exterior finished concrete surfaces shall be swept clean and all mortar, plaster, paint, oil and stains removed therefrom.
- b. This Contractor shall remove from the premises all surplus material, equipment and debris which are the result of his operations.

END OF SECTION

4/11/96

REINFORCING STEEL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL**1.01 SCOPE OF WORK**

The work of this section shall include the furnishing of all labor, materials and equipment required to complete the reinforcing steel work as indicated on the drawings and as specified herein.

1.02 WORK INCLUDED (But not limited to the following items)

- a. Furnish, bend and install reinforcing steel for all concrete work.
- b. Furnish only, reinforcing steel for masonry work.
- c. Accessories for all reinforcing work.
- d. Clean up work related to this Section.

1.03 RELATED WORK

- a. Placing concrete is specified in Section 03010.

1.04 TESTS AND INSPECTIONS

- a. Refer to Section 01402, "Quality Control", requirements.
- b. No materials of this section shall be placed into the work until sampling, testing and certifications have been approved by the Architect or Structural Engineer.
- c. No work of this section shall be covered or concealed until inspected by the Engineer or his authorized representative.

PART 2 PRODUCTS**2.01 MATERIALS**

- a. Reinforcing Bars: Shall be deformed bars conforming to ASTM A-615-89, Grade 60. #4 and smaller bars may be Grade 40.
- b. Welded Wire Fabric: (WWF) Shall be electric welded steel wire fabric conforming to ASTM A-185-88.
- c. Welded Steel Deformed Wire Fabric: Shall conform to ASTM A-497-89.
- d. Smooth Dowels: Shall conform to ASTM A-615-89, Grade 60. 1/2" diameter and smaller bars may be Grade 40.
- e. Reinforcing Wire: Shall be cold drawn steel wire conforming to ASTM A-82-88.
- f. All reinforcing shall be new, clean, free from oil, dirt, loose mill scale, excessive rust, mortar, or other coatings that would destroy or reduce the bond.

PART 3 EXECUTION

3.01 CLEANING

Before use, reinforcement shall be cleaned so as to be free of mortar, oil, dirt, loose mill scale and loose rust or other coatings that would destroy or reduce the bond.

3.02 BENDING

The bending and placing of all reinforcement shall conform to the "Manual of Standard Practice" of the American Concrete Institute and CRSI. Bends shall be made around a pin having a diameter of not less than four times the bar diameter for stirrups and ties, six times the bar diameter for other bars except for bars larger than 1" which shall be eight times the bar diameter. Bars shall be bent cold.

3.03 PLACING

Reinforcing shall be accurately placed in accordance with the drawings and meeting CRSI and shall be securely tied in position with at least No. 16 gage annealed wire at all bar intersections. Metal chairs and bolsters (at 32" o.c. each way max.) shall be used to hold all steel above the form bottoms at the proper distance. Metal spacers shall be used to secure the proper spacing of the steel. Precast concrete dobies (at 48" o.c. max.) shall be used to support reinforcing steel off the ground in footings and off the soffit of concrete exposed to weather. The clear distance between parallel bars shall not be less than 1-1/2 times the bar diameter, but in no case less than 1-1/2" nor less than 1-1/3 times the maximum size of coarse aggregate.

3.04 SPLICING

Splices shall be made with a lap of at least Class "C" unless noted otherwise. The bars shall be placed in contact and wired together in such a manner as to maintain a clearance of not less than the minimum clear distance to the other bars and to the surface of the concrete. In general, stagger splices at least 4'-0". Splice wire mesh with a lap of at least the dimension of one mesh + 2". Welded splices shall be in accordance with CBC Title 24, 1929A.12 and Standard 19-2.

3.05 TOLERANCES

Reinforcement shall be placed in specified positions meeting CRSI requirements, but not less than the following tolerances:

- a. Depth: + 1/4" for members 24" or less in depth.
- b. Depth: $\pm 1/2$ " for members greater than 24" in depth.
- c. Length: ± 1 ".

3.06 MASONRY DOWELS

The masonry contractor shall supervise and be responsible for the proper installation of reinforcing dowels into the concrete work by the reinforcing steel contractor.

3.07 WELDED REINFORCING

- a. All welding of rebar shall conform with American Welding Society specifications AWS D1.4-79, latest edition as modified by UBC Standard No.19-2.
- b. If mill test reports are not available, chemical analysis shall be made of bars, representative of the bars to be welded. Bars conforming to ASTM A-706-89 may be assumed to have a C.E. = 0.55. Bars with a C.E. above 0.75 shall not be welded. Welding shall not be done on or within 2 bar diameters of any bent portion of a bar which has been bent cold. Welding of crossing bars shall not be permitted for assembly of reinforcement, unless authorized by the Structural Engineer and approved by the Division of the State Architect.

3.08 CLEAN UP

The contractor shall remove from the site all surplus material, equipment and debris which are the results of his operations.

END OF SECTION

4/11/96

PIPE HANDRAILS

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

- 1.01 The work of this section shall include the furnishing of all labor, materials and equipment required to complete the work indicated on the drawings and as specified herein.

1.02 WORK INCLUDED

- a. Pipe handrails

1.03 RELATED WORK

- a. Installation of bolts, anchors, frames, inserts and miscellaneous items in the work of other trades is specified in Section 06100.

1.04 SHOP DRAWINGS

- a. Submittals: Submit blue-line prints and reproducible transparencies to Architect for approval per Section 01301. Roll prints and transparencies in reverse, so they will lie flat when unrolled.
- b. Responsibility: Approval of details and materials or methods will not relieve Contractor from responsibility of successfully completing work in accordance with specified requirements and within Contract Time Period.

1.05 FIELD MEASUREMENTS

- a. The Contractor shall verify all dimensions, including grade and details of existing field conditions.
- b. Deviations between existing construction and drawings affecting this work shall be called to the attention of the Architect and work of this section postponed until the required corrections have been made.

PART 2 PRODUCTS

2.01 MATERIALS

Pipe handrails shall be 1-1/4" nominal diameter (1.6" actual OD) standard steel pipe, galvanized after fabrication. The entire fabrication shall be of welded construction. All steel pipe shall conform to ATSM A53 Grade B.

PART 3 EXECUTION

3.01 FABRICATION

- a. General: The Contractor shall fabricate the material and erect same with workmen skilled in this branch of the steel industry.
- b. Tolerances: Material, fabrication and erection tolerances shall be as set forth in the latest edition of the AISC "Specification for the Design, Fabrication and Erection of Structural Steel Buildings".
- c. Cleaning and Straightening: All material, before being fabricated, shall be cleaned of all scale and rust and shall be thoroughly straightened by methods that will not injure the material; deformations resulting from fabrication processes shall be corrected by similar methods. Heat shrinkage of low alloy structural steels will not be permitted.
- d. Gas Cutting shall be done by machine where possible. All re-entrant corners shall be shaped notch-free to a radius of at least one-half inch (1/2").

3.02 BOLTED CONNECTIONS

- a. Holes for bolts shall be one-sixteenth inch (1/16") larger than the nominal diameter of the bolt. Holes may be punched if the thickness of the material is less than the nominal diameter plus one-eighth inch (1/8"). If the thickness of the material is greater than the nominal diameter plus one-eighth inch (1/8"), the holes shall be drilled or subpunched and reamed.
- b. Machine bolts shall be used in all bolted connections unless noted otherwise.
- c. High Strength (H.S.) bolts shall conform to and be installed in conformance with the "Specifications for Structural Joints Using ASTM A-32 Bolts", approved by the research Council on Riveted and Bolted Structural Joints (of the Engineering Foundation). The bolts shall be tightened by means of a calibrated wrench or turn-of-nut method to provide the minimum bolt tension specified in Table 3 of the above mentioned specification. Hardened washers shall be used under the heads or nuts, whichever is turned during tightening, for both the calibrated wrench method or the turn-of-nut method. Where the surface of a high strength bolted part has a slope of more than 1:20, a beveled washer shall be used to compensate for the lack of parallelism.
- d. Drifting to enlarge unfair holes is prohibited. Holes that must be enlarged to admit bolts shall be reamed and a larger bolt used.

3.03 WELDED CONNECTIONS

- a. Welding shall be done by the electric shielded arc process in conformance with the requirements of the latest edition of the AISC "Specification for the Design, Fabrication and Erection of Structural Steel Buildings" and Sections 3 and 4 of the A.W.S. "Structural Welding Code D1.1".
- b. Operators shall be qualified by tests prescribed in the "Standard Qualification Procedure" of the A.W.S.

3.04 PAINTING

a. Shop Coating:

- (1) Cleaning: After inspection and approval, all steel work shall be thoroughly cleaned by "Power Tool Cleaning" or "Blast Cleaning" of loose mill scale, loose rust, weld slag or flux deposit, dirt. Oil, grease or salts shall be removed by "Solvent Cleaning". Cleaning shall conform to the Steel Structures Painting Council Surface Preparation Specifications as follows:

Solvent cleaningSSPC - SP1 - 63

Power tool cleaningSSPC - SP3 - 63

Commercial blast cleaning .SSPC - SP6 - 63

- (2) Galvanizing: Where specified, galvanizing shall be performed by the hot-dip process after fabrication into the largest practical sections. Galvanizing shall conform to ASTM A-123.

(a) Where specified for small structural steel or cast steel articles (i.e., bolts, nuts, washers, etc.), galvanizing shall be performed after fabrication in accordance with ASTM A-153.

(b) When it is necessary to straighten any sections after galvanizing, such work shall be performed without damage to the spelter coating.

- b. Field Painting: After erection, all parts where paint has been rubbed or burned off and all bolts, rivets, connecting devices and welded areas shall be prime painted as specified for shop painting.

3.07 CLEAN UP

All rubbish and debris resulting from the operations of this trade shall be cleaned up and removed from the site as the work progresses.

END OF SECTION

06/02/99

SHEET METAL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this section shall include all fabrication, labor, material, scaffolding, appliances and transportation required to complete the work indicated on the drawings and/or specified hereunder.

1.02 WORK INCLUDED

- a. All galvanized sheet metal work of 1/8 inch or lighter, such as flashing, diverters, gravel stops, metal edging, counterflashing in connection with roofing, sill flashing; exterior wall louvers and screens; expansion joints; gravity vents; stamped grilles, etc.
- b. Window head, jambs and sill surrounds, also jamb expansion screeds which are shown continuous to floor shall be one piece furnished and installed by this Contractor.
- c. Gutters, scuppers and strainers and leaders
- d. Sheet metal window stools
- e. All aluminum and stainless steel metal work not specified elsewhere.
- f. Furnish sheet metal conductors for drains under walks
- g. Setting of all gravel stops with joints set in plastic cement.

1.03 RELATED WORK

- a. Flashing and counter flashing of Plumbing, Heating and Ventilating vents through roof is specified in Divisions 15200 and 15300.
- b. Metal trim, casing, bull nose and expansion screeds and soffit vents in connection with plaster, screeds and grounds (except as noted under Work Included) is specified under Lathing and Plastering Section 09200.
- c. All aluminum plates in connection with windows is specified in Section 08800.
- d. All iron pipe downspouts are specified in Section 15200, Plumbing.
- e. Washing and painting of sheet metal is specified in Section 09900.
- f. All aluminum under glass and glazing, specialties and aluminum windows
- g. All stainless steel work specified under Food Service Equipment Section 11400.
- h. All metal work over 1/8 inch thick is specified in Section 05120
- i. Installation of sheet metal conductors for drains under walks.

1.04 SUBSTITUTIONS

See Section 00701.

1.05 WORKMANSHIP

Only skilled workmen experienced in their respective trades and work shall be employed. All work shall be performed in a first class workmanlike manner and shall be subject to the approval of the Architect or his representative. The contractor shall report to the Architect any improper or defective surfaces and shall not commence work until defective surfaces are corrected.

1.06 COOPERATION

Roofers, sheet metal men and other trades shall cooperate to obtain a completely watertight and perfect job. In the event of a dispute as to the responsibility of any defect which might develop, the decision of the Architect shall be final and binding on all parties. The contractor shall consult the various tradesmen whose work adjoins his work, and he shall be responsible for the proper alignment and working of all the various details.

1.07 SHOP DRAWINGS

Bluelines of shop drawings shall be submitted to the Architect for approval per Specification Section 00701, Articles 31 and 32 prior to fabrication.

PART 2 PRODUCTS

2.01 GALVANIZED SHEET STEEL

Galvanized sheet steel shall be "Armco", "Zincgrip", "Paintgrip" lock form quality as manufactured by Armco Steel Corp. or approved equal, in quality and utility. All material shall be 22 gauge minimum for flashing to protect structural members and 24 gauge unless otherwise shown on drawings or called for in the Specifications. All material shall be copper bearing and heavily galvanized. Sheet metal shall be 1.25 oz./sq. ft., hot dipped galvanized coating conforming to standards as set forth in ASTM A-525. Equals: Galvanized sheet steel conforming to ASTM A-525 with 1.25 oz./sq. ft. hot dipped galvanized coating.

2.02 SOLDER

Solder shall be lead free.

2.03 NAILS

Nails shall be galvanized and selected for their intended use.

2.04 SCREWS

Screws shall be cadmium plated oval head sheet metal screws.

2.05 WASHERS

Washers shall be 4# lead washer 1" diameter.

2.06 RIVETS

Rivets shall be soft annealed non-corrosion metal.

2.07 SHEET ALUMINUM

Alcoa Aluminum sheets, 35 alloy aluminite satin finish. Gauge, unless otherwise shown on drawings or called for in the specifications, is .040.

2.08 PATENTED FLASHING

Fry Spring-Lock, Calloway, or approved equal.

2.09 SCREENS

16 mesh galvanized and 1/4" mesh galvanized (for louvers).

2.10 GRILLES

One inch (1") square mesh, #12 gauge wire galvanized.

2.11 STAINLESS STEEL

U.S.S. 18-8 No. 302, No. 4 finish, unless specified otherwise.

2.12 WINDOW STOOLS

Milcor No. 524-16 gauge prime coated with #701 trim at sash and with factory attached end closures. Splices to occur only at mullions; furnish and install Milcor No. 701 casings.

2.13 PLASTIC CEMENT

Schueller black plastic roofing cement.

2.14 MASTIC

No. 204 Henry's Plastic Roof Cement.

PART 3 EXECUTION**3.01 PRACTICE**

Procedures and methods recommended by "National Association of Sheet Metal Contractors" shall be followed insofar as they do not conflict with the requirements of the Uniform Building Code Standards and Title 24, Part 2 C.B.C. 1995 edition. Work shall be accurately formed to sizes, shapes and dimensions indicated and detailed; with all angles and lines in true alignment, straight sharp, erected plumb, level and in proper plane without bulges or waves. Pipe or flange intersections to accurately fit and solder together.

3.02 MEASUREMENTS

The Contractor shall take measurements at the building site and verify the dimensions indicated on the drawings.

3.03 ACCURACY AND TOLERANCE

All sheet metal work shall be accurately worked to shape and sizes indicated on the drawings and/or as required by the Architect. The allowable tolerance on detailed sheet metal work shall not exceed 1/16" in ten feet (10'-0")

3.04 COMPLETENESS

The Contractor shall form, fabricate and erect all sheet metal work to perform satisfactorily and to be watertight and weathertight.

3.05 EXPOSED EDGES

All exposed edges shall be turned back and hemmed 1/2" wide.

3.06 EXPANSION AND CONTRACTION

Provisions shall be made in all cases for expansion and contraction.

3.07 NAILS

All nails in connection with galvanized sheet metal shall be galvanized.

3.08 FLASHING AND COUNTERFLASHING

24 gauge galvanized iron in lengths in general of ten feet (10'-0") with no longitudinal joints. The joints in flashing and counterflashing generally shall not be soldered but shall be set in mastic so that expansion and contraction may occur without buckling. Wall type counterflashing over mopped or composition roofing at walls shall be removable counterflashing except roof flashing specified under individual roofing section of the Specifications. Internal and external angle returns shall be one piece extending twelve inches (12") each way from the corner.

3.09 METAL LOUVERS, FRAMES AND SCREENS

Louvers, where required, shall be 24 gauge galvanized iron, except on small louvers (18") - 20 gauge to 48" long and if located near the ground should be 16 gauge over 24" long. Louvers shall be " / \ " shaped, riveted and soldered to frame. Provide 16 mesh galvanized wire screen on interior side over entire opening, secured to frame with continuous flat formed molding fastened to frame with cadmium plated sheet metal screws. The frame shall be 20 gauge galvanized iron.

3.10 MISCELLANEOUS

The contractor is referred to plans and detail drawings for all miscellaneous sheet metal work not specifically called for in these specifications, but shown and detailed, and he shall furnish and install same. The contractor shall flash vent pipes and provide and install co-related vents and ductwork in cooperation with other trades as specified in other sections of these Specifications.

3.11 GRAVEL STOP JOINTS

Where joints occur in flashing, the flashing shall be spaced one inch (1") apart and be set in mastic six inches (6") each side of joint. A piece of flashing twelve inches (12") long and the same shape, to be set in mastic over the joint and bottom edge to be crimped under drip lip.

3.12 WINDOW SURROUNDS

Surrounds shall be shaped as detailed. Where sheet metal jambs extend above or below the window, they shall be a continuous piece with the minimum length 10'-0". Where joints occur in surrounds, a piece of sheet metal three inches (3") long and the same shape is to be set over the joint with the edge of splice cover crimped under the surround. All joints in sill shall occur at mullions only.

3.13 GUTTERS, ROOF LEADER HEADS AND SCUPPERS

- a. Gutters and Leader Heads shall be constructed as detailed and secured to supports as shown. Gutters to be 24 gauge galvanized steel and provided with supports every 3'-0" centers. At each downspout, the gutter shall be fitted with steel wire removable mesh balloon strainer. Gutter connections to downspouts shall be made by the contractor. (Pipe downspouts, roof drains and piping thereto to be furnished and installed under Specification Section 15200.) Where roof drains lead into leader heads, connection thereto shall be made by the contractor. Scuppers to be 24 gauge galvanized steel as detailed.
- b. Submit a sample of gutter and leader head for the Architect's approval before fabricating same. The sample shall indicate the general gutter construction, hangers, straps, expansion joints, typical joint and strainer.

END OF SECTION
2/15/01

CAULKING AND SEALANTS

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL**1.01 SCOPE OF WORK**

- a. The work of this Section includes caulking and sealing all joints where shown on the drawings and elsewhere as required to provide a positive barrier against passage of moisture.
- b. Related work described elsewhere: Adhere strictly to the caulking and sealant details shown on the drawings.

1.02 WORK INCLUDED (But not limited to the following):

- a. Caulking as specified hereafter except for those items specifically mentioned under another section.
- b. Rubber caulking of all interior and exterior cracks, crevices and joints in plaster, metal, wood and masonry, to provide a watertight and weatherproof seal.
- c. Polyurethane sealants in conjunction with expansion joints.
- d. Joint filler material.
- e. Backing rod materials.
- f. Surface preparation and priming.
- g. Mixing.
- h. Application and curing.

1.03 RELATED WORK

- a. Flashing and Sheet Metal: Sealants used in conjunction with metal flashings for roofing.
- b. Glazing: Sealants used in conjunction with glazing methods.

1.04 REFERENCES

- a. ASTM C-920: Recommended Practices for Use of Elastomeric Joint Sealants.
- b. ASTM C-804: Recommended Practice for Use of Solvent-Release Type Sealants.
- c. ASTM D-1056: Flexible Cellular Materials - Sponge or Expanded Rubber.
- d. ASTM D-1565: Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Open Cell Foam).
- e. FS TT-S-227: Sealing Compounds, Polyurethane Base, Multi Component, Chemically Curing.
- f. FS TT-S-230: Sealing compounds synthetic - rubber base, single component, chemically curing.

1.05 GUARANTEE

Contractor shall guarantee to maintain all caulking in a watertight condition for a period of two (2) years and remove and replace sealants which fail due to a loss of adhesion or cohesion or incomplete cure, bubbling, etc.

1.06 SUBMITTALS

- a. **Manufacturer's Data:** Submit the following for review by the Architect, per Section 01300:
 - (1) A complete materials list showing all items proposed to be furnished and installed under this Section.
 - (2) Sufficient data to demonstrate that all such materials meet or exceed the specified requirements.
 - (3) Specifications, installation instructions, and general recommendations from the materials manufacturers showing procedures under which it is proposed that the materials will be installed.

1.07 PRODUCT HANDLING

- a. **Delivery and Storage:** Deliver all materials of this Section to the job site in the original unopened containers with all labels intact and legible at time of use. Store only under conditions recommended by the manufacturers. Do not retain on the job site any material which has exceeded the shelf life recommended by its manufacturer.
- b. **Protection:** Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- c. **Replacements:** In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Architect and at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- a. Rhodarsil.
- b. Sika Corp.
- c. MCP. Inc.
- d. Vulken
- e. Domtar
- f. Approved equals

2.02 SEALANTS

- a. Provide the following materials manufactured by Products Research & Chemical Corporation, or equals approved by the Architect, where indicated and where otherwise required for a complete and proper installation:

Material	Location of Use
1.Rhodarsil 5C	Throughout the Work, except

- where other sealant is specified, where anticipated joint movement will be 50% or less;
- 2. Rhodarsil 90
 - Throughout the Work, except where other sealant is specified, where anticipated joint movement will be 25% or less;
- 3. Multi-I-Seal 287
 - Horizontal joints exposed to pedestrian and vehicular traffic, and all joints subject to immersion;
- 4. Multi-I-Seal 284
 - Vertical and horizontal joints subject to extreme movement;
- 5. Domtar Fire Halt
 - Pipes and conduits penetrating underground walls.
 - Pipes and conduits penetrating fire separations;
- 7. Polyethylene backer rod
 - Where required to prevent 3-point adhesion.
- b. For other services, provide products especially formulated for the proposed use and approved by the Architect.
- c. Colors:
 - 1. Colors for each sealant installation will be selected by the Architect from standard colors normally available from the specified manufacturer.
 - 2. Should such standard color not be available from the approved manufacturer except at additional charge, provide such colors at no additional cost to the Owner.
 - 3. In concealed installations, and in partially or fully exposed installations where so approved by the Architect, use standard gray or black sealant.

2.03 PRIMERS

Use only those primers which have been tested for durability on the surfaces to be sealed and are specifically recommended for this installation by the manufacturer of the sealant used.

2.04 BACKUP MATERIALS

Use only those backup materials which are specifically recommended for this installation by the manufacturer of the sealant used, and which are nonabsorbent and nonstaining.

2.05 BOND PREVENTIVE MATERIALS

Use only one of the following as best suited for the application and as recommended by the manufacturer of the sealant used.

- a. Polyethylene tape, pressure sensitive adhesive, with the adhesive required only to hold tape to the construction materials as indicated.
- b. Aluminum foil conforming to MIL-SPEC-MIL-A-148E.
- c. Wax paper conforming to Fed. Spec. UU-P-270.

2.06 MASKING TAPE

For masking around joints, provide masking tape conforming to Fed. Spec. UU-T-106c.

2.07 OTHER MATERIALS

All other materials, not specifically described, but required for complete and proper caulking and installation of sealants, shall be first quality of their respective kinds, new, and as selected by the Contractor subject to the review by the Architect.

PART 3 EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 QUALITY ASSURANCE

- a. Qualifications of Manufacturers: Products used in the work of this section shall be produced by manufacturers regularly engaged in manufacture of similar items with a history of successful production acceptable to the Architect.
- b. Qualifications of Installers:
 - (1) Proper caulking and proper installation of sealants require that installers be thoroughly trained and experienced in the necessary skills and thoroughly familiar with the specified requirements.
 - (2) For caulking and installation of sealants throughout the work, use only personnel who have been specifically trained in such procedures and who are completely familiar with the joint details shown on the drawings and the installation requirements called for in this section.

3.03 PRODUCT HANDLING

- a. Delivery and Storage: Deliver all materials of this section to the job site in the original unopened containers with all labels intact and legible at time of use. Store only under conditions recommended by the manufacturers. Do not retain on the job site any material which has exceeded the shelf life recommended by its manufacturer.
- b. Protection: Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- c. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Architect and at no additional cost to the Owner.

3.04 PREPARATION

- a. All surfaces in contact with sealant shall be dry, sound, and well brushed and wiped free from dust.
- b. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
- c. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing
- d. Remove all laitance and mortar from joint cavities.
- e. Where joint filler is required, insert the approved backup material in the joint cavity to the depth required to provide required width/depth ratio.

3.05 INSTALLATION OF BACKUP MATERIAL

Use only joint filler material recommended by the manufacturer of the sealant and reviewed by the Architect for the particular installation, compressing the backup material 25% to 50% to secure a positive and secure fit. When using backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock. Use semi rigid filler material with minimum shore hardness of at least 80 for control joint filler, typ.

3.06 PRIMING

Use only the primer recommended by the manufacturer of the sealant and reviewed by the Architect for the particular installation. Apply the primer in strict accordance with the manufacturer's recommendations as reviewed by the Architect.

3.07 BOND BREAKER INSTALLATION

Install a bond breaker where recommended by the manufacturer of the sealant and where directed by the Architect, adhering strictly to the installation recommendations as reviewed by the Architect.

3.08 INSTALLATION OF SEALANTS

- a. Prior to start of installation in each joint, verify the joint type and verify that the required proportion of width of joint to depth of joint has been secured.

- b. Equipment: Apply sealant under pressure with hand or power-actuated gun or other appropriate means. Guns shall have nozzle of proper size and shall provide sufficient pressure to completely fill joints as designed.
- c. Masking: Thoroughly and completely mask all joints where the appearance of sealant on adjacent surfaces would be objectionable.
- d. Installation of Sealant: Install the sealant in strict accordance with the manufacturer's recommendations as reviewed by the Architect, thoroughly filling all joints to the recommended depth, typically flush with surface.
- e. Tooling: Tool all joints to the profile shown or as directed by Architect.
- f. Cleaning Up:
 - (1) Remove masking tape immediately after joints have been tooled.
 - (2) Clean adjacent surfaces free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant manufacturer.
- g. Provide temporary protection/cover for caulking/sealant as required to prevent debris from becoming fouled in material.

END OF SECTION

4/18/96

SIGNS

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

The work of this Section shall include all labor, materials, appliances and equipment and transportation in connection with furnishing and installing of all plastic identifying devices, complete, as shown on the drawings and specified herein.

1.02 RELATED WORK

- a. Installation of signs is specified under Carpentry Section, 06100.
- b. Painted Signage is specified under Section 09901.

PART 2 PRODUCTS

2.01 APPROVED MANUFACTURERS

- a. Mohawk Sign Systems
- b. Vomar Products, Inc.
- c. ASI Sign Systems
- d. B.H. Olsen - Specialized Builders Hardware (SBH numbers are referred to in this specification to establish design styles.)

2.02 PRODUCT REQUIREMENTS

- a. ~~All signs shall be single-faced and shall be unframed, for flush mounting, in standard manufacturers' colors as selected by the Architect. Type style shall be Helvetica Medium.~~
- b. Raised And Brailled Characters And Pictorial Symbol Signage: Letters and numerals shall be raised 1/32 in., uppercase, Sans Serif or simple Serif type and shall be accompanied with Grade 2 Braille. Raised characters shall be at least 5/8 in. high but no higher than 2 in. Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be 6 in. minimum in height.

PART 3 EXECUTION

3.01 INSTALLATION

- a. Identification devices herein specified shall be installed under the Carpentry Section, in accordance with the drawings and as directed by the Architect. Mounting height shall be 60" maximum to centerline of signage.

b. Mount all single faced signs on wall surfaces by applying a contact adhesive, as manufactured by Weldwood, or an approved equal, to both the sign back and mounting surface, in accordance with adhesive manufacturer's recommendations.

3.02 SCHEDULE (All exterior doors to have painted graphics and additional raised lettered and brailled sign.) See also Section 09900. (Handicap signage to be B.H. OLSEN - SBH or equal) Provide additional raised lettered and Braille signs adjacent to all doors in accordance with the requirements of the American Disability Act (ADA).

- a. Buildings:
 - Restrooms -
 - Girls/Womens HC (RFH 12RR)
 - Boys/Mens HC (RFH 14RR)
- b. Site:
 - Van Access (HP16)
 - Parking Entrance (RFH 1824P)

END OF SECTION

GENERAL MECHANICAL

PART 1 GENERAL

1.01 GENERAL PROVISIONS

- A. The general provisions of the contract including General and Supplementary Conditions apply to the work specified in this Section. The provisions of this section shall apply to all sections of Division 15 of these specifications.

1.02 WORK NOT INCLUDED

- A. General. The following work is specified elsewhere in these Specifications and shall be performed under the respective Specification Section:
1. Concrete work unless specifically detailed and noted on the drawings or in the specifications. All templates, dimensions, and locations of pits, equipment pads, and anchor bolts shall be furnished under this Section of the Specifications.
 2. Painting unless specifically detailed and noted on the drawings or in the Specifications.
 3. Electrical power conduit and wiring including final connections.

1.03 CODES AND STANDARDS

- A. All work and materials shall conform with current rules and regulations of applicable codes. Nothing in these Drawings or Specifications is to be construed to permit work not conforming to these codes. Should the Drawings or Specifications call for material or methods of construction of a higher quality or standard than required by these codes, the Drawings and Specifications shall govern.
- B. Applicable codes and standards shall include but are not necessarily limited to:
1. California Code of Regulations:
 - a. Title 8, Industrial Relations
 - b. Title 17, Public Health
 - c. Title 19, Public Safety
 - d. Title 21, Public Works
 - e. Title 24, Energy Regulations
 2. California Building Code.
 3. California Mechanical Code
 4. California Plumbing Code

5. Local Codes and Ordinances
6. American Gas Association (AGA)
7. Air Moving and Conditioning Association (AMCA)
8. American National Standards Institute (ANSI)
9. Air Conditioning and Refrigeration Institute (ARI)
10. American Society of Heating, Refrigerating, and Air Conditioning Engineers
11. American Society of Mechanical Engineers (ASME)
12. American Society for Testing and Materials (ASTM)
13. American Water Works Association (AWWA)
14. Cast Iron Soil Pipe Institute (CISPI)
15. National Electrical Code (NEC)
16. National Electrical Manufacturers Association (NEMA)
17. National Fire Protection Association (NFPA)
18. National Sanitation Foundation (NSF)
19. Occupational Safety and Health Act (OSHA)
20. Plumbing and Drainage Institute (PDI)
21. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
22. Underwriters' Laboratory (UL)
23. Requirements of local, state, and federal enforcing authority codes and amendments to preceding codes shall be applicable to work performed under this specification.
24. Americans with Disabilities Act. Accessibility Guidelines for Buildings and Facilities. (ADAAG).
25. Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems as published by the sheet metal Industry fund of Los Angeles, California.

1.04 PERMITS AND FEES

- A. The Contractor shall take out all permits and arrange for all tests in connection with such work as required. All charges are to be included in the work. All charges or fees for service connections, meters, etc. shall be included in the work.

1.05 COORDINATION OF WORK

- A. Before starting any work, thoroughly examine all existing and newly completed underlying and adjoining work and conditions upon which the installation of this work is in any way dependent for the workmanship required by the Contract Documents. Report to the Architect and Engineer in writing any and all conditions, which might adversely affect this work and limit ability to perform the required workmanship.
- B. Layout of materials, equipment and systems is generally diagrammatic unless specifically dimensioned. The actual locations of all materials, piping, ductwork, fixtures, equipment, supports, etc., shall be carefully planned, prior to installation of any work, to avoid all interference's with each other, or with structural, electrical or architectural elements. Verify the proper voltage and phase of all equipment with the electrical plans. All conflicts shall be called to the attention of the Engineer prior to the installation of any work or the ordering of any equipment.
- C. Because of the small scale of the drawings, it is not possible to indicate all offsets, fittings, and accessories that may be required. Carefully investigate the mechanical, electrical, structural, architectural drawings and field conditions that could affect the work to be performed and arrange such work accordingly. Provide the required piping and ductwork offsets fittings, and accessories to meet such conditions.
- D. Spaces provided in the design of the building shall be utilized and the work shall be kept within walls or furring lines established on the drawings. Any discrepancy between Architectural or Mechanical drawings with respect to wall or furring locations and dimensions shall be brought to the Architect's attention for resolution before proceeding with installation.

1.06 MANUFACTURER'S RECOMMENDATIONS

- A. All material, equipment, and devices, etc. shall be installed in a manner meeting approval of the manufacturer of the particular item. The Contractor shall make himself available of all installation manuals, brochures, and procedures that the manufacturer issues for the equipment and material. Contractor shall be held responsible for all installations contrary to the manufacturer's recommendations. Contractor shall make all necessary changes and revisions to achieve such compliance.

1.07 GUARANTEE

- A. Guarantee shall be in accordance with the General Conditions. These Specifications may extend the period of the guarantee for certain items. Where such extensions are called for, or where items are normally provided with guarantee periods in excess of that called for in the General Conditions, the certificate of guarantee shall be furnished to the Owner.

1.08 QUIETNESS

- A. Piping of all types, ductwork, and equipment shall be arranged and supported so that the vibration is at a minimum and is not transmitted to the building structure.

1.09 DAMAGES BY LEAKS

- A. The Contractor shall be responsible for damages caused by leaks in the temporary or permanent piping or mechanical systems prior to completion of work and during the period of the guarantee.

1.10 SUBMITTALS

- A. Shop Drawings. Within 30 days of contract award, the Contractor shall submit six copies of shop drawings for all materials, equipment, etc., proposed for use on this project. Material or equipment shall not be ordered or installed until written review is processed by the Engineer. Any item omitted from the submittal shall be provided as specified without substitution.

All shop drawings must comply with the following:

1. Shop drawings are required for all material and equipment items and shall include manufacturer's name and catalog numbers, dimensions, capacities, performance curves, and all other characteristics and accessories as listed in the contract documents. Descriptive literature shall be current manufacturer's brochures and submittal sheets.
2. All shop drawings shall be submitted at one time in a three holebinder with title sheet including Project Title, Architect, Engineer, Contractor, table of contents, and indexed tabs dividing each group of materials or item of equipment. All items shall be identified by the specification capacities, characteristics, and accessories called for in the specifications or on the drawings shall be high-lighted, circled or underlined on the shop drawings. Data must be complete enough to permit detailed comparison of every significant characteristic, which is specified, scheduled or detailed.

- B. Substitutions. Manufacturers and model numbers listed in the specifications or on the drawings represent the standard of quality and features desired. Unless otherwise noted, alternate manufacturers may be submitted for review by the Engineer. Calculations and other detailed data indicating how the item was selected shall be included. The Contractor shall assume full responsibility that substituted items or procedures will meet the specifications and job requirements and shall be responsible for the cost of redesign and modifications to the work caused by these items. No more than one submittal will be considered on a proposed alternate for any item.
- C. Review. Submittals will be reviewed for general conformance with the design concept, but this review does not guarantee quantity shown, nor does it supersede the responsibility of the Contractor to provide all materials, equipment and installation in accordance with the drawings and specifications. The Contractor shall agree that shop drawing submittals processed by the Engineer are not Change Orders; that the purpose of shop drawing submittals by the Contractor is to demonstrate to the Engineer that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.

If deviations, discrepancies or conflicts between shop drawings and design drawings and specifications are discovered either prior to or after shop drawing submittals are processed by the Engineer, the design drawings and specifications shall control and shall be followed. Submittals for products and equipment offered as an alternate to that specified will require, if accepted by the Engineer, resubmission of the Title 24 Energy Compliance Calculations if the specified product or equipment was included within the scope of the approved calculations on file with the reviewing authority. The cost of preparing resubmission will be the responsibility of the Contractor.

1.11 OPENINGS, CUTTING AND PATCHING

- A. The locations and dimensions for openings through walls, floors, ceilings, foundations, footings, etc. required to accomplish the work under this Specification Division shall be provided under this Division. Except as noted below, the actual openings and the Coring through existing concrete or masonry walls, floors or asphaltic concrete required to accomplish the work under this Specification Division shall be provided under this Division. Restoration of all surfaces shall be provided by other Divisions. Cutting or coring shall not impair the strength of the structure. Any damage resulting from this work shall be repaired at the Contractor's expense to the satisfaction of the Architect and Engineer.

1.12 EXCAVATION AND BACKFILLING

- A. Excavation and backfilling for work to be done under this Specification Section shall be done under this Section. All underground lines outside buildings shall be 2'-0" minimum backfill cover unless a greater depth of cover is recommended by the pipe manufacturer for the particular application. Width at top of pipe shall be 16" plus the outside width of pipe. Provide all shoring where conditions.

B. Backfill

1. 6" Below, Around, and to 12" Above Pipe. Material shall be sand. Place Carefully around and on top of pipe, taking care not to disturb piping, consolidate with vibrator.
2. One Foot Above Pipe to Grade. Material shall be sandy or silty loam, free of lumps, laid in 6" layers, uniformly mixed to proper moisture and compacted to required density. If backfill is determined to be suitable and required compaction is demonstrated by laboratory test, water compaction in 6" layers may be used, subject to review by Engineer.

- C. Compaction. Compact to density of 95% within building and under walkways, driveways, traffic areas, paved areas, etc. and to 90% elsewhere. Demonstrate proper compaction by testing at 8" above top of pipe. Perform test at every 100' of trench. If a test fails, the compaction shall be re-worked in both directions back to test points that passed, before re-testing.
- D. Electrical conduit shall not be run in excavations provided for mechanical systems.
- E. Excavation and backfilling in a public right-of-way shall be done in strict accordance with the agency having jurisdiction.

1.13 HANGERS AND SUPPORTS.

- A. Provide all hangers and supports for the proper installation of equipment and materials under this Section of the Specification.
- B. Any structural element required to properly hang or support piping, ducts, or equipment, etc., provided under this Specification Section and not shown on the Architectural or Structural Drawings shall be provided under this Specification Section.
- C. All [ducts] and [piping] shall be supported and seismically braced in compliance with the latest edition of the Guidelines For Seismic Restraints For Mechanical Systems as published by the Sheet Metal Industry Fund of Los Angeles and the Plumbing and Piping Industry Council, Inc., of Los Angeles or OSHPD Pre-Approval No. R-0010 systems or R-0003 the "Superstrut Seismic Restraint System" or R-0071 the "Kin-Line Seismic Restraint System" for pipes and conduits only. Copies of the above publication and details shall be provided by the Contractor and maintained at the project site until final acceptance.

1.14 ELECTRICAL CONNECTIONS

- A. All electrical power conduit, wiring, disconnects, starters in motor control centers, and final connections shall be provided under Specification Division 16000, Electrical. Provide under Specification Division 15000 all required control conduit, wiring, controls and control panels as indicated on the drawings or as may be required for system operation.

- B. No control device shall be mounted with rigid connections on vibration isolated mechanical equipment. No field furnished control device shall be mounted on any piece of equipment so that it interferes with physical access of air or water flow, or covers any portions of nameplates or access doors.

C. Starters:

1. Magnetic motor starters for all equipment shall be furnished under this Specification for installation under Specification Division 16000, except those shown to be in a motor control center on the Electrical Drawings and those located in factory assembled units.
2. Starters shall be of the appropriate horsepower and voltage, equipped with the proper NEMA enclosures for indoors and NEMA 3R enclosures for outdoor, with thermal overloads, necessary auxiliary contacts and ambient compensated overloads, one in each leg.
3. A circuit breaker shall be mounted in a common enclosure unless the starter is not mounted within sight of the motor, in which case the disconnecting means shall be a separate device provided under Specification Division 16000, Electrical. Mounted in the starter cover shall be "hand-off-automatic" and "reset" control devices. Magnetic switches shall be of pivoted armature design. Starters shall have auxiliary contacts as required by the control system.

D. Motors:

1. Shall be selected for quiet operation, voltage, and rpm to match the project electrical characteristics. Motors shall be open, drip-proof, normal torque and weatherproofed where indicated or required. Motors shall be of the high efficiency type, Gould E-Plus or equal.

E. Electrical Coordination:

1. Prior to commencing construction arrange a conference with the electrical and mechanical trades as well as equipment suppliers and verify types, sizes, locations, voltage requirements, controls and diagrams of all equipment furnished by them. In writing, inform the Architect that all phases of coordination of this equipment have been covered and if there are any unusual conditions or problems they shall be enumerated at this time.

1.15 FLASHING

- A. Whenever any part of the Mechanical System(s) must penetrate the roof or outside wall, the openings shall be flashed and counter-flashed absolutely water tight with minimum 24 gauge galvanized sheet metal, prime coated. Flashing aprons shall extend not less than eight inches (8") from the duct, pipe, or supporting member in all directions unless detailed otherwise. All penetrations shall be flashed following the procedures of the National Roofing Contractor's Association.

1.16 PAINTING

- A. Paint all black iron supports, hangers, anchors, etc., and all uninsulated black iron pipe work installed in weather exposed locations with one coat of rust resisting primer.

1.17 ACCESS DOORS AND PANELS

- A. Provide access doors as required where equipment, piping, valves, ductwork, etc. are not otherwise accessible. Access doors shall match the wall or ceiling finish and fire rating as indicated on the Architectural drawings or as required to match wall construction. 16-gauge steel frame and 14-gauge steel panel with paintable finish, with satin finish. Continuous hinge. Screwdriver latch. Deliver panels to the General Contractor for installation. Provide Zurn Z-1460-4 for square doors and Z-1460-5 for rectangular doors, Karp, or equivalent. Unless otherwise noted, the minimum sizes shall be as follows:

1 valve up to	1-1/2"x12"
1 valve up to	3"x16"
Fire damper, VAV box, coil.....	16"x16"

1.18 SYSTEM IDENTIFICATION

A. Above Grade Piping:

1. Provide markers on piping, which is either exposed or concealed in accessible spaces. For piping systems, other than drain and vent lines, indicate the fluid conveyed or its abbreviation, by stenciled marking or decals, and include arrows to indicated direction of flow. Locate markers at end of lines, near major branches and other interruptions including equipment in the line, where lines pass through floors, walls or ceilings or otherwise pass into inaccessible spaces, and at 50' maximum intervals along exposed portions of lines. Marking of short branches and repetitive branches of equipment connections are not required. Decals pasted, glued, or adhered to piping or insulation shall be Seton "Setmark", or equivalent. Decals or stencils shall be applied after the painting of all piping systems is complete and after preliminary acceptance of piping system. Decals and stencils shall comply with ANSI and OSHA specifications with respect to marker size and color.
1. Bury a continuous, pre-printed, bright colored plastic ribbon marker with each underground pipe. Locate directly over buried pipe, 6" to 8" below grade

C. Equipment:

1. All equipment shall be identified with a plastic laminated engraved nameplate which bears the unit number marked as indicated on the drawings (e.g. AC-4, WH-1) Provide 1/2" high lettering - white on black background. Nameplates shall be permanently secured to the unit. Air conditioning equipment shall be identified as to area served in compliance with UMC 504.

D. Valves

1. Provide brass valve tags on all valves of each piping system, including check valves, valves within equipment, faucets, stops and shut-off valves at fixtures and other repetitive terminal units. Prepare and submit for review and acceptance by the Engineer a tagged-valve schedule, listing each valve by tag number, location and piping service. Mount in plastic faced frame where directed by Architect.

1.19 PROTECTIVE COATING FOR UNDERGROUND PIPING

- A. All ferrous pipe below grade (except cast iron) shall have a factory-applied protective coating of extruded high-density polyethylene, 35 to 70 mils total thickness, such as X-Tru-Coat or Scotchkote. All fittings and areas of damaged coating shall be covered with two layers of double wrap 10 mil polyvinyl tape to total thickness of 40 mils. Johns-Manville. Protective coating shall be extended 6" above surrounding grade.

1.20 CONCRETE ANCHORS

- A. Steel bolt with expansion anchor requiring a drilled hole - powder driven anchors are not acceptable. Minimum concrete embedment shall be 4½ diameters. Minimum spacing shall be 10 diameters center to center and 5 diameters center to edge of concrete. Maximum allowable stresses for tension and shear shall be 80% of the ICBO test report values. Hilti, Phillips. Wej-it.

1.21 DEFINITIONS

- A. Provide. The term "provide" as used in these specifications or on the Drawings shall mean furnish and install.
- B. Piping. The term "piping" as used in these Specifications or on the Drawings shall mean all pipe, fittings, nipples, valves, unions, hangers, and thermal insulation, etc., as may be required for a complete and functional system.
- C. Ductwork. The terms "duct" or "ductwork" as used in these Specifications or on the drawings shall mean all ducts, fittings, joints, dampers, hangers, and thermal insulation, etc., and other devices as may be required to make a complete and functional system.
- D. Wiring. The term "wiring" shall include the provision of all necessary products which are required for a complete installation and shall include products such as conduit, electrical boxes, connections, transformers, relays and switches.

1.22 PROJECT CLOSE-OUT

A. Record Drawings:

1. Obtain a complete set of erasable sepia reproductions from the Architect at the Contractor's expense.

2. Note on the drawings the installed location, size, material and/or model of all pipes, ducts, control mechanisms, devices, and equipment installed under this contract in areas below grade, within walls, above ceilings, or in furring. Notation shall include dimensions from nearest finish reference point, and identification of all items and equipment changed by submittal, addendum, or change order.
3. Sepia drawing shall include data of submission, Contractor's name and the signature of a principal or corporate officer in the format shown below:

RECORD DRAWING
Date:
Contractor:
Signature:

B. Operation and Maintenance Manual for Mechanical Systems

1. Provide three (3) copies of Operation and Maintenance Manuals to the Engineer for review and acceptance. Provide the Owner's designated representative with one copy of the approved O & M manual.
2. Bind Operation and Maintenance Manuals for each Mechanical System (Plumbing, Air Conditioning, etc.) in a hard-backed binder. Cover of each binder shall have the following lettering:

OPERATION
AND
MAINTENANCE
MANUAL
RELOCATABLE CLASSROOMS at
CESAR E. CHAVES SCHOOL
For
BAKERSFIELD CITY SCHOOL DISTRICT

3. Provide a transmittal letter at the beginning of the manual on the Contractor's letterhead. Letter shall be signed by a contractor principal (Owner or Corporate Officer) and shall be countersigned by the Owner's designated representative and shall indicate the date when the mechanical systems were shown and explained in detail to the Owner's designated representative. (The Engineers office shall be notified 48 hours minimum prior to the owner contractor meeting.)
4. Provide a master index at the beginning of Manual showing items included. Use plastic tab indexes for the sections of the Manual.

5. Section 1, General. Provide:
 - a. Name of Architect, Mechanical Engineer, Contractor and Mechanical Sub-Contractor.
 - b. A complete list of installed equipment with project mark number, indicating name of vendor, address and phone number.
 - c. A sub-section with manufacturer's descriptive literature for each item of installed equipment with model, capacities, and all other pertinent information highlighted.
6. Section 2, Operating instructions. Provide:
 - a. General description of each separate system and sub-system.
 - b. Step by step procedure to follow in putting each piece of mechanical equipment into operation.
 - c. Schematic as-built control diagrams for each separate system. Diagrams shall bear the date of the acceptance of the project. Include all temperature control panels and their respective functions.
7. Section 3, Maintenance Instructions. Provide:
 - a. Summary list of mechanical equipment used indicating name, model, serial number, and nameplate date of each item together with number and name associated with each system item.
 - b. Manufacturer's maintenance instructions for each piece of mechanical equipment installed in project. Instructions shall include name of vendor, installation instructions, parts numbers and lists, operation instructions of equipment and maintenance and lubrication instructions.
8. Section 4, Air Conditioning System Balance and Test Run Reports. Provide:
 - a. One-half size reproduction of air conditioning plans annotated to match tabulated measurements.
 - b. Tabulated and summarized measurements.
9. Section 5, Warranties. Provide:
 - a. A copy of each manufacturer's warranty statement completely filled out and indicating date forwarded to the respective manufacturer.

END OF SECTION
02/21/01

PART 1 GENERAL

1.01 GENERAL PROVISIONS

- A. Section 15100, General Mechanical requirements shall be considered part of this section.

1.02 SCOPE OF WORK

- A. A complete system of sanitary soil, waste and vent piping including connection to site utility, waste, and drain connections to all fixtures and equipment.
- B. A complete system of cold water piping including connection to site utility, and connections to fixtures and equipment.

PART 2 MATERIALS

2.01 PIPING

A. Domestic Cold Water1. Inside Building, Above Grade or Slab

- a. Schedule 40 galvanized steel with galvanized malleable iron banded 150 lb. fittings.
- b. Type "L" hard drawn copper tubing with wrought copper solder joint fittings, NIBCO, ANACONDA, or acceptable equivalent. Joints shall be made with 95.5 solder, such as Silavoy Streamline 122, Silvabrite 100 or acceptable "lead free" equivalent. Pipe to be reamed to full bore, de-burred, and joint area cleaned with a Trisodiumphosphate solution prior to joining.

2. Outside Building, Below Grade, Slab, and Paved Areas

- a. Schedule 40 galvanized steel with galvanized malleable iron banded 150 lb. fittings. Pipe shall be protected as specified elsewhere in this section.

- b. Polyvinylchloride (PVC) pressure rated Schedule 40, ASTM D 2241, with rubber rings, ASTM D 1869. Piping shall be equivalent to Johns-Manville "Ring-Tite" and shall be installed in strict compliance with Manufacturer's Installation Guide. Sizes below those available in "Ring-Tite" piping are to be Schedule 80 glued. Piping option only where local codes allow its use.
- c. Type "K" hard drawn. All else per copper specification above.

B. Domestic Hot Water

1. Inside Building, Above grade or slab

- a. Same as Cold Water Piping - Inside Building.

C. Soil Waste and Vent Piping

1. Inside Building and Within 5 Feet of Building Wall

- a. Coated standard weight cast iron pipe and fittings, CISPI Standard 301 and ASTM A-888. Joints shall be ABI "No-Hub" stainless steel band, mechanically assembled (no welds), conforming to ASTM C564.
- b. Vent piping and waste piping above floor 2-1/2" diameter maximum may be standard weight galvanized steel pipe.

2. Outside Building.

- a. Extra strength vitrified clay, ASTM C700, ASTM C425.b. Johns-Manville ring-tite, or equivalent, polyvinylchloride (PVC) gravity sewer pipe, where permitted by local codes, complying with ASTM 03034-SDR 35 with joints using flexible elastomeric seals meeting requirements of ASTM D-3212.

D. Exposed Pipe at Fixtures

- 1. Chrome plated red brass pipe, iron pipe size, with threaded cast bronze chromium plated couplings and fittings. Any pipe required to extend from finish wall into exposed view within Toilet Rooms shall be chrome plated.

2.02 VALVES

A. General:

1. Manufacturer's model numbers are listed to complete description. Equivalent models of Crane, Grinnell, Nibco, or Stockham are acceptable. Use ball valves for domestic hot and cold water.

B. Gate Valve:

1. 2" and Smaller. All bronze, Malleable iron hand wheel, Rising stem, Union bonnet, Wedge disc, 200 psi WOG, Stockham B-105.
2. 2-1/2" and Larger. Iron body, bronze mounted, Non-rising stem, Wedge disc, 200 psi WOG, Flanged or AWWA hub end as applicable. Stockham G-612. Underground valves shall have square operating nut. Provide one operating "T" handle for underground valves.

C. Check Valves

1. 2" and Smaller. All bronze swing check, regrinding. 200 psi WOG. Stockham B-319.
2. 2-1/2" and Larger. Swing check, iron body, brass mounted seats, Class 125. Stockham G-931.

D. Ball Valve:

1. Bronze body, cap, stem, disk and ball. Screwed connection. Lever handle. TFE seat. O-ring seals. 600 psi WOG. Consolidated Brass "Apollo", Grinnell.

E. Plug Valves

1. Lubricated plug cock. Cast iron or semi-steel body and plug. 200 PSI WOG. Flanged. Wrench handle. U.L. listed for gas distribution. Resun R-1430 Walworth 1700 F. Ball valves with U.L. listing for gas distribution and equivalent or higher pressure rating may be substituted for 2" and smaller plug valves. Apollo, Watts.

2.03 PIPING PROTECTIVE WRAP

- A. All galvanized or black steel piping buried below grade shall be factory coated with Scotchkote 101 Epoxy Resin as manufactured by 3M Company, or "X-tru-Coat" as manufactured by Pipe Line Service Corp. Field joints shall be wrapped by Scotchrap #50 or coated with Scotchkote 302 as recommended by manufacturer. In lieu of above, pipe may be machine-wrapped with Scotchrap #51. 50% lapped with joints per above.
- B. Provide a continuous test of all pipe covering, including field joints, prior to backfilling. This test shall be made using a "Holiday Detector" as manufactured by Tinker and Rascor Co., or approved equal. Test at an electrical voltage of 10,000 volts D.C. Any wrap holiday found shall be patched and retested. This test shall be done in the presence of the owner's inspector.

2.04 CONCRETE THRUST BLOCKS

- A. Shall be constructed at all valves, tees, elbows, bands, crosses, reducers and dead ends in loose-joint pipe. Blocks shall cure a minimum of 7 days before pressure is applied. Concrete shall be 2000-psi mix

2.05 INSULATION

A. General

- 1. All insulation shall be provided in accordance with the "National Insulation Contractors Association" manuals. Insulation shall be applied by a contractor holding a valid California C-2 License.
- 2. All insulation jackets and lapseal adhesives shall be tested as a composite product in accordance with UBC Standard No. 42-1 and shall have a flame spread of not more than 25 and a smoke developed rating of not more than 50.
- 3. All domestic water piping, fittings and accessories shall be insulated. All circulating piping shall be insulated.

B. Interior Piping, Fittings and Valves

1. Shall be insulated with 1" thick Fiberglass ASJ/SSL U.L. rated pipe insulation through 1-1/4" diameter pipe, 1-1/2" thick for 1-1/2" diameter pipe and above. All exposed piping shall have six (6) ounce canvas jacket sized in place with two (2) coats of Benjamin-Foster #30-36 Sealfas. Fittings shall be hard molded plastic flush with adjacent piping canvassed and sized with #30-36 sealfas or PVC with inserts. Inserts shall be 2" thick fiberglass blanket, 3/4-lb. density. Do not insulate flanges or valves unless water temperature exceeds 140°F or the piping is exposed to weather.

C. Piping Exposed to Weather or View

1. All piping and fittings exposed to weather shall have, in addition to the above-described insulation, aluminum jacketing. 0.016" thickness for straight pipe. 0.024" thickness for fittings. Integral moisture barrier. Provide pre-fabricated aluminum strapping and seals by same manufacturer, "Childers" or equal. Joints to prevent water entry. All joints shall be sealed with outdoor mastic. Benjamin Foster 65-07 or equal.
2. For Miscellaneous fittings for which aluminum jackets are not available or where proximity of fittings precludes a neat-appearing installation, the Contractor may cover the insulation with stretchable glass fabric and at least two coats of outdoor mastic.
3. Additional Finish for Exposed Piping and Equipment: All piping and equipment exposed to view but protected from the weather such as in equipment rooms shall be given an additional finish of PVC jackets.

D. Hot Water Supply/Drain Piping and Handicap Fixtures

1. "Handi Lav-Guard" insulating kits by Truebro, Inc. or "Trap Wrap" as manufactured by Brocar Industries. Pre-formed insulation and materials to cover hot water, cold water, and drain piping. Must conform to ADA article 4.19.4 and California article P1504B. Pressure sensitive expanded polyethylene foam tape will not be excepted.

2.06 CLEAN-OUTS

A. Style shall be ZURN as follows (equivalent models of Smith are acceptable):

1. For vinyl tile use #ZN-1400-6

2. For carpeted areas use #ZN-1400-14
3. For ceramic tile or finished concrete use #ZN-1420-2
4. Grade cleanouts (Non-Traffic areas) use #ZN-1400-25
5. Grade cleanouts (Traffic areas) use #ZN-146-15W/Z-1450-8
6. For wall cleanouts use #ZN-1460-8

B. Cleanout Box

1. Precast reinforced concrete. Cast iron lid marked for service.

2.07 FIXTURES AND TRIM

A. General

1. Provide Rough-in for and install all plumbing fixtures shown drawings. All trim not concealed shall be brass with polished chrome plate finish unless noted otherwise. Waste shall be chrome plated 17 gauge P-trap shall have clean out and escutcheon at tailpiece. All enameled fixtures shall be acid resisting. Standard color is white unless otherwise noted.

B. Supplies

1. Standard compression stop, straight pattern, loose key, chromium plated with stuffing box.
2. All exposed fixture supplies to lavatories, sink-sand water closets shall be Brass-Craft "Speedway" flexible supplies with metal compression ring connection at all stops or fittings as designated by part number, and shall have a rigid metal to metal connection to fixture valves. For lavatories and sinks use STR 1715A and for tank-type water closets use STR 1712DL.

2.08 AIR CHAMBERS

- A. Zurn Z-1700 "Shoktrol" complete with shut-off valve and access panel. Provide where noted on drawings and upstream at every quick-closing manual, solenoid or flush valve. Where a "Shok-trol" is not shown upstream from any fixture provide a vertical 24" long by 1" diameter air

- B. Reduced Pressure Type: Two spring loaded "Y" pattern check valves, differential relief valve mechanism, inlet and outlet shut-off valves, and four test clocks. Approved by AWWA. Febco, Beeco, or equivalent.
- C. Double Check Type: Two spring loaded "Y" pattern check valves, inlet and outlet shut-off valves, and four test clocks. Approved by AWWA. Febco, Beeco, or equivalent.
- D. Pressure Type Vacuum Breaker: Spring loaded check valve assembly, air inlet port and poppet, inlet and outlet shut-off valves, and two test cocks. Febco, Beeco or equivalent.

2.09 STRAINERS

- A. Threaded strainers are to be of the gasketed capped cover extra heavy iron body type - Similar to Mueller Fig. #11. Provide gate valve and pipe nipple with 3/4" hose connection on each strainer for blow-off.

2.10 FLOOR, CEILING, AND WALL PLATES

- A. Beaton and Cadwell No. 10, steel flange with locking device and polished chromium plated finish. Provide plates on any finished surface through which pipe passes.

2.11 INSULATING FITTING

- A. Epco dielectric unions with Epconite insulating gasket selected for applicable duty. Provide wherever pipes of different metals are joined.

2.12 PIPE MARKERS

- A. One-inch (1") high minimum, stenciled letters located every 6'-0". Markers shall indicate piping service such as domestic cold water supply, etc., and shall have directional flow arrow at each location of stenciled letters. Decals pasted, glued, or adhered to piping or insulation are not acceptable unless decal wraps entirely around pipe or insulation such as Seton "Set mark", or equivalent. Decals shall be applied after painting of all piping systems is complete and after preliminary acceptance of piping system. Decals shall comply with ANSI and OSHA specifications with respect to marker size, color, and legend

2.13 GAUGE COCK

- A. Lever handle brass cock. 1/4" NPT connections.

2.14 TEMPERATURE AND PRESSURE RELIEF VALVE

- A. ASME rated fully automatic, reseating combination temperature and pressure relief valve sized in accordance with energy input. Sensing element immersed within upper 6" of tank. Watts.

2.15 GAS PRESSURE REDUCING VALVE

- A. Capacity and pressure ratings as indicated on drawings. Reliance Series 1800.

2.16 FLUE AND VENT CONNECTOR PIPING

- A. Gas flue piping - Double wall metal flue pipe. UL listed as type "B". Metalbestos/Ameri-Vent.
- B. Flue Cap - Gravity ventilator designed to properly ventilate flue regardless of wind direction. Metalbestos/Ameri-Vent.

2.17 UNION

- A. 2" and smaller - AAR malleable iron, bronze to iron ground seat. 30 psi. Size 2-1/2" and larger - Grooved pipe, synthetic gasket, malleable iron housing. Victaulic Style 77, Type "E" gasket, Grinnell.

2.18 PIPE HANGERS AND SUPPORTS

- A. General
 - 1. Piping shall be seismically braced in compliance with the latest edition of the Guidelines For Seismic Restraints of Mechanical Systems as published by SMACNA, or an OSHPD Pre-Approval No. R-0010. Copies of the above manual and details shall be maintained at the project site until final acceptance.
- B. Steel pipe and Cast Iron Soil Pipe
 - 1. 1/2" through 4" pipe. Provide B-line B3690 J-style hanger, with standard electro-plated finish.
 - 2. 5" and larger pipe. B-line B3100 Clevis-Style pipe hanger with standard electro-plated finish.

C. Copper Tubing

1. Provide B-line B3690F felt-lined hanger for copper tubing with standard electro-plated finish.

D. Insulated Pipe & Tubing

1. Provide B-line B3380 thru B3384 360° calcium silicate shield. The hanger and shield shall be fitted to the outside of the pipe insulation.

E. Cast Iron Pressure Piping:

1. Provide B-line B3102 Clevis-Type hangers sized for water works piping.

F. Hanger Rod Sizing

1. Hanger rods shall be roll threaded mild steel with electro-galvanized finish and shall meet or exceed the following table:

Piping or Tubing Size	Hanger Rod Size
1/2" through 2"3/8"	3/8"
2-1/2" through 5"	1/2"
6" through 10"5/8"	5/8"

G. Hanger Spacing

1. Provide at least one hanger per branch and independently support all line-mounted equipment. Provide a hanger within 12" of elbow at riser or drop. Spacing of hangers along the run of the pipe shall not exceed the following table:

Pipe or Tubing Size	Steel Pipe	Copper Tube	CI Pipe
1/2" through 3/4"	7'-0"	5'-0"	5'-0"
1" through 1-1/4"	7'-0"	6'-0"	5'-0"
1-1/2" through larger	10'-0"	10'-0"	5'-0"

H. Structure Attachment:1. General:

- a. Shall be engineered to support the intended design load and shall be sized for the hanger rod specified.

- b. For poured-in-place construction, install B-line B2500 Spot insert. After removing the concrete forms, install hanger rod in insert using channel nuts.
- c. For steel and concrete decking, install B- line B3019 insert through the steel form prior to the pour. The anchor plate shall be fastened to the steel deck with machine screw.
- d. For attaching to steel channels, use B-line beam clamp threaded anchor hook.

I. Trapeze Hangers

- 1. Trapeze hangers shall be fabricated from galvanized channel. Design stress on the installed channel shall not exceed 25,000 psi. Deflection on the installed channel shall not be greater than $1/240$ th of the span length. For load calculations, all piping to be assumed to be water-filled unless handling a heavier liquid. Hanger rods for trapeze hangers shall be limited to 9,000-psi stress based on the area at the root of the threads. Minimum hanger rod size shall be $3/8$ "

J. Riser Clamps

- 1. B-Line B3373 plain finish for interiors, galvanized for exterior applications. Provide on vertical piping at each floor.

2.19 Sleeves

- A. Non-Rated Assemblies: Sleeves for pipe passing through concrete floors or walls shall be Schedule 40 galvanized steel pipe of size sufficient to permit the pipes to pass through with a minimum clearance of $1/2$ " between sleeve and pipe. Sleeves shall have square ends cut flush with surface and shall be caulked tight whether pipe is bare or insulated. Sleeves through floors shall extend 1" above finished floor surface.
- B. Rated Assemblies
 - a. Bare Pipe. Same as for non-rated assemblies except that sleeves shall provide a clearance of 1" between sleeve and pipe. Clearance shall be packed for its entire length with a UL system CAJ1017 three hour classification such as a 3M Fire barrier CP Firedam 150 caulk at ends and mineral wool batt material stuffer in middle of penetration.

- b. Insulated Pipe. Insulation for pipe in sleeve shall consist of a 360-degree waterproofed calcium silicate insert sized to extend a minimum of 1" beyond each end of sleeve. Calcium silicate insert shall be of the same thickness of adjoining insulation. Clearance shall be packed for its entire length with a UL system CBJ5002 three-hour classification such as a 3M Fire barrier CP 25WB caulk at ends and mineral wool batt material stuffer in middle of penetration.

2.20 FIRESTOPPING

- A. In addition to that specified above, any and all piping passing through fire rated assemblies as indicated on the construction documents or as determined pipe routing in field, shall be firestopped with a U.L. listed fire rated assembly equal to or greater in fire resistance to the penetrated assembly.

2.21 FLASHING

- A. Vent flashing shall be 4-lb. seamless lead, 16" sq. flange, length sufficient to be turned down 2" into vent. Oatey. Provide 24"x24" 4 lb. lead flashing at each roof drain. Flashing for other piping through roof shall be prefabricated galvanized steel roof-jacks with 16" sq. flange. Provide storm collar and seal water tight with mastic.

2.22 YARD BOXES AND COVERS

- A. One piece precast concrete with cast iron cover labeled "Sewer", "Gas", "Water", etc., as required. Provide traffic weight cover in traffic areas. Provide 6" minimum length "Thinwall" series 2000 6" diameter pipe extension to valves installed deeper than boxes. Install in workman like manner. Multiple boxes located on same centerline parallel to building exterior wall. Provide 6" concrete apron in non-paved areas.

PART 3 EQUIPMENT

3.01 GENERAL REQUIREMENTS

- A. Capacity. Capacities and efficiencies shall be in accordance with schedules shown on drawings. Scheduled numbers are to be considered minimum.

- B. Dimensions. Equipment must conform to space requirements and limitations as indicated on drawings and as required for operation and maintenance. Equipment that does not readily conform to space conditions is unacceptable. Prepare and submit layout drawings for all proposed equipment substitutes showing actual job conditions, required clearances for proper operation, maintenance, etc.
- C. Ratings:
 - 1. Gas. Natural gas burning equipment shall be furnished with 100% safety gas shut-off, intermittent pilot ignition, and be approved by AGA.
 - 2. Electrical. Equipment shall be in accordance with NEMA standards and UL listed where applicable standards have been established.
- D. Piping
 - 1. Each item or assembly of items shall be furnished completely piped for connection to services. Control valves and devices shall be furnished, installed, and wired except where noted by others on drawings.

PART 4 INSTALLATION

4.01 EQUIPMENT CONNECTIONS

- A. Water and drain connections shall be provided for each piece of equipment as required. Provide shut-off valve or fixture stop for each water supply to each piece of equipment whether or not equipment is furnished in this Specification Section.
- B. Provide a backflow preventer at each connection to equipment as required by code whether or not equipment is provided in this specification section.
- C. Provide a regulating valve at drinking fountain supplies. Valve, supply piping, and electrical connector shall be installed so as not to be visible.

4.02 FIXTURES

- A. Piping beyond finished wall at each fixture shall be chrome plated.

- B. All piping supporting flush valves, hose bibbs, etc., shall be securely fastened to the building structure at each device to prevent movement of piping. All supplies to individual and/or adjacent fixtures shall be at same height and on centerline of waste insofar as possible. Fixture height shall be as indicated on architectural drawings.
- C. Wall hung fixtures shall have space between fixture and wall surface caulked with white silicone caulk.
- D. Rough-in and connection for trim and other fixtures supplied by others shall be included in this specification section.
- E. Where aerators are scheduled for the various fixtures, provide Chicago "Lam-A-Flo" Laminar flow controls.
- F. Floor Drains or Floor Sinks shall be placed parallel to room surfaces, set level, flush with floor and adjusted to proper height to drain. Cover openings during construction to keep all foreign matter out of drain line.

4.03 PIPING

- A. Constantly coordinate work with that of other trades so as to prevent any interference with this installation.
- B. Piping shall be concealed in walls, above the ceilings, or below grade unless otherwise noted. Exposed piping shall run parallel to room surfaces; location to be approved by Engineer. No structural member shall be weakened by cutting, notching, boring or otherwise, unless specifically allowed by structural drawings and/or specifications. If such cutting required, reinforcement shall be provided as specified or detailed. All piping shall be installed in a manner to ensure unrestricted flow, eliminate air pockets, prevent any unusual noise, and permit complete drainage of the system. All piping shall be installed to permit expansion and contraction without strain on piping or equipment. Vertical lines shall be installed to allow for building settlement without damage to piping. Pipe sizes indicated on the drawings are nominal sizes unless otherwise noted.
- C. Piping shall be run in alignment with building walls and all turns and bends shall be made with standard fittings. Springing or forcing piping into place will not be permitted. Hot and cold water piping shall be installed at 8" apart min., where possible.
- D. Horizontal piping shall be supported at intervals with hangers as noted elsewhere in these Specifications. No piping shall be in contact with any part of the building structure, including sub-assemblies. Holes in structural elements to accommodate routing of vertical or horizontal piping shall provide a

minimum of 3/16" clearance around piping surface. Piping secured directly to structure shall be provided with Semco "Trisolator".

- E. Water piping shall be graded at 1/10" per foot and valved so as to provide for complete drainage of the systems. Branch water lines shall be taken off mains at top or at 45 degrees from vertical.
- F. Install cleanouts at ends of sewer lines, at changes of direction greater than 45 degrees, and at not greater than 100-foot intervals. Locate interior cleanouts in accessible locations and bring flush to finished surface.
- G. Vents shall terminate not less than 6" above the roof nor less than 12" from any vertical surface nor within 10' of any outside air intake. Install horizontal vent lines at 1/4" per foot pitch. Offset vents 2' minimum from gutters, parapets, ridges and roof flashing.
- H. Gas Piping shall be pitched to drain to dirt legs at low points. No unions shall be installed except at connections to equipment. Provide shutoff and dirt leg to each equipment connection. Only equipment mounted on vibration isolators shall be connected with flexible connectors. Under floor piping shall be sleeved and vented. Plastic pipe and fittings shall be joined in accordance with manufacturer's recommendations. Metal to plastic transition fittings shall be installed at all transitions. Install 14-gauge tracer wire alongside the pipe. Terminate tracer 6" above grade at both ends.
- I. Condensate Drain Piping shall be installed with constant pitch of 1/8" per foot minimum. Provide tee with clean-out plug at all changes of direction. Provide a trap at each air-handling unit to prevent air leakage. Connections to equipment mounted on vibration isolators shall be made with flexible connections.
- J. Pipe Joints:
 - 1. Pipe joints shall be smooth inside and cut pipe ends shall be thoroughly reamed to remove all burr.
 - 2. After general tests, any leaky connections shall be remade with new material. The use of thread cement or caulking to make joints tight is not permitted.
 - 3. All ends and openings in all pipe and fittings shall be taped or plugged immediately after installation to exclude dirt until fixtures are installed and/or until final connections are made.
 - 4. Electrical Equipment. Joints shall be avoided, where possible, over electrical equipment.

K. Unions

1. A union shall be installed on the leaving side of each valve, at all sides of automatic valves, at equipment connections, and elsewhere as necessary for assembly or disassembly of piping.

L. Reducers

1. Pipe size reduction shall be made with eccentric reducing fittings to eliminate air pockets. No bushings shall be used unless specifically noted. Close nipples shall not be used.

J. Rough-In

1. Rough-in work shall proceed as rapidly as general construction will permit and shall be completed and tested before any lathing, plastering or any other finish work has started. Work shall be fitted to the available space and shall be accurately roughed-in.

K. Piping Expansion and Contraction

1. Water pipe runs, except buried piping, shall be installed so that they may expand or contract freely without strain to the pipe or equipment. This may be accomplished through the use of swing joints, spring hangers, or expansion loops. Expansion loops shall be provided where required. Anchors shall be rigid and bolted to the structure and welded to the piping. Provide swing joints at point of connection to the equipment.

L. Grouting

1. All pipes passing through the walls below grade shall be tightly packed with ionized grout, full thickness of intercepted wall. Grouting shall be between pipe exterior and sleeve.

M. Freeze Protection

1. All piping two inch and smaller located outside building and above ground and where exposed to freezing conditions shall be neatly wrapped with refrigerant insulated tape for freeze protection. Bury all water piping below verified frost line.

2. Disinfect all domestic hot and cold water piping systems in accordance with AWWA Standard C601, "AWWA Standard for Disinfecting Water Mains". Disinfection process shall be performed in cooperation with health department having jurisdiction and witnessed by a representative of the Engineer. During procedure signs shall be posted at each water outlet stating, "Chlorination - Do not drink". After Disinfection, water samples shall be collected by health department for bacteriological analysis. Certificate of Bacteriological Purity shall be obtained from health department and delivered to the Owner through the Engineer.

4.04 TESTS AND ADJUSTMENTS

A. General

1. Unless otherwise directed, tests shall be witnessed by a representative of the Engineer. Work to be concealed shall not be enclosed until prescribed tests are made. Should any work been closed before such tests, the Contractor shall, at his expense, uncover, test and repair all work to original conditions. Leak's and defects shown by tests shall be repaired and entire work retested. Tests may be made in section, however, all connections between sections previously tested and new section shall be included in the new test.

B. Gravity Systems

1. Sanitary Sewer. All ends of the sanitary sewer system shall be capped and lines filled with water to the top of the highest vent, 10' above grade minimum. This test shall be made before any fixtures are installed. Test shall be maintained until all joints have been inspected, but no less than 2 hours.
2. Condensate Drain. Similar to Sanitary Sewer.

C. Pressure Systems

1. There shall be no drop in pressure during test except that due to ambient temperature changes. All components of system not rated for test pressure shall be isolated from system before test is made.
2. Domestic Hot and Cold Water Piping, ; Maintain 100 psig water pressure for 4 hours.

END OF SECTION
02/21/01

GENERAL CONDITIONS FOR ELECTRICAL WORK

PART 1 - GENERAL INFORMATION

1.01 ORDINANCES, REGULATIONS AND CODES:

All work must conform to the requirements which fall within the scope of the regulations in the Codes or under the jurisdiction of any of the governing bodies listed.

- a. The California Code of Regulations, Titles 19 through 25.
- b. The National Electrical Code as applicable under current state and local regulations, if any, (latest edition and supplements.)
- c. State Board of Health.
- d. CAL-OSHA Regulations.
- e. Nothing in these Specifications or shown on the plans shall relieve the Contractor from full compliance with applicable portions of any of the above regulations pertaining to work which he is installing under this Contract.

1.02 PERMITS AND FEES:

- a. Pay for and obtain all permits, inspection fees, etc., as required for the completion of all work included in this Contract. Any Inspection Certificates required shall be obtained and delivered to the Owner.

1.03 EXAMINATION OF DRAWINGS AND SITE:

- a. Before submitting his bid, the Contractor shall carefully examine the Architectural, Structural, Mechanical and Plumbing Drawings for this work, along with the specifications governing the work of this trade. He shall also visit the site of the proposed construction and familiarize himself with all the site conditions. No subsequent allowances will be made to the Contractor because of his negligence in complying with the above or his alleged inability to understand the requirements.

1.04 CONDUCT OF THE WORK:

- a. The Contractor shall maintain on the job a competent foreman or a superintendent at all times to superintend the work.

1.05 CONTRACTOR'S RESPONSIBILITY:

- a. The Contractor shall be responsible for the safety and good condition of all materials and equipment until final acceptance by the Owner. He shall erect and maintain suitable barriers, protective devices, lights and warning signs where required for the protection of the public and employees about the buildings. He shall be fully responsible for any loss or injury to persons or property resulting from his neglect or the carelessness and neglect of his employees.

PART 2 - PRODUCTS**2.01 SUBMITTALS:**

- a. Shop drawings of power and signal service and distribution equipment and lighting fixture catalog cuts shall be submitted for approval according to Division 0 requirements.
- b. Equipment or material furnished or incorporated in construction without prior approval of the Architect may be rejected and if rejected shall be removed from the structure and replaced with approved equipment or material at the Contractor's expense.

2.02 CATALOG DATA AND OPERATING INSTRUCTIONS:

- a. Upon completion of the work in this Contract, the Architect shall be furnished with a complete set of catalog data which describes each piece of equipment installed under this Contract. The catalog shall be bound in a set and shall be clearly labeled as to each item of equipment used.

2.03 LIST OF MATERIALS:

- a. Within thirty (30) calendar days after the award of the Contract, the Contractor shall submit seven (7) copies of a complete list of materials to be installed under this Contract, giving, in the case of each item of material to be used, the name of the article. All substitutes must be approved by the Architect as stipulated in Division 1.

PART 3 - EXECUTION**3.01 RECORD DRAWINGS:**

- a. Refer to Division 1 for requirements.

3.02 LOCATIONS:

- a. The work as laid out is to some extent diagrammatic, and the location thereon indicated may be approximate only. The Contractor, therefore, shall install all the equipment, apparatus, conduit runs and the like as follows:
- b. Adhere to the location indicated as far as possible.
- c. Maintain ample head room in all rooms and passageways, clearance around all apparatus and equipment and under pipe lines for unrestricted passage and for easy servicing of all apparatus, equipment, devices and the like.
- d. Verify the exact locations of all fixtures and other apparatus or devices as indicated on the drawings. In the event these drawings do not sufficiently indicate the locations for all such fixtures, apparatus or devices, the Contractor shall obtain the exact locations from the Architect.

3.03 VERIFICATION OF DIMENSIONS:

- a. The Contractor shall, as work progresses, verify the dimensions of the spaces available for the installation of the work and he shall assume full responsibility for the proper locations and grading of each portion thereof.
- b. Where the work requires connections to be made to equipment that is furnished and set in place by others, the Contractor shall obtain exact rough-in dimensions from the manufacturer of such equipment and he shall install the connections in a neat and workmanlike manner.

3.04 CUTTING AND PATCHING:

- a. This Contractor shall do all cutting and patching of the work for the installation of the equipment and materials as approved by the Architect and/or Engineer. All patching shall accurately match the adjoining work.

3.05 FOUNDATIONS AND SUPPORTS:

- a. This Contractor shall provide all foundations, supports and hangers, etc., as required to install the equipment as specified or shown on the drawings. All equipment shall be supported, braced and cross-braced in such manner as to prevent sway and/or lateral movement.

3.06 EXCAVATION AND BACKFILLING:

- a. Refer to earthwork in Division 2 for additional requirements on trenching, backfill and compaction.
- b. Excavating required for the installation of the work shall be done by this Contractor. Underground lines outside the buildings shall be installed with a minimum cover of 24", except depth of utility services shall comply with respective utility company requirements.

- c. The conduit shall be laid on material described below to afford bearing for the full length of the conduit. Any part of the trench excavated below grade shall be corrected with thoroughly compacted material approved by the Architect.
- d. When the bottom uncovered at subgrade is soft and, in the opinion of the Architect, cannot support the conduit, a further depth shall be excavated and refilled to pipe foundation grade as required by the Architect.
- e. Backfill:
 - 1. 6" Below, Around and to 6" Above Conduit: Material shall be sand. Place carefully around and on top of conduit, taking care not to disturb conduit. Consolidate with vibrator.
 - 2. 6" Above Conduit to Grade: Material shall be sandy or silty loam, free of lumps, laid in 6" layers, uniformly mixed to proper moisture and compacted to required density. If backfill is determined to be suitable and required compaction is demonstrated by laboratory test, water compaction in 6" layers may be used, subject to review by Engineer.
- f. Compaction: Compact to density of 95% within building and under walkways, driveways, traffic areas, paved areas, etc. and to 90% elsewhere. Demonstrate proper compaction by testing at top, bottom and one-half of the trench depth. Perform these tests at three locations per 100' of trench.
- g. No excavation below the level of, or adjacent to, foundations of footings shall be made except in a manner approved by the Architect.
- h. A red or yellow tracer tape stating "CAUTION ELECTRIC LINE BURIED BELOW" shall be installed 12" above conduit, full length of trench.
- i. Electrical conduit shall not be run in excavations provided for plumbing or heating pipes, unless separated by a minimum of 12 inches.
- j. Verify location of all underground lines with Owner and utility companies before starting excavation.
- k. Ten (10) days before doing any excavation or trenching contact "Underground Service Alert", 1-800-642-2444, advise them of work schedule and comply with their recommendations.

3.07 CLEANING UP:

- a. The Contractor shall keep the premises free from accumulations of his waste material or rubbish. At the completion of the work, he shall remove all his rubbish, tools, scaffolding and surplus materials from and about the buildings, leaving the premises in a clean condition.
- b. All exterior surfaces of exposed equipment and material shall be thoroughly cleaned of all dirt, cement, plaster and other debris, including the exterior surfaces of all conduit, conduit fittings, conduit hangers, insulation and the like.

- c. All surfaces to be painted shall be carefully wiped or otherwise cleaned; cracks and corners scraped out clean, grease and oil spots removed so that surfaces may receive paint without further preparation.
- d. All fixtures and plated materials shall be thoroughly cleaned and polished.

3.08 DAMAGE BY LEAKS:

- a. The Contractor shall be responsible for all damage to any part of the premises caused by breaks in conduit or fixtures furnished and/or installed by him under this specification for a period of one (1) year from date of acceptance of the project by the Owner.

3.09 SITE CONDITIONS:

- a. Where existing utilities are shown on the plans, extreme care shall be exercised in excavating near these utilities to avoid any damage thereto, and the Contractor shall be held responsible for any such damage caused by this operation.
- b. The general location and arrangement of conduit, equipment apparatus, etc., as shown in the drawings or herein specified and all installations shall be made in accordance therewith. Information on the drawings relative to existing services is approximate only. Minor deviations required to conform to actual locations shall be made without additional cost to Owner.
- c. Should utilities not shown on the plans be found during excavations, the Contractor shall promptly notify the Architect for instructions as to further action. Failure to do so will make the Contractor liable for any damage there arising from his operations after discovery of such utilities not shown on the plans. These utilities shall be removed or relocated as directed by the Architect. An equitable adjustment in the Contract will be made for the additional work involved.
- d. The Contractor shall use special precautions where excavations are made in the areas near electrical ducts since they may be high voltage ducts. All such ducts shall be exposed by careful hand excavation so as not to damage the ducts or cause injury to personnel and shall be suitably marked with warning signs, barricades, etc. as required.

3.10 STANDARD PRACTICE:

- a. All work not shown in complete details shall be installed in conformance with the best standard practice for the trade.

3.11 INTENT:

- a. It is the intention to provide systems that are complete in every respect without further cost to the Owner. Anything not shown in drawings, or indicated in the specifications, but required for complete operating systems shall be included as part of this Contract. This shall include all connections to existing services.

3.12 SPECIAL NOTE:

- a. Attention of Contractor is hereby called to all work covered by notes on the drawings. Work covered by notes must be furnished and installed whether it is specifically mentioned in these specifications or not.

3.13 GUARANTEE:

- a. Except as otherwise specified, all materials, apparatus equipment furnished and installed under the Electrical Section of this specification shall be new and free from all defects. Should any trouble develop within a period of one (1) year from date of acceptance of the work, due to inferior or faulty material and/or workmanship, the trouble shall be corrected and material and equipment replaced by the Contractor without expense to the Owner.

3.14 SERVICES:

- a. The location of any existing utility services shown on the drawings is approximate and shall be checked by this Contractor for exact location.

3.15 UTILITY COMPANY SERVICE CHARGES:

- a. All service charges shall be in the Electrical Contractor's bid. Monthly energy charges shall be paid by the General Contractor.

3.16 ACCESS OPENINGS:

- a. The Contractor shall be responsible to coordinate with the General Contractor to provide sufficient and convenient access openings, panels, etc., in the building construction where required for the maintenance of, installation and/or removal of all equipment, or other items of the various systems and equipment, according to Division 8 requirements.

END OF SECTION

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions, Division 0 and section 16010 specifications apply to work of this section.

1.02 SCOPE OF WORK

- a. This portion of the work includes the furnishing of all labor and materials necessary for the complete wiring system to outlets and all equipment shown on the drawings or covered by this Section of the Specifications. In general, the work, includes the following:
- b. Complete system of wiring, conduit feeders and equipment for power.
- c. Complete system of branch circuit wiring, conduit and distribution equipment for lights, receptacles and power.
- d. Furnish and install, lighting panelboards, lamps, lighting fixtures, wall switches, convenience outlets, etc. as shown on drawings.
- e. All hangers, anchors, sleeves, chases and supports for fixtures, all electrical equipment materials.
- f. Furnish, install and connect wire, conduit and switches, etc. required for other equipment covered by other sections of these Specifications.
- g. All excavating and backfill as required for electrical work.
- h. The patching and repair of all work modified or damaged by the installation of work under this contract.
- i. Demolition work.
- j. The Contractor shall furnish and install all work necessary to make complete systems, whether or not such details are mentioned in these Specifications or shown on the drawings, but which are necessary in order to make complete working systems, excepting only those portions that are specifically mentioned therein or plainly marked on the accompanying drawings as being installed by other Contractors.
- k. Electrical Contractor must coordinate his work with the work of other trades so as to provide raceways, conductors and outlets in the correct location for the equipment served, including all mechanical, and signal equipment and connect same. Electrical Contractor must provide power of the correct voltage and phase to each item of equipment.
- l. Before construction starts, the electrical contractor shall arrange a coordination meeting with the General contractor and all other sub contractors supplying equipment that requires electrical connections. All electrical requirements shall be verified and any problems shall be immediately reported to the architect. Equipment items to verify shall include but not be limited to: Voltage, amps, phase, location, orientation, space requirements, type of connection, starter and

disconnect location and provision, control system operation and requirements, etc.

- m. The above list is given for the convenience of the contractor and is not considered all-inclusive.

1.03 TEMPORARY CONSTRUCTION POWER

Provide a temporary construction power system that is adequate for this project. Coordinate requirements and details with the general contractor. All 120V, 15A and 20A receptacles shall have ground-fault circuit-interrupter protection.

1.04 WORK NOT INCLUDED

- a. The furnishing and installation of motors.
- b. Access panels.

PART 2 - PRODUCTS

2.01 MATERIALS

- a. All materials, appliances and equipment except that furnished by the Owner shall be new, bear U.L. Label and of the make, brand or quality specified or as accepted by the Architect as herein provided. This shall also apply to all parts of the work whether or not this particular paragraph is referred to by number.
- b. All apparatus, conduit systems, etc., shall be installed and interconnected so as to form complete systems as herein specified and/or shown on all the accompanying drawings. This Contractor shall furnish and install all work necessary to make complete working systems, excepting only those portions that are specifically mentioned herein or plainly marked on accompanying drawings as being furnished by other Contractors.

2.02 PANELBOARDS

- a. The panelboards shall be constructed in accordance with the standard set up by the Underwriters' Laboratories, Inc., and as manufactured by Westinghouse, Square "D", General Electric, Challenger, or approved equal, and each shall contain the number and type of circuit breakers as indicated on the drawings.
- b. The panelboards shall be equipped with hinged doors, uni-flat front, typewritten circuit directories. All finish in offices, corridors or areas subject to public view shall be prime coat for finish coat by painter. In storage rooms, equipment rooms, etc., finish shall be standard factory gray Hammertone. Provide lock on all panels. Key as directed by Architect.
- c. Seven copies of detailed construction drawings for the panelboards and terminal cabinets shall be submitted to the Architect for Approval before their construction is started.

2.03 RACEWAYS AND FITTINGS

- a. Shall be as manufactured by Triangle Conduit and Cable Company, Allied Tube and Conduit Corporation, American Flexible Conduit Company, Carlon or approved equal.
- b. Galvanized rigid steel conduits (RSC) may be used in all locations. For underground runs in direct contact with earth, conduit shall be wrapped with PVC tape or shall have factory applied PVC coating.
- c. Galvanized intermediate metallic conduit (IMC) may be used in indoor locations not in direct contact with earth.
- d. Galvanized electrical metallic tubing (EMT) may be used in indoor dry locations in which it is:
 - 1. Not subject to physical damage.
 - 2. Not in direct contact with earth.
 - 3. Not in concrete slabs.
 - 4. Not in hazardous areas.
 - 5. On roof or walk cover when specifically shown on drawings.
- e. Non-metallic rigid conduit shall be PVC Schedule 40 and may be used:
 - 1. Underground.
 - 2. Below concrete slab on grade.
 - 3. In concrete slab on floors above grade.
 - 4. In masonry walls, not in same cells as rebars.
- f. Flexible steel conduit may be used in dry locations for final connections to:
 - 1. Motors, transformers and other mechanical equipment, not to exceed 18 inches.
 - 2. Lighting fixtures, not to exceed 72 inches.
 - 3. Facilitate wiring in tight locations, when approved by Engineer.
- g. Flexible aluminum conduit may be used in walls or in attics to facilitate wiring in tight locations, when approved by the engineer.
- h. Liquid-tight flexible steel conduit shall be used in outdoor or wet locations for final connection to motors or other mechanical equipment, not to exceed 18 inches.
- i. Fittings:
 - 1. For rigid and intermediate steel conduits: Fittings shall be galvanized rigid steel, threaded type only.
 - 2. For electrical metallic tubing (EMT), fittings shall be:
 - a). Zinc die cast set-screw type in dry locations.
 - b). Zinc die cast compression type for sizes larger than 1" or in wet locations and in masonry walls.
 - c). In switchboards, panelboards, etc. use insulated throat connectors.
 - 3. For non-metallic conduits:
 - a). Fittings shall be PVC schedule 40 type. Use PVC schedule 40 adapters at all boxes and panelboards.
 - b). Brush or dauber apply PVC cement.

- c). All PVC components, (conduits, fittings and cement) shall be of same manufacturer.
- 4. Flexible metallic conduits: Fittings shall be zinc die cast compression type.
- 5. Liquid-tight flexible metallic conduits: Fittings shall be liquid-tight, zinc die cast compression type.
- 6. Use of the following is prohibited:
 - a). Crimp-on, tap-on, indenter type fittings.
 - b). Spray (aerosol) PVC cement.

2.04 PULL BOXES

- a. Pull Boxes shall meet all code requirements as to size for conduits terminating therein and to thickness of material used in fabrication.
- b. Fabricated sheet steel pull boxes shall be installed only in dry, protected locations and shall be furnished with knockouts and removable screw cover. Box shall be finished with one coat of zinc chromate and a coat of primer sealer and where exposed to public view shall be painted to match the surrounding surface.
- c. Weatherproof sheet steel pull boxes shall be fabricated of code gauge galvanized sheet steel with two coats of rust resistant finish and shall be furnished with gasket and made completely weathertight.
- d. Approved manufacturers for metal boxes are Circle AW, Crouse Hinds, Steel City or equal.
- e. Weatherproof concrete pull boxes, junction boxes and telephone boxes shall be manufactured by Christy Concrete Products or equal. All boxes shall have lids marked "Power", "Signal", etc.

2.05 OUTLETS

- a. All outlet boxes shall be standard one or two piece galvanized knock-out outlet boxes, Racor, Steel City, Appleton, Bowers or approved equal.
- b. All outlet box covers, rings or other fittings shall be standard galvanized, Racor, Steel City, Appleton, Bowers or approved equal.
- c. No outlet box shall be smaller than four inches (4") square and 1 1/2" in depth, except in concrete block construction where Bowers concrete masonry boxes are approved.
- d. All special outlets shall be as hereinafter specified or as shown on drawings.
- e. Thru boxes are not permitted.
- f. Any unused boxes shall be equipped with a cover plate.

2.06 RECEPTACLES AND PLATES

- a. Furnish and install specification grade, 20A, 125 volt, 3 wire grounding type duplex receptacles at all receptacle outlets as indicated on drawings, Leviton, Hubbell, Arrow-Hart, Pass and Seymour or approved equal.

- b. All receptacle plates shall be smooth line plastic, same color as devices.
- c. Device color to be white in light colored walls and brown in dark colored walls.
- d. G.F.C.I. duplex receptacles shall be provided for 15 and 20 amp 125 volt circuits where required by the N.E.C. #210-8 and #305-6.

2.07 LOCAL SWITCHES

- a. Furnish and install flush tumbler type switches, quiet type 120/277V AC only controlling wall and ceiling outlets as indicated on the drawings. All switches shall be specification grade, Leviton, Hubbell, Arrow-Hart, Pass and Seymour or approved equal; and have ampere rating of not less than 20A.
- b. Where two or more switches are in proximity they shall be ganged in the same box and they will be set under one plate. Switches controlling lights and/or outlets on emergency power shall be kept entirely independent of all other switches not on emergency power by mounting in a separate box.
- c. Special receptacles or switches shall be as noted on drawings.
- d. Device color to be ivory in light colored walls and brown in dark colored walls.

2.08 WALL PLATES

- a. All wall plates for electrical outlets and devices shall be stainless steel with satin aluminum finish, Hubbell type 'S' series or approved equal.
- b. All telephone outlet plates shall be blanked plates, same as device plates.

2.09 CONDUCTORS (Wire)

- a. All wire installed in this contract shall be of a standard manufacturer as approved by the National Board of Fire Underwriters and be of the size as indicated on the drawings. All wire shall bear the Underwriter's label and shall be brought to the job in unbroken packages and approved by the Job Inspector before same is installed.
- b. All feeder and branch circuit wiring conductors shall be type THWN or THHN copper, unless otherwise noted.
- c. Number 12 AWG wire shall be the smallest gauge wire used, except for signal circuits which shall be as shown on plans or as specified under other sections of these specifications.
- d. All wire #8 AWG gauge or larger shall be stranded.
- e. The neutral conductor of all lighting feeders shall be of the same size as the phase conductors.
- f. Splices on all wire less than #8 gauge shall be with insulated spring connectors, Ideal "Wing Nuts", "3M Scotchlok" or equal.
- g. Splices in wires #8 gauge and larger shall be made with crimp on solderless connector, Scotch, Burndy or equal. Connectors to switches or bus bar shall be made with one piece lugs for all wires, sized for conductors as shown on plans.

- h. Each branch circuit shall be marked with the circuit number at the panel and at the first outlet nearest the panel. E-Z Code Markers (Thomas & Betts) or equal shall be used to mark the circuits.

2.10 LIGHTING FIXTURES

- a. This Contractor shall submit for approval seven (7) portfolios with full description and cuts of all fixtures he proposes to use.
- b. This Contractor shall furnish and install all lighting fixtures and lamps as indicated on the Electrical Drawings and in accordance with these specifications.
- c. This Contractor shall be held responsible for the complete equipment of all fixture outlets with fixtures of the proper design as shown.
- d. All fixtures shall be securely anchored to prevent any possible chance of their falling.
- e. Continuous runs of fixtures shall be installed straight and true.
- f. Electrical Contractor shall coordinate outlets with Acoustic Tile contractor and other trades and locate outlets in center or at intersections of acoustical tile in all acoustical tile ceilings. All fixtures must be kept 1-1/2" clear of all acoustic tile and any combustible material by use of approved spacers, unless Fire Underwriters approved to be surface mounted.
- g. Unless otherwise specified, all fluorescent ballasts shall be classified as the "A" level in the G.E. Ballast sound rating standard. Acceptable manufacturers shall be Advance, Magnetek, Osram Sylvania, Motorola or equal. Fluorescent ballasts shall be solid state electronic type with reduced harmonics, Advance "STANDARD" or equal. All four foot long fluorescent lamps shall be T8 type with color temperature of 3500°K and a C.R.I. of at least 75, Osram Sylvania "Optron" or equal. All filament lamps shall be G.E., 120 volts inside frosted, unless otherwise specified. Ballasts for HID fixtures shall be high power factor regulated type.
- h. Before submitting a proposal, each bidder shall determine that all fixtures will perform satisfactorily in the application shown on the plans. (This includes operation of the "P" rated ballasts. There shall be no nuisance tripping of its thermal element.) By the act of submitting a proposal, each bidder shall be deemed to have made such determination and it will be assumed that he is familiar with, accepts and has based his proposal on all existing conditions and limitations applying to the work.
- i. When fluorescent fixtures are equipped with integral emergency battery packs the fixtures shall be wired so that all lamps switch on and off via the room light switch and the emergency lamps are automatically energized if the wall switch is in the "on" position and normal power has failed.

2.11 PHOTO CONTROL

- a. Paragon or equal, adjustable type.

2.12 MOTOR DISCONNECTS

- a. Disconnects shall be fused safety switches with dual element fuses. Heavy Duty rated with quick-make, quick-break operating mechanism. Fuse rating shall comply with motor manufacturer's recommendations. Switch shall be UL listed. Disconnects shall have an external operating handle, lockable in the open or closed position.
- b. Provide disconnects for all motors if not provided by others.
- c. Disconnect switches shall be located so as not to obscure any part of the HVAC unit's nameplate data.
- d. Each disconnect switch shall have a nameplate identifying the panel and circuit number that feeds the motor. Nameplates shall comply with specifications for "Identification of Switches and Apparatus".

2.13 TRANSFORMER, DRY TYPE

- a. Transformer shall be Class H insulated with 220°C insulation with temperature rise not exceeding 115 degrees C., in a maximum ambient of 40 degrees C., with rated nameplate load connected to the secondary side, at rated voltage. Transformers shall be suitable for non-linear loads and U.L. K-4 rated.
- b. Transformer shall be built in accordance with the latest revised IEEE, ANSI and NEMA standards.
- c. Case temperature shall not exceed 35 degrees C., above ambient.
- d. Designs shall incorporate built-in vibration dampening systems.
- e. Terminal compartment shall be located to insure termination of cable leads in temperature levels not to exceed 60 degrees C., and to provide for side or bottom entrance of conduit. Enclosures shall be weatherproof and rodent proof. Ventilation openings shall be louvered type. Screening will not be acceptable.
- f. Transformer shall be furnished with six (6) taps, 2 taps above and 4 taps below normal rated voltage, each 2 1/2%.
- g. Acceptable manufacturers shall be Square "D", G. E., Cutler-Hammer or equal.

2.14 TELEPHONE CABLES

- a. When telephone cables are indicated on drawings they shall be A.T.& T. or equal, Level 3, 24 ga. unshielded twisted pairs with 4 pairs minimum. If plenum, use plenum rated cable.

2.15 SIGNAL SYSTEMS

- a. See plans for requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

a. CONDUIT SYSTEMS

1. A concealed conduit system shall be installed for all interior wiring including controls. Conduit shall be run continuous between outlets, etc., and with the minimum number of bends.
2. PVC 40 or rigid steel wrapped with PVC tape or with factory applied PVC coating shall be used for underground runs.
3. Where underground conduit cannot be run below building footings the Contractor shall provide PVC-80 sleeves through the footings (Contractor shall obtain approval for all sleeve sizes and locations with the Structural Engineer before installation).
4. All conduit risers through slab shall be rigid steel or IMC (wrapped with PVC tape or with factory applied PVC coating).
5. All conduit shall be delivered to the site of construction in their original bundles. Each length of conduit shall bear the label of the National Board of Fire Underwriters. All conduit subjected to rough usage while on the job before installation and not acceptable to the Architect shall be removed from the premises upon notice.
6. Conduit installed in masonry walls shall be PVC, rigid steel galvanized conduit or EMT, not in same cell as re-bars.
7. The joints in all conduits installed under concrete slabs on the ground, or underground, or exposed to the weather, shall be made liquid and gas-tight. All underground conduit outside of the buildings shall be buried to a depth of not less than 24" below finish grade. Utility services shall comply with utility company requirements. Two or more conduit runs installed in a common trench shall be separated horizontally by at least four inches (4"). Electrical conduit runs installed in a common trench with other utility lines shall be separated horizontally from such lines by at least twelve inches (12").
8. Changes in direction shall be made with conduit sweep elbows or long radius bends made on the job. Where two or more conduits are grouped in exposed locations, the sweeps shall be struck from the same center forming concentric arcs.
9. All joints in conduit shall be made with standard coupling. In making joints, conduits must be truly and accurately cut and threaded (where applicable) with straight thread, smoothly reamed and squarely butted. All conduit shall be kept corked and dry during construction, using plastic caps or conduit pennies held in place with conduit bushings. Should dirt or moisture collect in any conduit, the Contractor shall swab them out to the satisfaction of the Architect.

10. Conduits ending at the motors and transformers shall be carried as close as possible to the terminal blocks making allowance for the movement of the motors when they are equipped with slide rails. The connection between the conduit terminals on the motor and the conduit shall be made with liquid-tight flexible conduit using the proper fittings.
11. All conduits where they enter panel boxes, pull boxes, or outlet boxes shall have insulated throat connectors and be secured in place by galvanized locknuts - inside of the box.
12. Where conduits are run exposed, the same shall be installed straight and true with reference to the adjacent construction.
13. All conduits feeding panel shall have insulated throat bushings.
14. Any conduit installed under building shall be under the slab.
15. All boxes for bracket outlets shall be equipped with a 3/8" "No-Bolt" fixture stud. These boxes shall be so set that when in place the fixture shall be at right angles to the ceiling or walls.
16. All empty conduit shall be equipped with a #12 galvanized iron pull wire or nylon pull rope continuous from outlet to outlet.
17. Flexible conduit will be permitted for connecting lighting fixtures to junction boxes.
18. Flexible connections in outdoor and damp locations shall be flexible liquid-tight metal conduit or non-corrosive seamless metallic tubing with water-tight connections.
19. Install roof jacks for this construction in accordance with other sections of this Specification.
20. The maximum allowed length of flex conduit at equipment connections is 18".
21. Expansion joints for conduit shall be provided where required to compensate for thermal expansion and contraction.
22. ~~No conduit smaller than 1/2-inch electrical-trade size shall be used.~~
23. Support conduits on roof on 2" X 4" redwood blocks spaced 5 feet apart and set in mastic.
24. Any conduit entering underground pull boxes shall be sealed to prohibit water from entering the conduit. Conduits with conductors shall be sealed with a sealing compound after all conductors have been installed. Spare (empty) conduits shall be capped.

b. OUTLETS

1. In general, the locations of electrical outlets shall be as shown on the drawings; however, the Contractor shall make any changes necessary to suit conditions on the job or rearrangement of built-in fixtures and equipment as directed by the Architect or his representative.
2. The Contractor shall study the general building plans with relation to spaces surrounding each outlet in order that his work may fit the work of others and that when fixtures or other equipment are installed they will be symmetrically located according to room layout. Refer all conflicts and discrepancies promptly to the Architect.

c. OUTLET BOXES

1. Outlets for concealed wiring shall be flush with the finished wall or ceiling surfaces. Pull boxes, junction boxes and all others to which no fixture or device is to be attached, shall be fitted with blank cover plates and painted to match surroundings. In order to reduce noise transmission between rooms, outlet boxes shall not be installed back to back. Where outlets are side by side and faced into opposite rooms, the boxes shall be at least 6" apart, except in fire rated walls space boxes 24" apart. If the boxes are connected together, the connection shall be flexible and shall have openings packed with fiberglass.
2. The Electrical Contractor shall inform himself of wall thickness throughout the building and shall provide outlet boxes of suitable depth that can be flush mounted and yet will be deep enough to contain the particular apparatus involved. Location of exposed pull or junction boxes will be subject to the Architect's approval.
3. Outlets from which lights are suspended shall have approved 3/8" fixture studs fastened through from back of box. All outlet boxes and particularly those supporting fixtures shall be securely anchored in place in an approved manner. Support outlet boxes and fixtures in acoustic ceiling areas from building structures, not from acoustic ceilings. All lighting fixture outlets shall be coordinated with mechanical, architectural, or other equipment to eliminate conflicts and provide a workable, neat installation.
4. Where more than one switch occurs at the same location, use multiple gang outlet boxes covered by a single plate; provide box partitions as required by the C.E.C. Switches controlling lights and/or outlets on emergency power shall be kept entirely independent of all other switches not on emergency power by mounting in a separate box.
5. Outlet box extensions shall be UL listed and shall be attached to box with threaded metal screws. "Flash Guards" are not permitted to be used as box extensions.

d. LOCATIONS OF OUTLETS

1. The Architect reserves the right to make reasonable changes in the indicated locations before work is roughed in without additional charge to the Owner.
2. Where wainscot occurs at the 4'-6" level, the switch shall be mounted lower in the wainscot as near the 4'-0" level as possible, but in no case, shall the switch be partially in the wainscot and partially in the wall. It shall be the Electrical Contractor's responsibility to verify all door swings. Switches, unless specifically noted, shall be on the strike side of the door. If switch is indicated on hinged side of door, verify location with Owner.

e. CONDUCTOR IDENTIFICATION & INSTALLATION

1. The drawings indicate the arrangement of outlets on each branch circuit and the circuit tags show the number of the circuit, and the board to which it will be connected. Circuits indicated with the same numbers shall be connected to the same breaker on the panelboard.
2. All feeders and branch circuits shall be tagged in all pull boxes and in the gutters of all panels to which they connect.
3. All wiring shall be done in identified neutrals.
4. No wire shall be installed until all work of other contractors that might cause injury to the said wire has been completed. Care shall be used to pull wires to insure that no damage occurs to the insulation. Powdered soapstones or wire ease shall be used for pulling in wires.
5. In making the connection of all branch circuits to the terminals of switches, base plugs, etc., the wires shall be looped around the binding screws or be fitted with connecting lugs. At the ceiling outlets, this Contractor shall leave not less than 6" of free ends on each wire for connections to the fixtures.
6. No splices shall be permitted except in outlet boxes, and in panelboard gutters.
7. Switches and receptacles shall be securely fastened to the outlet box. Where the outlet box covers are back of the finished walls the switch or receptacle shall be built out from the same with washers so that it is rigidly held in place to the box. The floating of any switch or receptacle will not be permitted.
8. All signal and communications conductors shall be identified in terminal cabinets as to type of system eg: clock, bell, fire alarm, etc. and location of other end of conductor by room number or name as directed by owner. Identification shall be by numbers at terminal strips and a numbered directory in card holder inside terminal cabinet.
9. Fire alarm system wiring shall be color-coded as follows:

Initiating Devices:	Two Yellow wires,
	Two Orange wires
Signaling Devices:	Two Black wires,
	Two Red wires

10. All power wiring size #6 AWG and smaller, shall be factory color coded. For larger than #6, mark conductors on each end and at all junction and/or pull boxes with a 1" band of colored pressure-sensitive plastic tape. For isolated ground wires, mark with a 1" band of green tape, followed by a 1" band of yellow tape, followed by a 1" band of green tape. Colors for each phase and the neutral shall be consistent throughout the system. Color code shall be as follows:

WIRE	120/208V	277/480V
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Gray
Equip. Ground	Green	Green
Iso-Ground	Green w/Yellow stripe (all voltages)	

The white or gray conductor shall be the neutral at each outlet. All switches shall be installed in "hot" leg. On all lighting circuits the switch leg shall be purple from switch to fixture. All travelers from switch to switch on 3 and 4-way switches shall be pink. This color code shall be followed by contractor for all fixture whips except for factory manufactured whips. When factory manufactured whips are used, color code shall apply to all wiring except the factory whip.

11. Conductors having white, gray or green covering shall not be used to indicate other than neutral or grounding. This limitation applies to all power, lighting, and control circuits.
12. Installation of conductors shall be made in a neat and workmanlike manner to meet Code requirements and shall be run continuous without weld, splice or joint between boxes. Do not install wires in conduit unless the entire system of conduit and outlet boxes is permanently in place. All conductors shall be pulled using a UL approved wire lubricant.
13. Make all terminations at motors using 3M Series 5300 Motor Lead/Cable Splicing Kits. Make connections per 3M written installation procedures.
14. On all bolted electrical connections, the contractor shall use Belleville washers.
15. All wiring to be neatly bundled and tied with nylon cord or plastic straps.
16. Splices in underground boxes shall be made with crimp on compression connectors and insulated with heat shrink sleeves or with splice kits listed by the manufacturer for wet locations. Wire nuts are not permitted.

f. GROUNDING

1. The conduit system supports, cabinets, switchboards, etc., and neutral conductors must be permanently and effectively grounded in accordance with Title 24 of the California Code of Regulations. The neutral shall only be grounded at the main service location unless specifically noted otherwise on the drawings or required by the California Electrical Code.
2. This Contractor shall exercise every precaution to obtain good contacts at all panel boxes, pull boxes, etc.; where it is not possible to obtain good contacts, the conduits shall be bonded around the boxes with a #6 AWG gauge, THWN wire with ground clamps.
3. All equipment cases, motor frames, etc. shall be completely grounded to satisfy applicable code requirements.
4. At each building, the interior hot and cold water piping and the interior aboveground gas piping shall be bonded to the building service equipment per CEC #250-80.
5. Do not use underground gas piping as a grounding electrode.
6. Pull a green ground wire in all power conduits, both metallic and non-metallic.
7. Each disconnect switch shall have a ground connector (lay in wire type) which shall be used for grounding the disconnect enclosure. The ground wire shall continue and be connected to the enclosure of the equipment served.
8. Where there is more than one building supplied from a common service, provide a grounding electrode at each building per CEC 250-24.

g. MOUNTING HEIGHTS OF EQUIPMENT

Unless otherwise specified elsewhere or shown on the plans, the following mounting shall apply:

Panelboards & Signal

Terminal Cabinets: 6'-0" top of box

Disconnect Switches: 4'-6" to center line

h. IDENTIFICATION OF SWITCHES AND APPARATUS

All switchboard circuits, externally operated switches and apparatus used for the operation of or control of circuits, appliances, or equipment shall be properly identified with bakelite nameplates 1" x 3". All such nameplates shall be submitted to the Architect before being secured on the apparatus by screws or rivets. Card holders in any form are not acceptable.

i. EARTHQUAKE PROOFING OF LIGHT FIXTURES

1. Fixtures weighing more than 6 pounds or exceeding 16" in diameter, shall not be supported on the screw shell of the lamp holder.
2. Fixtures weighing more than 50 pounds shall be supported independently of the outlet box.

j. FIRE RATED AREAS

1. Where light fixtures, conduit, cabinets, or boxes penetrate fire rated ceilings, walls or floors provide a fire rated enclosure or fire stop. Rating of enclosure or fire stop shall match or exceed rating of area penetrated. Verify location of fire rated areas with architectural drawings and with General Contractor.
2. Where outlet boxes are recessed on opposite sides of a fire rated wall, boxes shall be separated by a horizontal distance of 24 inches. Where opening for steel electrical outlet boxes exceed 16 sq. inches in area, or an aggregate of more than 100 sq. inches for any 100 sq. feet of wall or partition area, fire stopping is required.
3. Penetrations in walls, floor or ceilings requiring protected openings shall be fire-stopped. Fire-stopping shall be of an approved material, securely installed and capable of maintaining its integrity when subjected to the time-temperature curve of State Fire Marshal Standard 12-43-3 and Standard 12-43-1. Manufacturer's installation instructions shall be made available to the inspection authority and kept at the job site.

3.02 COORDINATION

a. HEATING, AIR CONDITIONING, PLUMBING AND OTHER MECHANICAL WORK:

1. The Mechanical Contractor shall furnish equipment such as motors, starters, thermostats, wiring diagrams, etc. However, the Electrical Contractor shall be responsible for furnishing and installing of all fused disconnect switches, conduits, wire, fittings, etc. for power circuits.
2. Install all electrical equipment where it is not already installed as a part of a unit furnished by the equipment Contractor. (See drawings of respective contractors.)
3. The Electrical Contractor shall furnish fused disconnect switches for pumps, motors and air conditioning and handling units, if they are not furnished by others. Fuses shall be dual element, rated per equipment manufacturer's recommendations. Disconnects shall comply with specifications for "Motor Disconnects".
4. All disconnect switches (whether provided with unit or by contractor) shall have a circuit identification nameplate as specified under "Motor Disconnects".
5. Thermal overload switches shall be furnished for all fractional horsepower motors where such protection is not included as a part of another contract.
6. All motor outlets, disconnect switches' locations and control outlets shown on the plans are approximate only. Verify exact location of same with Equipment Contractor.
7. All low and line voltage controls, including conduits, outlets, wiring and connection shall be furnished and installed by the Controls Contractor.

8. Furnish and install a weatherproof duplex receptacle with G.F.C.I. protection within 25 ft. of all rooftop H.V.A.C. units.
9. Coordinate with general contractors, mechanical contractors and equipment suppliers before bid submitted and again before rough-in started to verify that all systems are complete and all components are provided including starters, disconnects, relays, solenoids, control conduit and wire, etc.

3.03 MISCELLANEOUS:

a. MISCELLANEOUS EQUIPMENT

1. Contractor shall be responsible for electrical hook up and connections to all electrical equipment whether furnished by this Contractor or others, including wiring, conduit, disconnects, circuit breakers, etc., even if not shown on drawings. Verify all requirements with equipment supplier before rough in.

b. INTERRUPTION OF SERVICE

1. Interruption of service in existing buildings shall not be made at a time which will inconvenience the Owner. Before making any final connections to the existing buildings or doing any other work that will interrupt the service, the Contractor shall consult with the Owner and schedule the work at Owner's convenience even if it is necessary to make such connections after regular working hours.
2. This Contractor shall do all rerouting and reconnecting of existing electrical facilities made necessary by this construction. Care shall be taken not to disrupt existing facilities. If any facilities are disrupted, this Contractor shall replace or repair them at his expense and to the satisfaction of the Architect.

c. CHANGES

1. Electrical Contractor shall consider the number of outlets for electric equipment shown on plans as final, but the Architect reserves the right to shift same, within reason, to a location and position which will meet more completely final requirements.

d. GUARANTEE AND TESTS

1. All electrical equipment testing and related costs shall be included in the contractor's bid.
2. Contractor shall obtain approval from the architect of proposed independent testing firm(s) before any testing is started.
3. Equipment of all kinds installed by this Contractor shall be tested to determine whether it fulfills the requirements of these specifications. The Contractor shall furnish all labor necessary to adjust the operation of the apparatus and make the connections for the tests. After the tests have been completed, the Contractor shall restore all connections, apparatus, etc., to their original condition.

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4. All circuit breakers, 100 amps or more, shall be tested by an independent testing firm in accordance with NETA specifications and a report submitted to the architect. Any circuit breaker that does not pass the test shall be replaced.
5. Should any piece of apparatus or any material or work fail in any of these tests, it shall be immediately removed and be replaced with new material by this Contractor at his expense and the portion of the work replaced be again tested by the Contractor.
6. The entire installation shall be free from short circuits and improper grounds. Panels and circuits shall be tested for grounds and shorts with mains disconnected from the feeder, branches connected, lamps removed or omitted from the sockets and all wall switches closed. Each individual circuit shall be tested at the panel with the equipment connected for proper operation. Ground tests shall meet the requirements of the National Electrical Code. Upon completion of the work, a final inspection by the Architect and other interested authorities shall be conducted. This Contractor shall guarantee to repair or replace at his expense any material or equipment that develops defects or is determined not to be in conformance with the plans and specifications, during a period of one year after work is accepted by the Owner.
7. The independent testing agency performing the above mentioned tests shall be NETA or NICET certified.

END OF SECTION

ELECTRICAL

DIVISIONS 0 AND 1 ARE A PART OF THIS SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- a. This portion of the work includes the furnishing of all labor and materials necessary for the complete wiring system to outlets and all equipment shown on the drawings or covered by this Section of the Specifications. In general, the work, includes the following:
 - 1. Complete system of service wiring, conduit, feeders and equipment for power, CATV and telephone service.
 - 2. Complete system of branch circuit wiring, conduit and distribution equipment for lights, receptacles and power.
 - 3. Furnish and install lighting, panelboards, lamps, lighting fixtures, wall switches and convenience outlets.
 - 4. All hangers, anchors, sleeves, chases and supports for fixtures; all electrical equipment and materials.
 - 5. Furnish, install and connect wire, conduit and switches, etc. required for other equipment covered by other sections of these Specifications.
 - 6. Conduit, wiring and fused disconnect switches for controls.
 - 7. All excavating and backfill as required for electrical work.
 - 8. The patching and repair of all work modified or damaged by the installation of work under this contract.
 - 9. Conduit system for telephones.
 - 10. Access panels and terminal cabinets
 - 11. Demolition work.
- b. The Contractor shall furnish and install all work necessary to make complete systems, whether or not such details are mentioned in these Specifications or shown on the drawings, but which are necessary in order to make complete working systems, excepting only those portions that are specifically mentioned therein or plainly marked on the accompanying drawings as being installed by other contractors.
- c. Electrical Contractor must coordinate his work with the work of other trades so as to provide raceways, conductors and outlets in the correct location for the equipment served, including all mechanical, and signal equipment and connect same. Electrical Contractor must provide power of the correct voltage and phase to each item of equipment.
- d. Before construction starts, the Electrical Contractor shall arrange coordination meeting with the General Contractor and all other subcontractors supplying equipment that requires electrical connections. All electrical requirements shall be verified and any problems shall be immediately reported to the Architect. Equipment items to verify shall include but not be limited to: voltage, amps, phase, location, orientation, space requirements, type of connection, starter and disconnect location and provision, control system operation and requirements, etc.

- e. The above list is given for the convenience of the Contractor and is not considered all-inclusive.

1.02 WORK NOT INCLUDED

The furnishing and installation of motors.

PART 2 PRODUCTS

2.01 MATERIALS

All materials, appliances and equipment except that furnished by the Owner shall be new and the best of their respective kinds, free from all defects, bear U.L. Label and of the make, brand or quality specified or as accepted by the Architect as herein provided. This shall also apply to all parts of the work whether or not this particular paragraph is referred to by number.

2.02 APPARATUS, CONDUIT SYSTEMS, ETC.

All apparatus, conduit systems, etc., shall be installed and interconnected so as to form complete systems as herein specified and/or shown on all the accompanying drawings. This Contractor shall furnish and install all work necessary to make complete working systems, excepting only those portions that are specifically mentioned herein or plainly marked on accompanying drawings as being furnished by other contractors.

2.03 RACEWAYS AND FITTINGS

Shall be as manufactured by Triangle Conduit and Cable Company, Allied Tube and Conduit Corporation, American Flexible Conduit Company, Carlon or approved.

- a. Galvanized rigid steel conduits (RSC)
 - (1) May be used in all locations.
 - (2) For underground runs in direct contact with earth, conduit shall be factory wrapped with PVC tape or shall have factory applied PVC coating.
- b. Galvanized intermediate metallic conduit (IMC) may be used in indoor locations not in direct contact with earth.
- c. Galvanized electrical metallic tubing (EMT) may be used in indoor dry locations in which it is:
 - (1) Not subject to physical damage.
 - (2) Not in direct contact with earth.
 - (3) Not in concrete slabs.
 - (4) Not in hazardous areas.
 - (5) In masonry walls, not in same cells as rebars.
- d. Non-metallic rigid conduit shall be PVC Schedule 40 and may be used:
 - (1) Underground.
 - (2) Below concrete slab on grade.
 - (3) In concrete slab on floors above grade.

- e. Flexible steel conduit may be used in dry locations for final connections to:
 - (1) Motors, transformers and other mechanical equipment, not to exceed 18 inches.
 - (2) Lighting fixtures, not to exceed 72 inches.
 - (3) Facilitate wiring in tight locations, when approved by Engineer.
- f. Liquid-tight flexible steel conduit shall be used in outdoor or wet locations for final connection to motors or other mechanical equipment, not to exceed 18 inches.
- g. Fittings:
 - (1) Shall be threaded type only for rigid and intermediate steel conduits.
 - (2) For electrical metallic tubing (EMT), fittings shall be:
 - (a) Setscrew with steel housing or compression type for sized 1/2" through 1", in dry locations.
 - (b) Compression type for sizes larger than 1" or in wet locations and in masonry walls
 - (3) For non-metallic conduits and tubings:
 - (a) Fittings shall be PVC type. Use PVC adapters at all boxes and panelboards.
 - (b) Brush apply PVC cement.
 - (c) All PVC components, (conduits, fittings, cement) shall be of same manufacturer.
 - (4) Flexible metallic conduits shall be compression type.
 - (5) Liquid-tight flexible metallic conduits shall be liquid-tight, compression type.
 - (6) Use of the following is prohibited:
 - (a) Aluminum conduit.
 - (b) Crimp-on, tap-on, indenter type fittings.
 - (c) Spray (aerosol) PVC cement.

2.04 PULL BOXES

Pull Boxes shall meet all code requirements as to size for conduits terminating therein and to thickness of material used in fabrication.

- a. Fabricated sheet steel pull boxes shall be installed only in dry, protected locations and shall be furnished with knockouts and removable screw cover. Box shall be finished with one coat of zinc chromate and a coat of primer sealer and where exposed to public view shall be painted to match the surrounding surface.
- b. Weatherproof sheet steel pull boxes shall be fabricated of code gauge galvanized sheet steel with two coats of rust resistant finish and shall be furnished with gasket and made completely weather tight.
- c. Approved manufacturers for metal boxes are Circle AW, Crouse Hinds, Steel City or equal.
- d. Weatherproof concrete pull boxes, junction boxes and telephone boxes shall be Christy Concrete Products or equal. All boxes shall have lids marked "Electrical Power", "Electrical Signal", etc.

2.05 TIME SWITCHES

Flush mounted, 24 hour with 6-hour spring carry over. Paragon, Tork or equal

2.06 OUTLETS

- a. All outlet boxes shall be standard one or two piece galvanized knock-out outlet boxes, National, Steel City, Appleton, Bowers or approved equal.
- b. All outlet box covers, rings or other fittings shall be standard galvanized, National, Steel City, Appleton, bowers or approved equal.
- c. No outlet box shall be smaller than four inches (4") square and 1-1/2" in depth, except in concrete block construction where Bowers concrete block boxes are approved.
- d. Floor outlets on grade shall have fully adjustable cast type boxes, Steel City #664 CI with #664 CST cover. Color of cover to be selected by Architect. Provide flange for carpet or tile as required. If in wood floor with no carpet or tile, provide flange suitable for wood. For 120V power provide two duplex outlets in each box with a 664-WT wire tunnel. For signals, provide two blank plates #664-BP unless noted otherwise on drawings.
- e. All special outlets shall be as hereinafter specified or as shown on drawings.
- f. Thru boxes are not permitted.
- g. Any unused boxes shall be equipped with a cover plate.

2.07 PANELBOARDS

- a. The panelboards shall be constructed in accordance with the standard set up by the Underwriters' Laboratories, Inc., and as manufactured by Westinghouse, Square "D", G.E., Challenger, or approved equal, and each shall contain the number and type of circuit breakers as indicated on the drawings.
- b. The panelboards shall be equipped with hinged doors, flat front, typewritten circuit directories. All finish in offices, corridors or areas subject to public view shall be prime coat for finish coat by painter. In storage rooms, equipment rooms, etc., finish shall be standard factory gray Hammertone. Provide lock on all panels. Key as directed by Architect.
- c. Seven copies of detailed construction drawings for the panelboards and terminal cabinets shall be submitted to the Architect for approval before their construction is started.

2.08 TERMINAL CABINETS

- a. Terminal cabinets shall be flush or surface mounted as indicated with hinged doors and lock. Match panelboard lock. Exterior finish to be same as for panelboards. Provide 3/4" plywood backing inside of cabinet. Provide proper number of terminals in cabinets as required.
- b. Provide a Bakelite nameplate fastened with screws to the face of each terminal cabinet, which will identify it.
- c. Match panel key.

- d. Provide circuit directory and holder on inside of door with one line for each conductor entering and each conductor leaving cabinet.

2.09 RECEPTACLES AND PLATES

- a. Furnish and install 20A, 125 volt, 3 wire grounding type duplex receptacles at all receptacle outlets as indicated on drawings, specification grade Leviton, Bryant, Sierra or approved equal.
- b. All receptacle plates shall be smooth line plastic same color as devices.
- c. Device color to be ivory in light colored walls and brown in dark colored walls.
- d. Isolated ground receptacles shall also provide TVSS (transient voltage surge suppression) as follows: Surge protection 80 Joules hot-neutral, ground-neutral, hot-ground, RFI and EMI noise filtration of 7:1 reduction. A LED shall indicate surge protection unit is in operation. Receptacle shall be 20A, 125V NEMA 5-20R, Pass & Seymour #IG6362-OSP or approved equal.

2.10 LOCAL SWITCHES AND PLATES

- a. Furnish and install flush tumbler type switches, quiet type 120/277V AC only controlling wall and ceiling outlets as indicated on the drawings. All switches shall be specification grade Leviton, Bryant, Sierra or approved equal and have ampere rating of not less than 20A.
- b. Switch plates shall match receptacle plates.
- c. Where two or more switches are in proximity they shall be ganged in the same box and they will be set under one plate.
- d. Special receptacles or switches shall be as noted on drawings.
- e. Device color to be ivory in light colored walls and brown in dark colored walls.

2.11 CONDUCTORS (WIRE)

- a. All wire installed in this contract shall be of a standard manufacturer as approved by the National Board of Fire Underwriters and be of the size as indicated on the drawings. All wire shall bear the Underwriters's label and shall be brought to the job in unbroken packages and approved by the Job Inspector before same is installed.
- b. All power wiring conductors shall be type THWN copper, unless otherwise noted.
- c. Number 12 AWG gauge wire shall be the smallest gauge wire used, except for the signal circuits which shall be as shown on plans or as specified under other sections of these Specifications.
- d. All wire #8 AWG gauge or larger shall be stranded.
- e. The neutral conductor of all lighting feeders shall be of the same size as the phase conductors.
- f. Splices on all wire less than 8 gauge shall be with insulated Ideal "Wing Nuts", "Scotchlock", or equal, spring connectors.

- g. Splices in wires 8 gauge and larger shall be made with crimp on solderless connector, Scotch, Burndy or equal. Connectors to switches or bus bar shall be made with one piece for lugs for all wires, sized for conductors as shown on plans.
- h. Each branch circuit shall be marked with the circuit number at the panel and at the first outlet nearest the panel. E-Z Code Markers (Western Lithograph Co.) or equal shall be used to mark the circuits.

2.12 LIGHTING FIXTURES

- a. This Contractor shall submit for approval seven (7) portfolios with full description and cuts of all fixtures he proposes to use.
- b. This Contractor shall furnish and install all lighting fixtures and lamps as indicated on the Electrical Drawings and in accordance with these specifications.
- c. This Contractor shall be held responsible for the complete equipment of all fixture outlets with fixtures of the proper design as shown.
- d. All fixtures shall be securely anchored to prevent any possible chance of their falling.
- e. Continuous runs of fixtures shall be installed straight and true.
- f. Recessed fixtures shall be complete with plaster frames, supporting brackets and hanger wires.
- g. Stem lengths shall be adjusted to meet conditions where required. Furnish aligners to ensure vertical alignment (ball aligner).
- h. Electrical Contractor shall coordinate outlets with Acoustic Tile Contractor and other trades and locate outlets in center or at intersections of acoustical tile in all acoustical tile ceilings. All fixtures must be kept 1-1/2" clear of all acoustic tile and any combustible material by use of approved spacers, unless Fire Underwriters approved to be surface mounted.
- i. Unless otherwise specified, all fluorescent ballasts shall be classified as the "A" level in the G.E. Ballast sound rating standard. Acceptable manufacturers are Universal, Advance, G.E. or equal. Fluorescent ballasts shall be Mark III Energy Savers or equal. All fluorescent lamps shall be standard cool white color "Watt Miser" and all filament lamps shall be G.E., 120 volts inside frosted, unless otherwise specified. Ballasts for HID fixtures shall be high power factor regulated type.
- j. Before submitting a proposal, each bidder shall determine that all fixtures will perform satisfactorily in the application shown on the plans. (This includes operation of the "P" rated ballasts. There shall be no nuisance tripping of its thermal element.) By the act of submitting a proposal, each bidder shall be deemed to have made such determination and it will be assumed that he is familiar with, accepts and has based his proposal on all existing conditions and limitations applying to the work.
- k. Recessed fixtures in T-Bar ceilings shall be attached to T-Bar with earthquake clips (State approved) or sheet metal screws. Attachment to comply with State requirements.

- l. When fluorescent fixtures are equipped with integral emergency battery packs the fixtures shall be wired so that all lamps switch on and off via the room light switch and the emergency lamps are automatically energized if the wall switch is in the "on" position and normal power has failed.

2.13 PHOTO CONTROL

Paragon or equal, adjustable type.

2.14 MOTOR DISCONNECTS

- a. Shall be fused switch with dual element fuses, horse power rated and quick-make quick-break type. Fuse rating shall comply with motor manufacturer's recommendations. Switch shall be UL listed. Disconnects shall have external operating handles.
- b. Provide disconnects for all motors if not provided by others.
- c. Disconnect switches shall be located so as not to obscure any part of the HVAC unit's nameplate data.
- d. Disconnects shall be heavy duty rated. Operating handle shall be lockable in open or closed position.

2.15 TRANSFORMER, DRY TYPE

- a. Transformer shall be Class H insulation with temperature rise not exceeding 150 degrees C., in a maximum ambient of 40 degrees C., with rated nameplate load connected to the secondary side, at rated voltage.
- b. Transformer shall be built in accordance with the latest revised IEEE, ANSI and NEMA standards.
- c. Case temperature shall not exceed 35 degrees C., above ambient.
- d. Designs shall incorporate built-in vibration dampening systems.
- e. Terminal compartment shall be located to insure termination of cable leads in temperature levels not to exceed 60 degrees C., and to provide for side or bottom entrance of conduit. Enclosures shall be weatherproof and rodent proof. Ventilation openings shall be louvered type. Screening will not be acceptable.
- f. Transformer shall be furnished with 2 taps above and below rated voltage, each 2-1/2%.
- g. Acceptable manufacturers shall be Square "D", Westinghouse or equal.

PART 3 EXECUTION

3.01 CONDUIT SYSTEMS

- a. A conduit system shall be installed for all wiring including controls. Conduit shall be run continuous between outlets, etc., and with the minimum number of bends.
- b. PVC 40 or rigid steel factory wrapped with PVC tape shall be used for underground runs. Where conduits rise up on combustible walls, convert PVC to metallic conduit within 6" of top of floor.

- c. All conduit shall be delivered to the site of construction in their original bundles. Each length of conduit shall bear the label of the National Board of Fire Underwriters. All conduit subjected to rough usage while on the job before installation and not acceptable to the Architect shall be removed from the premises upon notice.
- d. The joints in all conduits installed under concrete slabs on the ground or underground, or exposed to the weather, shall be made liquid and gas-tight. All underground conduit outside of the buildings shall be buried to a depth of not less than 24" below finish grade. Utility services shall comply with utility company requirements. Two or more conduit runs installed in a common trench shall be separated horizontally by at least four inches (4"). Electrical conduit runs installed in a common trench with other utility lines shall be separated horizontally by at least twelve inches (12").
- e. Changes in direction shall be made with conduit sweep elbows or long radius bends made on the job. Where two or more conduits are grouped in exposed locations, the sweeps shall be struck from the same center forming concentric arcs.
- f. All joints in conduit shall be made with standard coupling. In making joints, conduits must be truly and accurately cut and threaded (where applicable) with straight thread, smoothly reamed and squarely butted. All conduit shall be kept corked and dry during construction, using plastic caps or conduit pennies held in place with conduit bushings. Should dirt or moisture collect in any conduit, the Contractor shall swab them out to the satisfaction of the Architect.
- g. Conduits ending at the motors and transformers shall be carried as close as possible to the terminal blocks making allowance for the movement of the motors when they are equipped with slide rails. The connection between the conduit terminals on the motor and the conduit shall be made with liquid-tight flexible conduit using the proper fittings.
- h. All conduits where they enter panel boxes, pull boxes, or outlet boxes shall be secured in place by galvanized lockouts and bushings - one (1) locknut inside and one (1) locknut outside of box with bushing on end of conduit. Bushing shall be plastic where conductors are #4 or larger.
- i. Where conduits are run exposed, the same shall be installed straight and true with reference to the adjacent construction.
- j. Conduit 1" and above shall have plastic insulated grounding bushings.
- k. Any conduit installed under building shall be under the slab.
- l. All empty conduit shall be equipped with a #12 galvanized iron pull wire continuous from outlet to outlet.
- m. Flexible connections in outdoor and damp locations shall be flexible liquid-tight metal conduit or non-corrosive seamless metallic tubing with water-tight connections.
- n. Install roof jacks for this construction in accordance with other sections of this Specification.
- o. The maximum allowed length of flex conduit at equipment connections is 18".
- p. Expansion joints for conduit shall be provided where required to compensate for thermal expansion and contraction.
- q. Conduit on roof shall be strapped to wood blocks set in mastic. Blocks to be 2x4 min., and spaced 5' o.c. max.

3.02 OUTLETS

In general, the locations of electrical outlets shall be as shown on the drawings, however, the Contractor shall make any changes necessary to suit conditions on the job or rearrangement of built-in fixtures and equipment as directed by the Architect or his representative.

3.03 CONDUCTOR IDENTIFICATION AND INSTALLATION

- a. All feeders and branch circuits shall be tagged in all pull boxes and in the gutters of all panels to which they connect.
- b. All wiring shall be done in identified neutrals.
- c. No wire shall be installed until all work of other contractors that might cause injury to the said wire has been completed. Care shall be used to pull wires to insure that no damage occurs to the insulation. Powdered soapstones or wire ease shall be used for pulling in wires.
- d. No splices shall be permitted except in outlet boxes, and in panelboard gutters.
- e. All wiring to be neatly bundled and tied with nylon cord or plastic straps.
- f. Splices in underground boxes shall be made with crimp on compression connectors and insulated with heat shrink sleeves or with splice kits listed by the manufacturer for wet locations. Wire nuts are not permitted.

3.04 GROUNDING

- a. The conduit system, supports, cabinets, switchboards, etc., and neutral conductors must be permanently and effectively grounded by means of approved ground clamps, in accordance with Title 24 of the California Administrative Code. The neutral shall only be grounded at the main service location unless specifically noted otherwise on the drawings or required by the N.E.C.
- b. This Contractor shall exercise every precaution to obtain good contact at all panel boxes, pull boxes, etc.; where it is not possible to obtain good contacts, the conduits shall be bonded around the boxes with a #6 AWG gauge, THWN wire with ground clamps.
- c. All equipment cases, motor frames, etc., shall be completely grounded to satisfy applicable code requirements.
- d. Pull a green ground wire in all conduits, both metallic and non metallic.
- e. Each disconnect switch shall have a ground connector (lay in wire type) which shall be used for grounding the disconnect enclosure. The ground wire shall continue and be connected to the enclosure of the equipment served.
- f. Bond metallic conduits larger than 3/4" C to the ground bus at each sub panel with a ground wire and ground bushing.

3.05 IDENTIFICATION OF SWITCHES AND APPARATUS

All switchboard circuits, externally operated switches and apparatus used for the operation of or control of circuits, appliances, or equipment shall be properly identified with Bakelite nameplates 1" x 3". All such nameplates shall be submitted to the Architect before being secured on the apparatus by screws. Card holders in any form are not acceptable.

3.06 COORDINATION - HEATING, AIR CONDITIONING, PLUMBING AND OTHER MECHANICAL WORK

- a. The Mechanical Contractor shall furnish equipment such as motors, starters, thermostats, wiring diagrams, etc. However, the Electrical Contractor shall be responsible for furnishing and installing of all fused disconnect switches, conduits, wire, fittings, etc. for control circuits and for power connections.
- b. Install all electrical equipment where it is not already installed as a part of a unit furnished by the equipment contractor. (See drawings of respective contractor).
- c. Install outlet boxes where required for controls and equipment.
- d. The Electrical Contractor shall furnish fused disconnect switches for pumps, motors and air conditioning and handling units, if they are not furnished by others. Fuses shall be dual element, rated per equipment manufacturer's recommendations. Disconnects shall comply with specifications for "Motor Disconnects".
- e. Thermal overload switchers shall be furnished for all fractional horsepower motors where such protection is not included as part of another contract.
- f. All control wire shall be as recommended by Control Contractor.
- g. This Contractor shall do all control wiring for a complete and satisfactory system even though mechanical and control equipment is substituted which is of different manufacturer from specified and detailed.
- h. All motor outlets and control outlets shown on the plans are approximate only. Verify exact location of same with Equipment Contractor.
- i. The installation of wiring for controls shall be made under supervision of the Controls Contractor.
- j. Furnish and install W.P., convenience outlet (120V) within 25 ft. of all A.C. units.
- k. Coordinate with general contractor, mechanical contractors and equipment suppliers before bid submitted and again before rough-in started to verify that all systems are complete and all components are provided, including starters, disconnects, relays, solenoids, etc.

3.07 MISCELLANEOUS EQUIPMENT

Contractor shall be responsible for electrical hook up and connections to all electrical equipment whether furnished by this Contractor or others, including wiring, conduit, disconnects, circuit breakers, etc., even if not shown on drawings. Verify all requirements with equipment supplier before rough in

3.08 INTERRUPTION OF SERVICE

- a. Interruption of service in existing buildings shall not be made at a time, which will inconvenience the Owner. Before making any final connections to the existing buildings or doing any other work that will interrupt the service, the Contractor shall consult with the Owner and schedule the work at Owner's convenience even if it is necessary to make such connections after regular working hours.

- b. This Contractor shall do all rerouting and reconnecting of existing electrical facilities made necessary by this construction. Care shall be taken not to disrupt existing facilities. If any facilities are disrupted, this Contractor shall replace or repair them at his expense and to the satisfaction of the Architect.

3.09 CHANGES

- a. Should it be necessary to change any of the sizes, dimensions, or locations of any of the equipment from those shown on the plans, the same shall be made with the approval of the Architect but without any additional expense to the Owner.
- b. Electrical Contractor shall consider the number of outlets for electric equipment shown on plans as final, but the Architect reserves the right to shift same, within reason, to a location and position which will meet more completely final requirements.

3.09 GUARANTEE AND TESTS

- a. Equipment of all kinds installed by this Contractor shall be tested to determine whether it fulfills the requirements of these specifications. The Contractor shall furnish all labor necessary to adjust the operation of the apparatus and make the connections for the tests. After the tests have been completed, the Contractor shall restore all connections, apparatus, etc., to their original condition.
- b. Should any piece of apparatus or any material or work fail in any of these tests, it shall be immediately removed and be replaced by perfect material by this Contractor at his expense and the portion of the work replaced be again tested by the Contractor.
- c. The entire installation shall be free from short circuits and improper grounds. Panels and circuits shall be tested for grounds and shorts with mains disconnected from the feeder, branches connected, lamps removed or omitted from the sockets and all wall switches closed. Each individual circuit shall be tested at the panel with the equipment connected for proper operation. Ground tests shall meet the requirements of the National Electrical Code. Upon completion of the work, a final inspection of the Architect and other interested authorities shall be conducted. This Contractor shall guarantee to repair or replace at his expense any material or equipment that develops defects or is determined not to be in conformance with the plans and specifications, during a period of one year after work is accepted by the Owner.

3.10 DEMOLITION

Remove and/or relocate electrical facilities as required to clear areas for new construction.

END OF SECTION
5/28/98

COMPLETE FIRE ALARM PLAN SUBMITTAL

CESAR E. CHAVEZ ELEMENTARY SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

ALARM COMPONENTS

Existing Control Panel
Notifier 500
C.S.F.M. #7165-0028:157

Signal Extender Panel
Silent Knight 5295
C.S.F.M. #7300-0558:118

Manual Pull Stations
Grinnell #RMS-1P
C.S.F.M. #7150-1493:156

Exterior Horns
Wheelock #MT-24 IOB
C.S.F.M. #7125-0785:122

Mini-Horns
Wheelock
C.S.F.M. #7135-0785:115





November 1, 1996

B-200

System 500

Fire Alarm Control Panel

Section: Microprocessor Fire Alarm Control Panels

GENERAL

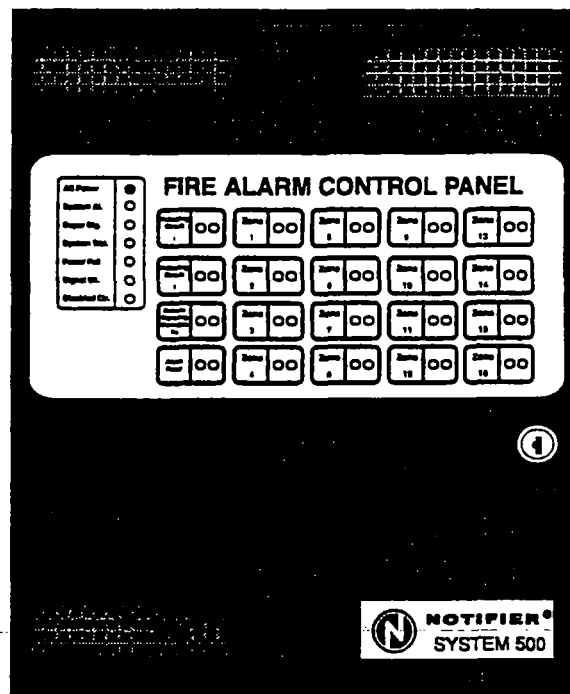
The NOTIFIER System 500 fire alarm control panel is a medium-size unit designed for maximum flexibility and ease of installation. The microprocessor control and modular construction enable users to configure the system to meet their precise requirements. Field programmability simplifies initial installation and allows quick updates to meet future needs.

The center of the system is the Central Processor Unit (CPU-500) module which monitors and controls one or two additional user-selected modules. The System 500 may be configured as a 4, 8, 12, or 16-zone system. In addition, up to eight control points may be added, creating a maximum capacity of 48 points (16 zones and 12 output circuits).

Internal communications are accomplished over a high-speed serial data bus. Each module on the bus is automatically addressed, supervised and controlled by the CPU-500.

FEATURES

- Walk Test feature for single-person test of the system. Includes special zone-change audible indication and zone trouble indication.
- March Time, Temporal Code, or Steady selectable per indicating circuit or control relay.
- Alarm verification, programmable per zone, with automatic discrimination between smoke detectors and dry-contact initiating devices.
- Field-programmable with multiple passwords and a special-programming key to ensure the integrity of field program information.
- Releasing service option with selectable time delays, abort circuit, and manual release.
- Multiple-hazard releasing option. Four cross-zone circuits.
- Pre-signal option with selectable time delays and manual evacuation control. Includes new positive alarm sequence option per NFPA standards.
- Two-stage alert/evacuation option meets Canadian and U.S. requirements.
- All initiating and indicating circuits are power-limited for use with limited-energy cable.
- Resound of subsequent alarms, troubles, or supervisory signals, each with a distinct local audible indication.
- Each initiating zone may be programmed for normal, waterflow, or supervisory operation.
- Field-programmable supervisory complies with NFPA standards requiring distinction between supervisory condition and open-circuit trouble conditions.
- Map any output circuit to any input circuit in non-volatile program memory.
- Enable/Disable per circuit from front panel switches.
- Small size permits semi-flush mounting between 16" center wall studs.
- RMS regulated indicating circuit power.
- Integral charger for 7.0 AH to 17 AH battery options.
Note: Use BB-17 when over 12 A.H. batteries.
- Ground fault detection and battery supervision.

California
State Fire
Marshal
7165-028:157**MEA**
290-91-E

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact NOTIFIER. Phone: (203) 484-7161 FAX: (203) 484-7118

**NOTIFIER** 12 Clintonville Road, Northford, Connecticut 06472

ISO-9001
Engineering and Manufacturing
Quality System Certified to
International Standard ISO-9001





CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7165-0028:157

Page 1 of 2

CATEGORY: Control Units (Non High-Rise)

LISTEE: Notifier, A Pittway Company, One Fire-Lite Place, Northford CT 06472-1653
Contact: Larry Flood (203) 484-1200

DESIGN: Model SYSTEM 500. Inherently power-limited; coded, non-coded or marchtime; manual, automatic and water flow alarm service; local, auxiliary, remote station and proprietary (protected premises) service; sprinkler supervisory (local signaling only) and releasing device service. System components:

CPU-500	Central Processor Unit
IZ-4, IZ-8	Initiating Zone Module
CAB-500	Cabinet
MPS-24BPCA	Power Supply
Gel Cell	Standby Battery
71252	End of Line Resistor
TC-2, -4	Time Control Module
4000TAF	Transformer Assembly
IZE-A, IZ-4A	Initiating Zone Expander Module
AVPS-24	Audio/Visual Power Supply
DP-500	Dress Panel
71245	Dummy Load Resistor
CR-4, CR-4L	Control Relay Module
CRE-4	Control Relay Expander Module
IC-4, ICR-4L	Indicating Circuit Module
IC-4CC	Indicating Circuit Module
ICE-4	Indicating Circuit Expander
UZY-256	Universal Zone Coder
NIB-96	Network Interface Board

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating, wiring diagrams, and UL label.

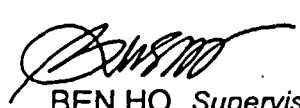


This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: **JUNE 5, 2000**
Effective issue date to expiration date

Authorized By:

Listing Expires June 30, 2001


**BEN HO, Supervising Deputy
Program Manager**

06-26-95 02:06PM FROM SILENT KNIGHT

TO 94936397

P001/002



**SILENT
KNIGHT**
FIRE SYSTEMS.

FIRE ALARM ACCESSORY

Model 5295 Signal Power Expander

FEATURES

- Adds More Signal Power to Local Fire Controls
- Aids Compliance with ADA Requirements Using Existing Local Control
- UL Listed for Alarm Signal Circuits
- Two Supervised Inputs
- Four Style Y (Class B) Signal Circuits
- Highly Efficient Switching Power Supply (24 VDC at 6 Amps)
- 9 to 32 Volt Activation
- Fuseless Design
- Compatible With Most Manufacturers' Local Controls

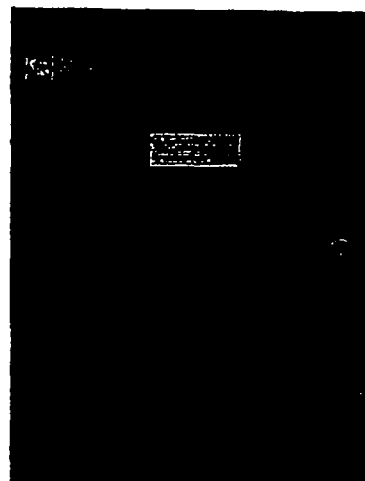
The Model 5295 Signal Power Expander provides additional supervised circuit capacity for local fire alarm systems. This makes the Model 5295 a very cost-effective solution to meeting tough Americans with Disabilities Act (ADA) requirements. The 5295 increases the signaling power available for the additional sounders and the brighter strobes called for by the ADA. Meeting those requirements is easily accomplished in a retrofit or new installation.

DESCRIPTION

The 5295 is a 24 volt 6 amp switching type power supply housed in its own red cabinet. It contains an integral precision battery charger capable of charging two 12 volt 6.5 amp hour batteries. The cabinet provides ample room for field wiring and standby batteries.

CONNECTION TO LOCAL FIRE CONTROL

The 5295 can be connected to a local fire control which utilizes polarity reversing Style W or Y (Class B) type signal circuits operating between 9 and 32 volts DC. The local control signal circuit is connected to one of the inputs on the 5295. The local control's signal circuit end-of-line resistor is also connected across two terminals on the 5295, which provides supervision between the 5295 and local fire control.



Polarized audible and/or visual indicating devices are then connected to the 5295 signal circuits using the 4.7K ohm end-of-line resistors provided. A movable shunt block allows selecting whether all four signal circuits on the 5295, are activated by a single input from the local control, or whether each input activates two signal circuits. Since the 5295 draws very little power from the local control, it is possible to connect one 5295 to each signal circuit, on the local control, and still provide full supervision of the signal circuits all the way back to the local control.

SUPERVISION

The 5295 is capable of supervising a number of functions, including Low AC, Low Battery and Signal Circuit Troubles. When a trouble condition occurs, the 5295 creates a trouble condition on the host control signal circuits to which it is connected. The 5295 still maintains the ability to be activated by the host control, unless the connection between the host and the 5295 is severed.

LOW AC. When a Low AC condition (102 VAC or less) is detected, the green AC POWER indicator will turn off. If Low AC is detected for longer than 6 hours, the 5295 will open the Signal 1 and Signal 2 input loops, causing the local control to go into trouble. These conditions will restore when AC returns to 108 VAC or higher.

06-26-95 02:06PM FROM SILENT KNIGHT

TO 94936397

P002/002

LOW BATTERY. When a Low Battery condition, 20.4 VDC or less, is detected, the yellow BATTERY indicator will turn on and the 5295 will open the Signal 1 and Signal 2 input loops causing the local control to go into trouble. These conditions will restore when battery voltage returns to 22 VDC or higher.

SIGNAL CIRCUIT TROUBLES. The 5295 has four Style Y (Class B) signal circuits. The signal circuits are supervised against opens or shorts and will continue to operate normally during ground fault conditions. When the movable shunt block is in the single input position, a trouble condition detected on any of the four signal circuits will cause the Signal 1 input loop to open, causing the local control to go into trouble. When the movable shunt block is in the dual input position, a trouble condition detected on signal circuits 1 or 2 will cause the Signal 1 input to open. A trouble condition on signal circuits 3 or 4 will cause the Signal 2 input to open. When the signal circuit trouble condition is corrected, the appropriate Signal loop input will restore to normal.

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

- AC Input: 120 VAC at 2 amps
- Output: 24 VDC at 6 amps
- Built-in battery charger for two 12 volt 6.5 amp-hour batteries will provide 24 hour standby with 15 minutes in alarm

- Low AC: 102 VAC for 6 or more hours
- Restore Low AC: 108 VAC
- Low Battery: 20.4 VDC
- Low Batt Restore: 22 VDC
- Signal 1 & 2 inputs: 9 to 32 VDC
- Signal circuit outputs: 20.3 to 27.3 VDC at 1.5 amps each, 4.7 K ohm EOL resistor required on each circuit

INDICATOR LIGHTS

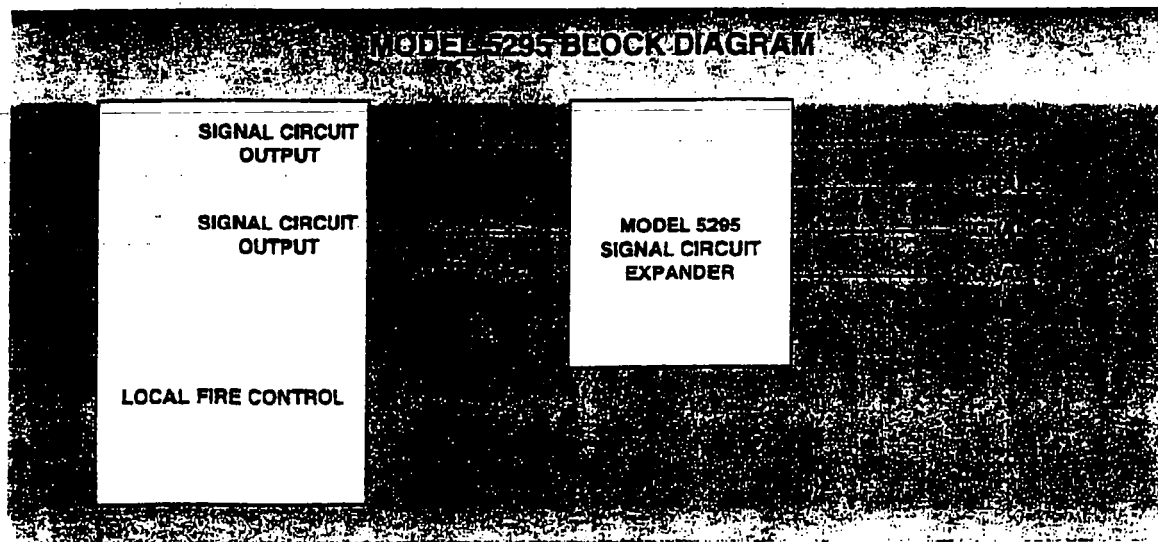
- AC Power On — Green
- Battery Trouble — Yellow
- Signal 1 Trouble — Yellow
- Signal 2 Trouble — Yellow
- Signal 3 Trouble — Yellow
- Signal 4 Trouble — Yellow

MECHANICAL SPECIFICATIONS

- Dimensions: 12-1/4 inches W x 16 inches H x 3 inches D
(31.1 cm W x 40.6 cm H x 7.6 cm D)
- Shipping Weight: 8 lbs. 14 oz. (4 kg.)
- Color: Red

APPROVALS

- UL Listed — UL864
- NFPA — 72A
- California State Fire Marshal Listed
- MEA Approval No. 234-93-E



**SILENT
KNIGHT**
FIRE SYSTEMS.

7550 Meridian Circle, Maple Grove, MN 55369-4927
1-800-446-6444 or in Minnesota (612) 493-6435
Fax: (612) 493-6475

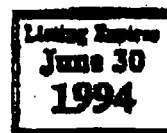
THE QUALITY EDGE

**MADE IN
AMERICA**

Form No. 150781 (4/94)



California State Fire Marshal
LISTING SERVICE



LISTING No. 0558.118 Page 1 of 1

CATEGORY: 7300 (Misc. Fire Alarm Devices/Accessories)

LISTEE: Silent Knight, 7850 Meridian Cr., Maple Grove MN 55369
Contact: Brian Feltz (612) 492-6442

DESIGN: Model 5298 indicating circuit expander. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions and applicable codes and ordinances.

MARKING: Listee's name and model designation.

APPROVAL: Listed as an accessory for use with separately listed compatible control units.

STD: UL 864 with California amendments

08-02-93

This listing is based upon technical data submitted by the applicant. CSFM staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

ISSUED: AUGUST 17, 1993

AUTHORIZED BY:

Nancy Wolfe

MANUAL STATIONS

AUTOCALL RMS Series

Features

- Die Cast Metal Construction
- Low Profile, Functional Design

Optional Features

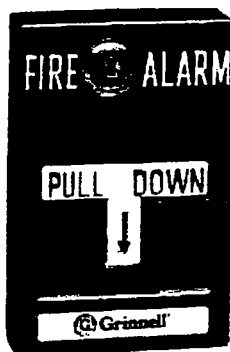
- Dual Action
- Break Glass
- Institutional (Key-Operated)
- Weatherproof
- Explosionproof
- Hex Screw or Key Lock Reset



RMS-1P (P/N 960672) Single Action



RMS-1T-LP (P/N 960675) Dual Action



RMS-1T-KL (P/N 960677) Key lock reset



RMS-1T-KO (P/N 960682) Institutional



RMS-1T-DAH (P/N 960683)
Break Glass



RMS-EX-WP-LP (P/N 960680)
Explosionproof

General Information

The AUTOCALL RMS series manual pull stations are of high quality, nontoxic, die cast construction.

Low profile and smooth edges offer an attractive yet functional design. All components are pre-painted or have plated surfaces to inhibit corrosion.

The RMS series manual pull stations have a 10 amp snap action switch. All stations, except the RMS-1T-KO and RMS-1T-KO-WP institutional manual stations, can be used with or without a break glass rod (included) for positive indication that the unit has been operated.

Hazardous Locations

The AUTOCALL RMS series explosionproof, weatherproof pull stations are constructed of high strength metal die cast alloy.

The UL rating of class I group B (hydrogen) C & D, class II groups E, F, G, class III and outdoor rating of type 4X, allows these stations to offer unmatched placement flexibility. The terminal block connections and contacts rated @ 10 amps meet most electrical requirements indoors or out.

Having a "conventional" pull station design, the RMS series stations offer easy identification.

Listings & Approvals

- UL File Number S511
- CSFM No. 7150-1493:156

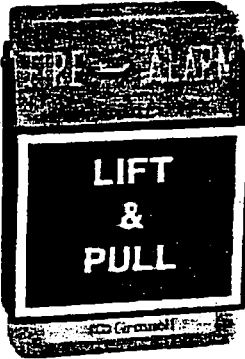


Grinnell®

FIRE PROTECTION SYSTEMS COMPANY

MANUAL STATIONS

AUTOCALL RMS Series



Optional LP Lift & Pull (P/N 976409)
Shown w/ RMS-1P (P/N 960672)

Specifications

Contact	Single pole, single throw; double pole, single throw option
Wire AWG	12 to 22 AWG
Wiring	Terminal block connections (6-32 w/sem plate)
Switch	10 amp @ 125VAC
Key Switch (pre-signal)	3 amp @ 125VAC
Dimensions*	
Standard Station	4 3/4"H x 3 3/16"W x 7/8"D, single gang mount
RMS-1T-LP	4 3/4"H x 3 3/8"W x 1"D
RMS-1T-WP-LP, and RMS-2T-WP-LP	4 3/4"H x 3 3/8"W x 1 3/4"D
RMS-1T-KL	4 3/4"H x 3 3/16"W x 1 1/8"D
RMS-1T-KL-LP	4 3/4"H x 3 3/8"W x 1 1/8"D
RMS-1T-KO	4 3/4"H x 3 3/16"W x 1 1/8"D
RMS-1T-PS	4 3/4"H x 3 3/16"W x 15/16"D
RMS-1T-DAH (w/ rod)	5 5/8"H x 4"W x 1 9/16"D

* Depth does not include switch and/or terminal block.

Ordering Information

Part No.	Model	Switch Configuration	Pigtails (P) or Terminals (T)	Action	Additional Features
960672	RMS-1P	SPST	P	Single	
960673	RMS-1T	SPST	T	Single	
960674	RMS-2T	DPST	T	Single	
960675	RMS-1T-LP	SPST	T	Dual	
960678	RMS-1T-WP-LP	SPST	T	Dual	Weatherproof
960679	RMS-2T-WP-LP	DPST	T	Dual	Weatherproof
960680	RMS-EX-WP-LP	DPDT	T	Dual	Explosionproof, Weatherproof
960677	RMS-1T-KL	SPST	T	Single	Key lock reset
960681	RMS-1T-KL-LP	SPST	T	Dual	Key lock reset
960682	RMS-1T-KO	SPST	T	Single	Key operated, Institutional
976408	RMS-1T-KO-WP	SPST	T	Single	Key operated, Institutional, Weatherproof
960676	RMS-1T-PS	SPST	T	Single	Pre-signal station
960683	RMS-1T-DAH	SPST	T	Dual	Break glass

Accessories

Part No.	Model	Description
960687	BB	Indoor backbox, surface mount, 4.750"H x 3.325"W x 1.75"D
960684	GR	Glass rod
976409	LP	Lift and pull, used to convert single action stations to double action stations
960685	KY-15	Set of 2 keys, for key lock reset and institutional pull stations
960686	KY-PR	Set of 2 keys, for pre-signal keyswitch

NOTE: Key-reset units are keyed the same as AUTOCALL control panels (reset key only). It does not apply to the pre-signal keylock or the institutional station. Please reference both the model and part numbers when ordering.

These instructions do not purport to cover all the details or variations in the equipment described, nor do they provide for every possible contingency to be met in connection with installation, operation and maintenance. All specifications subject to change without notice. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact Grinnell Fire Protection Systems Company, Westlake, Ohio 44145. © 1998 Grinnell Fire Protection Systems Company, a Division of the Grinnell Corporation.



Grinnell

FIRE PROTECTION SYSTEMS COMPANY

835 Sharon Drive, Westlake, Ohio 44145
Phone: (440) 899-5445; FAX (440) 871-2301
<http://www.grinnellfire.com>
A **tyco** INTERNATIONAL LTD. COMPANY



CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7150-1493:156 Page 1 of 1

CATEGORY: Pull Station/Boxes

LISTEE: Grinnell Fire Protection Systems, 835 Sharon Drive, Westlake, OH 44145
Contact: R.D. McDonnell (216) 871-9900

DESIGN: Model RMS-1P, RMS-1T, RMS-2T with or without suffixes PS, DAH, LP, KL, WP, KO*; Models IXA-RMS* and IXA-RMS-KL* non-coded manual pull stations. Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as fire alarm manual pull stations for use with separately listed compatible control units. Models with suffix -WP are suitable for outdoor use.

NOTE: Formerly 7170-0062:170

*Rev. 02-05-98



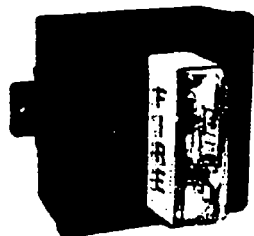
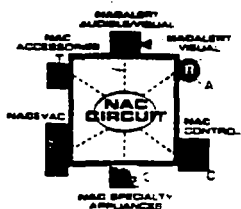
This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: **JUNE 6, 2000**
Effective issue date to expiration date

Listing Expires June 30, 2001

Authorized By:

**BEN HO, Supervising Deputy
Program Manager**



Series
MT Strobe Shown w/IOB



Series MT
without strobe



Series
MT4 115 VAC

Series MT and MT Strobe Multitone Electronic Appliances

Wheelock's Series MT and MT Strobe Multitone electronic appliances offer a choice of eight (8) nationally and internationally recognized alerting sounds: Horn, Bell, March Time Horn, Code-3 Tone, Code-3 Horn, Slow Whoop, Siren or Hi/Lo Tone. Our Code-3 horn and tone patterns are engineered to comply with NFPA-72 (1993) requirement of Temporal Pattern Code-3 with an effective date of July '96 without requiring additional equipment. *Synchronized strobe versions are available.*

Features

- Approvals include: Underwriters Laboratories UL 1971, UL 1638 and UL 464 Listings, FCC Part 15, Factory Mutual (FM), California State Fire Marshal (CSFM), New York City (MEA), Chicago (BFP), European Community (CE) approvals on all models.
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines. Meets OSHA 29 Part 1910.165.
- One alarm appliance with (8) eight selective signals to provide superior sound penetration for various ambient and wall conditions with two field selectable sound output levels.
- Code-3 Horn and Tone meet ANSI/NFPA temporal pattern for standard emergency evacuation signaling.
- Audible and strobe can operate from a single NAC circuit with any of the (8) audible sounds.
- Low current draw with low temperature compensation to reduce power consumption and wiring costs.
- MT Strobe models available with 15, 15/75, 30, 75 and 117 candela ratings for independent or single input activations and synchronized strobe designs in 15, 15/75 candela (synchronized strobes require SM or DSM sync module).
- Wheelock's patented Series LS, LSM, MS, IS and synchronized strobe SLM offer fire alarm system designers, specifiers and installers the industry's widest selection of UL 1971 Listed strobe products in association with an 8-tone multitone electronic appliance.
- 12 VDC, 24 VDC and 115 VAC models with wide Listed voltage ranges.
- No additional trimplate required for flush mounting.
- MT & MT w/WM Strobe models are available for outdoor installation requiring weatherproof appliances. In private mode location where UL 1971 strobes are not required the MT w/WM and MT4-115 strobe models are listed under UL 1638 (Private Mode Emergency and Utility Signaling) and are designed for surface mounting indoors or outdoors.
- Series MT Appliances have IN and OUT wiring terminations that accept two #12 to #18 American Wire Gauge (AWG) wires at each terminal. Inputs are polarized for compatibility with standard reverse polarity type supervision.
- Selectable input voltage on non-strobe DC versions. Strobe versions are factory set for either 12 VDC, 24 VDC or 115 VAC.
- Mounts to either 4" square or double gang boxes (important for retrofit installations). Attractive flush or surface mounting.
- Series MT Strobe multitone electronic appliances equipped with the SLM-synchronized strobe, when used in conjunction with Wheelock Series SM or DSM Sync Modules, produce a **synchronized strobe flash** for compliance with ADA guidelines concerning photosensitive epilepsy.

Specifications

Table 1: dBA and Current Ratings for Multitone Appliances Without Strobes												
Tone	Input Current ¹ AMPS @ 24 VDC		Input Current ¹ AMPS @ 12 VDC		Input Current ² AMPS @ 115 VAC		Typical Anechoic ³ dBA at 10 Feet		Rated Reverberant dBA ⁴ at 10 Feet Per UL 464			
							At Nominal Input Voltage		At Minimal Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	0.050	0.040	101	95	88	82	91	85
Bell	0.014	0.012	0.031	0.010	0.040	0.038	94	89	82	75	85	79
March Time Horn	0.040	0.023	0.100	0.020	0.050	0.040	101	95	85	79	88	82
Code-3 Horn	0.040	0.023	0.100	0.020	0.050	0.040	101	95	85	75	85	79
Code-3 Tone	0.028	0.017	0.060	0.015	0.042	0.038	97	92	79	75	82	75
Slow Whoop	0.048	0.026	0.100	0.025	0.050	0.040	101	96	88	82	88	82
Siren	0.036	0.023	0.082	0.020	0.045	0.040	100	95	85	82	88	82
Hi/Lo	0.020	0.014	0.044	0.012	0.041	0.039	95	90	82	79	85	79

wheelock

Table 2: dBA and Current Ratings for Audible Portion of Multitone Appliances With Strobes

Tone	Input Current ¹ AMPS @ 24 VDC		Input Current ¹ AMPS @ 12 VDC		Input Current ² AMPS @ 115 VAC		Typical Anechoic ³ dBA at 10 Feet		Rated Reverberant dBA ⁴ at 10 Feet Per UL 464			
							At Nominal Input Voltage		At Minimal Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	0.050	0.040	99	93	85	79	88	82
Bell	0.014	0.012	0.031	0.010	0.040	0.038	92	87	79	75	82	75
March Time Horn	0.040	0.023	0.100	0.020	0.050	0.040	99	93	82	75	85	79
Code-3 Horn	0.040	0.023	0.100	0.020	0.050	0.040	99	93	79	75	82	75
Code-3 Tone	0.028	0.017	0.060	0.015	0.042	0.038	95	90	75	70	79	73
Slow Whoop	0.048	0.026	0.100	0.025	0.050	0.040	99	94	82	75	85	79
Siren	0.036	0.023	0.082	0.020	0.045	0.040	98	93	82	75	85	79
Hi/Lo	0.020	0.014	0.044	0.012	0.041	0.039	93	88	79	75	82	75

NOTES

1. Add 25% more input current than shown in Tables 1 and 2 when operating the unit at maximum input voltage. Rated Input Voltage (either filtered DC or unfiltered full-wave-rectified (FWR)): Strobes are designed to flash at 1 flash per second minimum from 20-31 VDC (for 24 VDC models) or 12-15.6 VDC (for 12 VDC models). Note that ADA guidelines presently specify a flash rate of 1 to 3 flashes per second and NFPA-72 (1996) specifies a flash rate of 1 to 2 flashes per second. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the strobes.
2. 115 VAC models have been UL tested to operate from 96 VAC to 132 VAC. Strobe candela at -35° Centigrade is reduced to 7.5 candela.
3. Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic values shown in Table 1 and 2.
4. Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.

*** ⚠ WARNING: MULTITONE STROBE MODELS SET ON "CODE-3 TONE" WITH "STANDARD dBA" DO NOT MEET THE 75 dBA MINIMUM UL REVERBERANT SOUND LEVEL REQUIRED FOR PUBLIC MODE FIRE PROTECTION SERVICE (NOTED BY * IN TABLE 2). MODELS WITH SETTINGS WHICH PRODUCE LESS THAN 75 dBA MAY NOT BE HEARD. THIS SETTING IS ACCEPTABLE ONLY FOR GENERAL SIGNALING (NON-FIRE ALARM) USE. USE THE "HIGH" dBA SETTING WITH THIS TONE OR USE A DIFFERENT TONE FOR PUBLIC MODE OPERATION.**

Alarm Tones

Tone	Pattern Description	Tone	Pattern Description
Horn	Horn (Continuous)	Code-3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)
Bell	1560 Hz Modulated (0.7 sec. ON, Repeat)	Slow Whoop	500-1200 Hz Sweep (4.0 sec. ON, 0.5 sec. OFF, Repeat)
March Time Horn	Horn (0.25 sec. ON, 0.25 sec. OFF, Repeat)	Siren	600-1200 Hz Sweep (1.0 sec. ON, Repeat)
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)	Hi/Lo	1000/800 Hz (0.25 sec. ON, Alternate)

MT Strobe models are UL 1971 Listed for indoor use with a temperature range of 32° F to 120° F (0° C to 49° C) and maximum humidity of 85%. All MT-24-WM strobe models for outdoor use are Listed for -31° F to 150° F (-35° C to 66° C) and maximum humidity of 95%.

NOTE: The letters SL and SLM denote synchronized models.

When calculating the maximum inrush or peak current: use Table D on page 60 to determine the highest value of "Rated Inrush Current" or "Rated Peak Current" (whichever is higher) for the SM or DSM (across the expected operating voltage range); then add that value to the total inrush or peak currents from any other appliances, including audible appliances, on that circuit and include any required safety factors. For time duration of the maximum sync module inrush or peak current refer to the most current instruction sheet.

NOTE: If the strobe and audible operate on the same circuit, add the strobe current from Ordering Information or Table D on page 60 to the proper audible current from Table 2.

* Average current per actual Wheelock Production testing at 10.5, 12, 15.6, 20, 24 & 31 VDC nominal voltage. For rated average, peak and inrush currents across the listed voltage ranges for both filtered DC and full wave rectified (FWR), see Table D on page 60 or most current Installation Instruction (refer to Fax-On-Demand listing in this catalog).

** Refer to Data Sheet S7000 for Mounting Options or page 55 of this catalog.

*** Strobe is listed for UL 1638 only.

**** SM Sync Modules are rated for 3.0 amperes at 12/24 VDC; DSM Dual Circuit Modules are rated for 3.0 amperes per circuit. The maximum number of interconnected DSM modules is twenty.

NOTE: MT w/ SLM (15/75 cd) Strobe should be used for applications requiring either a 15 cd or 15/75 cd synchronized strobe appliance. Synchronization requires the Series SM or DSM Sync Module.

SEE PAGE 3 FOR GENERAL AND TECHNICAL NOTES.

Ordering Information

MT and MT4 models can be used with Wheelock's RSSP-24110W-FR (Non-Sync/Sync) strobe/plate assembly for 110 candela strobe appliances

Model Number	Order Code	Input Voltage	Rated Candela	Average* Strobe Current (AMPS)	Mounting** Options
MT-12/24-R	5023	12/24	---	---	E,F,L,M,O,Z
MT-24-LS-VFR	5183	24	15	.074	E,F,L,M,O
MT-24-LSM-VFR	5182	24	15/75	.100	E,F,L,M,O
MT-24-SLM-VFR*	6307	24	15/75	.138	E,F,L,M,O
MT-24-MS-VFR	5321	24	30	.124	E,F,L,M,O
MT-24-IS-VFR	5355	24	75	.200	E,F,L,M,O
MT-24-WM-VFR***	5025	24	117	.088	E,F,L,M,O
MT-12-LSM-VFR	5683	12	15/75	.210	E,F,L,M,O
MT4-115-R	6223	115 VAC	---	---	D,J,K,O,R,Z
MT4-115-WH-VFR***	6224	115 VAC	15	.060	D,J,K,O,R,Z
SYNC MODULE****					
SM-12/24-R	6369	12		.014	E,N
		24		.025	E,N
DSM-12/24-R	6374	12		.020	W
		24		.038	W

wheelock



CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7125-0785:122

Page 1 of 1

CATEGORY: Fire Alarm Devices for the Hearing Impaired

LISTEE: Wheelock Inc., 273 Branchport Avenue, Long Branch, NJ 07740
Contact: Luy Nguyen (732) 222-6880 Fax (732) 222-8707

DESIGN: Model MT and MT4 Series Multitone Strobe Horns with the following suffixes:

12 (10.5-15.6 VDC) or 24 (20-31 VDC)

No suffix (60 flashes/min) or L (20 flashes/min)

LS or SL (15cd), LSM or SLM (15cd/75cd), MS (30cd), IS (75cd),
HSPW or SHPW (110cd)

Units may follow by suffixes to designate orientation, lettering and plate color. Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction. Models using LSM, SLM, SHPW or HSPW strobes are for wall mount only. Other units are suitable for wall or ceiling mount.

MARKING: Listee's name, model number, electrical/candela rating and UL label.

APPROVAL: Listed as horn/multi-tone horn strobes devices suitable for the hearing impaired when used in conjunction with separately listed electrically compatible fire alarm control units. For indoor use only. Model with suffix SL, SLM or SHPW employs a synchronized strobe and must be used with Model SCM-24 sync control module.

*These appliances can produce a distinctive three pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 1993 Edition.

*Corrected 01-19-99



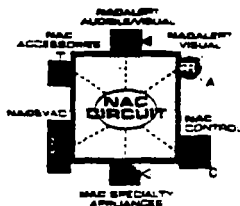
This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: **MAY 31, 2000**
Effective issue date to expiration date

Authorized By:

Listing Expires June 30, 2001

BEN HO, Supervising Deputy
Program Manager



Series MIZ

Series MIZ Piezoelectric Mini Horns

Wheelock's Series MIZ piezoelectric Mini Horns are compact electronic appliances that are Listed under UL 464 for Audible Appliances. They are ideal for alarm signaling in individual rooms, apartments, hotels, offices, etc.—where dependable performance and economical installation are prime concerns. MIZ Mini Horns produce high sound output (90 dBA at 10 feet) with minimum current draw, just 12 milliamps at 24 volts and 8 mA at 12 volts.

Features

- Approvals Include: Underwriters Laboratories UL 464, Factory Mutual (FM), California State Fire Marshal (CSFM), New York City (MEA), European Community (CE) and Chicago (BFP) on all models.
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines. Meets OSHA 29 Part 1910.165.
- High sound output for enhanced audibility (90 dBA at 10 feet).
- Low current draw with low temperature compensation to reduce power consumption and wiring costs.
- 12 VDC and 24 VDC models with wide Listed voltage, filtered DC and FWR.
- Polarized inputs for compatibility with standard reverse polarity type supervision of circuit wiring by an alarm panel.
- Mount to standard single and double gang backboxes or surface mount Wiremold® Boxes — Important for Retrofit installations.
- No additional trimplate required for flush mounting. Easy installation with In/Out screw terminals using #12 to #18 AWG.

Specifications and Ordering Information

Use the highest value of rated average current to determine the maximum number of mini horns and to establish power supplies and wire gauge requirements. Use the rated peak current or rated inrush current (whichever is higher) to verify fuse requirements.

Make sure that the average, peak and inrush currents do not exceed system power supplies or fusing limits. See "Installation Instructions" (refer to Fax-On-Demand listing in this catalog).

The Series MIZ Mini-Horn models are listed for indoor use with a temperature range of 32° F to 120° F (0° C to 49° C) and maximum humidity of 85%.

Voltage	Model Number	Voltage (VDC)	Order Code	Strobe Candela	dBA @ 10 ft	Average Current (Amps)	Mounting* Options
12 VDC	MIZ-12-R	12	4209	—	88	.008	B,C
	MIZ-12-W	12	4478	—	88	.008	B,C
24 VDC	MIZ-24-R	24	4208	—	90	.012	B,C
	MIZ-24-W	24	4479	—	90	.012	B,C

* Refer to Data Sheet S7000 for Mounting Options or page 55 of this catalog.

1. Models code suffix: R = red plate; W = white.

SEE PAGE 3 FOR GENERAL AND TECHNICAL NOTES.



CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM



LISTING SERVICE

LISTING No. 7135-0785:115

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CATEGORY: Audible Devices

LISTEE: Wheelock Inc., 273 Branchport Ave., Long Branch NJ 06640
Contact: Luy Nguyen (732) 222-6880

DESIGN: Models MIZ-12 and MIZ-24 series horns. Refer to listee's data sheet for additional detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, NFPA 72, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model designation, electrical rating and UL label.

APPROVAL: Listed as audible devices for use with separately listed compatible fire alarm control units.

If this appliance is required to produce a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 1993 Edition, the appliance must be used with a fire alarm control unit that can generate the temporal pattern signal. Refer to manufacturer's Installation Manual for details.

*Rev. 12-08-97



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: **MAY 31, 2000**
Effective issue date to expiration date

Authorized By:

Listing Expires June 30, 2001


**BEN HO, Supervising Deputy
Program Manager**