THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS ACTION AGENDA SUMMARY

DEPT: General Services Agency	BOARD AGENDA # *B-2
Urgent Routine Div	AGENDA DATE April 8, 2014
CEO Concurs with Recommendation YES NO (Information Attached)	4/5 Vote Required YES NO
SUBJECT:	
Approval to Award a Contract to Champion Industrial Contra	ctors. Inc. for the Replacement of
Two Chillers at 801 11th Street, Modesto	
STAFF RECOMMENDATIONS:	
 Award a contract to Champion Industrial Contractors, Inc 801 11th Street, Modesto, in the amount of \$252,000. 	:. for the replacement of two chillers at
Authorize the Purchasing Agent to execute the contract value and to sign any necessary documents on behalf of the Contract value.	•
Authorize the Purchasing Agent to execute change order Code, Section 20142.	s in accordance with Public Contract
FISCAL IMPACT:	
The proposed contract covers the replacement of two chillers total cost of \$252,000. Funds to support this project are from and have been included in Fiscal Year 2013-2014 Final Adoption	n the Deferred Maintenance program
BOARD ACTION AS FOLLOWS:	No. 2014 156
	No. 2014-156
On motion of Supervisor Withrow , Seconand approved by the following vote, Ayes: Supervisors: O'Brien, Chiesa, Withrow, Monteith, and Chairm Noes: Supervisors: None	an De Martini
Excused or Absent: Supervisors: None	
Abstaining: Supervisor: None	
1) X Approved as recommended	
2) Denied 3) Approved as amended	
4) Other:	
MOTION:	

CHRISTINE FERRARO TALLMAN, Clerk

Approval to Award a Contract to Champion Industrial Contractors, Inc. for the Replacement of Two Chillers at 801 11th Street, Modesto

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DISCUSSION:

The General Services Agency (GSA) Purchasing Division, on behalf of the Facilities Maintenance Division (FMD), requested Bids for the replacement of two chillers at 801 11th Street. The building at 801 11th Street houses the County's Strategic Business Technology, Probation, Sheriff, and Facilities Maintenance. The chillers, provide cooling for the building, having reached the end of the designed life expectancy and has deteriorated over time.

Recently one of the two original chillers (Unit 1), which was installed in 1960, was removed from service after internal friction and fatigue caused the main centrifuge seal to rupture internally and the housing to warp. Unit 1 remains out of service and is beyond reasonable repair. The second chiller (Unit 2) continues to operate, but with decreasing efficiency due to age and internal wear similar to Unit 1. Unit 2 is incapable of adequately cooling the building on days when the outside air temperature exceeds 90 degrees. If approved, both units will be replaced. The new chiller units will meet Environmental Protection Act (EPA) standards for environmentally friendly standards, and are more than 25% more efficient than the original chillers. These new units have been designed to use environmentally friendly Freons, which reduce global greenhouse gas emissions.

GSA posted Bid #14-13 MP Chiller Replacement at 801 11th Street, Modesto (Bid) on February 5, 2014. The Bid was downloaded by 22 vendors. On February 13, 2014, a mandatory pre-conference was held and nine vendors were in attendance.

The Bid closed on February 27, 2014 and GSA received responses from four vendors, listed below:

- Champion Industrial Contractors, Inc., of Modesto, CA;
- Emcor Services, Inc., of Rancho Cordova, CA;
- Kinetic Mechanical Service, Inc., of Livermore, CA;
- Comfort Air, Inc., of Stockton, CA.

The evaluation of the bids is set forth in the table below:

Vendor	Bid Amount	*Less LVP Discount	**Adjusted Bid Amount
Champion Industrial Contractors, Inc.	\$252,000	\$5,000	\$247,000
EMCOR Services	\$269,380	N/A	\$269,380
Kinetics Mechanical Service, Inc.	\$272,367	N/A	\$272,367
Comfort Air, Inc.	\$287,524	N/A	\$287,524

^{*}Local Vendor Preference (LVP) Discount is the greater of 5% of bid amount or \$5,000.00.

Approval to Award a Contract to Champion Industrial Contractors, Inc. for the Replacement of Two Chillers at 801 11th Street, Modesto

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**Adjusted bid amount is for evaluation purposes only. Award will be made at full price of bid.

Of the four responding vendors, one claimed a Local Vendor Preference (LVP) as set forth in Section 2.24.125 of the Stanislaus County Code. The LVP entitles local vendors to receive a five percent preference for evaluation purposes only. With the LVP applied to all local vendors, Champion Industrial Contractors, Inc. (Champion) is the lowest responsive, responsible bidder.

This project is a replacement of two outdated chillers. The existing units will be dismantled, removed and both units will be replaced with more energy efficient models. All demolition, new materials and construction, including electrical, plumbing modifications, and incidental materials will be provided, installed and guaranteed by Champion. Project management will be performed by FMD. All work is to be completed within seventy-five (75) working days.

The effective date of the proposed agreement with Champion is April 8, 2014, with completion anticipated on or before June 30, 2014. If approved, the contract award will provide 801 11th street with an up-to-date chiller system that allows for an efficient and more effective cooling system for County staff and patrons. GSA FMD anticipates a 90% reduction in greenhouse gas emissions and a 10% reduction in electrical utility consumption.

This project is exempt from the California Environmental Quality Act (CEQA) under Title 14, Section 15301 (operation, repair, maintenance or minor alteration of existing structures or facilities) of the California Code of Regulations.

POLICY ISSUE:

Approval to award this agreement supports the Board's priority of Efficient Delivery of Public Services by providing cost-efficient heating and hot water service to the PSC.

STAFFING:

Existing GSA staff will assist with project management and coordination of this deferred maintenance project.

CONTACT:

Keith Boggs, GSA Director/Purchasing Agent. (209) 652-1514 Scott Shook, Facilities Maintenance Manager. (209) 652-0480

AGREEMENT (Public Works of Improvement)

This Agreement, made this 10-th of April, 2014, by and between CHAMPION INDUSTRIAL CONTRACTORS, INC. a California corporation, (the "Contractor") and the COUNTY OF STANISLAUS (the "County").

ARTICLE I

The Contractor will provide all the materials, tools, equipment and labor and perform all the work necessary to complete in a good workman-like manner:

BID NAME	Chiller Replacer	ment at 801 11 th	Street, Mod	desto
BID NO. 1	1-13 MP			

as set forth in the Bid of the Contractor and in accordance with the bid, Notice to Bidders, Information for Bidders, General Conditions, plans and specifications, bonds, addenda, and any documents particularly required or provided, all of which are attached hereto and made a part hereof. All of the foregoing documents, together with this Agreement, comprise the contract.

ARTICLE II

All of the work included in this contract is to be performed under the direction of the County, and in conformity with the true construction and meaning of the contract, as determined solely by the County.

ARTICLE III

No alterations in the work shall be made except upon written order of the County. The amount to be paid by the County or to be deducted from the contract price by virtue of such alterations shall be stated in said order and shall be approved in writing by the County and the Contractor.

Changes, additions, and alterations in the work, which do not exceed \$500.00, may be ordered in writing by the Director of the Department of Public Works of the County of Stanislaus. All other changes, additions, or alterations in the work shall be by order of the Stanislaus County Purchasing Division of the County of Stanislaus.

ARTICLE IV

The Contractor shall commence the work within ten (10) working days after the date specified in the Notice to Proceed given to him, and shall prosecute said work in a prompt, diligent and workmanlike manner. The Contractor shall complete the work within

"Seventy-five (75) Working Days"

of the date of the Notice to Proceed, unless extension or suspension of the work is agreed to in writing by the County. Time is of the essence in this Agreement.

ARTICLE V

The County agrees to pay and the Contractor agrees to accept in full payment for the work:

BID NAME ESTIMATE

PROJECT	UNIT OF MEASURE	NORMAL HOURS BASE PRICE	ALT. PRICING	PROJECT TOTAL (IN FIGURES)
Complete project scope of work for Chiller Replacement	1 ea.	\$252,000	N/A	\$252,000

PROJECT TOTAL

\$252.000

The County shall pay to the Contractor ninety-five percent (95%) of the contract price within 35 days after acceptance of the work, provided that the Contractor furnishes to the County satisfactory evidence that all obligations for labor and materials have been satisfactorily fulfilled within the said 35 day period, and further provided that no payment shall be construed to be an acceptance of defective work or improper materials.

The County shall pay to the Contractor in due course and at the usual time for payment of County obligations after the last day of the month, ninety-five percent (95%) of the cost of the work completed and material properly stored

on the job site, which cost shall be determined by the County. Half of the 5% withheld (Retention) will be released at the end of the first year of maintenance, and the remaining half will be released at the end of the second and final year of maintenance.

Except as otherwise prohibited by law, the Contractor may elect to receive all payments due under the contract pursuant to Section 2.15 of the General Conditions of the contract documents without any retention. If the Contractor so elects, he shall deposit with the County securities with a value equal to the monies, which would otherwise be withheld by the County. Said securities shall be as provided in Section 22300 of the Public Contract Code and shall be approved by the County as to both sufficiency and form.

ARTICLE VI

Prior to commencing the work, the Contractor shall file a bond issued by a surety company, approved by the County, and in the form acceptable to the County in the amount of one hundred percent (100%) of the contract price for the faithful payment and satisfaction of all lawful claims of all persons for labor and materials furnished in the prosecution of the contract work. Prior to commencing the work, the Contractor shall file a bond issued by a surety company, approved by the County, and in the form acceptable to the County in the amount of one hundred percent (100%) of the contract price to guarantee the faithful performance of the contract.

ARTICLE VII

The Contractor shall take out, and maintain during the life of the contract, insurance policies as described in Section 2.16 of the General Conditions of the contract documents.

ARTICLE VIII

The Contractor shall indemnify, defend, and save harmless Stanislaus County and all officers and employees thereof connected with the work from all claims, suits or actions of every name, kind and description, brought forth or on account of injuries to or death of any person, including, but not limited to, workmen and the public, or damage to property resulting from the performance of the contract, except as otherwise provided by statute. The duty of the Contractor to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The Contractor waives any and all rights to any type of express or implied indemnity against the County, its officers or employees.

ARTICLE IX

When the work is completed and ready for final inspection, the Contractor shall notify the County which shall make such final inspection within five (5) days after notice.

If the County shall approve the work and find that the work is complete and ready for acceptance and shall accept the same, the final payment of the contract price shall be due as provided in Article V, hereof.

ARTICLE X

The Contractor shall comply with all the provisions of state and local laws relating to contracts for the prosecution of public works, and Sections 2.13, 2.18, 2.19, 2.20, 2.21, and 2.22 of the General Conditions are hereby referred to and incorporated herein as if fully set forth. Pursuant to law, the County has ascertained the general prevailing rate of per diem wages in the locality of the work for each craft or type of workman required for performance of the contract, which rates are as stated in the Invitation to Bidders, and the Contractor shall be required to pay not less than said prevailing rates.

ARTICLE XI

Whenever any act is directed to be done or notice directed to be given by or to the County hereof, the same may be done or given by or to the Director of the Department of Public Works.

ARTICLE XII

The Contractor shall not assign the contract or sublet it as a whole without the written consent of the County, nor shall the Contractor assign any monies due or to become due to him hereunder without the previous written consent of the County. This contract shall be binding upon the parties hereto, their heirs, successors, assigns, subcontractors, and legal representatives.

ARTICLE XIII

Any alteration or alterations made in this contract, or any part hereof, shall not operate to release any surety from liability of any bond given pursuant to the provisions of this contract and the consent of such surety to such alteration or alterations is hereby given, the surety expressly waiving hereby the provisions of Section 2819 of the Civil Code.

ARTICLE XIV

Neither the final certificate nor payment, nor any provision of the related documents, shall relieve the Contractor of responsibility for faulty workmanship or materials, and less otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom which shall appear within a period of one (1) year from the date of filing Notice of Completion. The County shall give notice of observed defects with reasonable promptness. All questions arising under this Article shall be decided by the Director of the Department of Public Works.

COUNTY OF STANSLANS	CHAMPION INDUSTRIAL CONTRACTORS, INC.
Keith D. Boggs, Assistant Executive Officer, GSA Director Purchasing Agen	By: John Walter, Chief Operating Officer
APPROVED: BOS Resolution # 2014-156	"Contractor"
APPROVED AS TO CONTENT: General Service Agency – Facilities Maintenance Division By: Scott Shook, Facilities Manager	-
APPROVED AS TO FORM: John P. Doering, County Counsel By: Thomas E. Boze, Deputy County Counsel	-
NOTE: The Contractor's signature must be acknowledged	d before a Notary Public Contractor.
State of California } SS. County of Stanislaus }	
On this 24 day of Me_ci, 2014, before me, appeared JOHN WALTER who proved to me on the basis subscribed to the within instrument and acknowledged to me by his/ber signature on the instrument the person or entity instrument.	of satisfactory evidence to be the person whose name is that he/she-executed the same in his/her capacity and that
I certify UNDER PENALTY OF PERJURY under the laws of tand correct.	the State of California that the foregoing paragraph is true
WITNESS my hand and official seal.	C. J. CHAMPION COMM. #1992217
Champ	NOTARY PUBLIC-CALIFORNIA STANISLAUS COUNTY NA Commission Expires September 24, 2016

Notary's Signature

(SEAL)

STANISLAUS COUNTY GSA PURCHASING DIVISION

FOR STANISLAUS COUNTY GSA FACILITIES MAINTENANCE DIVISION

TECHNICAL SPECIFICATIONS

PART 1 - SCOPE OF WORK

The project will include all materials, labor and supervision for rebuilding the chiller at 801 11th Street, Modesto. Area of work will include:

- Lock out / tag out chiller.
- Recover refrigerant charge and store in accordance with EPA guidelines.
- Demo, remove and dispose of both of the two existing chillers from the basement at the same time (the project must not be phased). All existing equipment that is to be replaced with the new chiller and its components must be demolished and removed from the equipment room. The removed components then shall become the property of the contractor and the contractor shall be responsible for proper disposal.
- Contractor may remove/reinstall any handrails and/or concrete at the stair landing to the mechanical room to aid access in demolishing the existing equipment and installing the new equipment, so long as all removed items are restored to their original configuration.
- Removal and disposal of existing chiller units, to include but not be limited to:
 - a. Disconnection of system piping from the existing unit.
 - b. Disconnection of electrical power from existing unit.
 - c. Disconnection of automated building controls.
 - d. Crane and crane operation for removal of existing chillers.
- Provide and install two (2) new Carrier 75 ton water cooled screw chillers 75 ton cooling, 460V 3PH; Unit Size 30HXC-076, with Wye-delta Start, Minimum Load Control, Suction Service Valves, BAC-Net Communication option, Cooler Unit 30HXCO76 Standard, Condenser Unit 30HXCO76 Standard, Overall Length Table Standard Cooler 106.39, Standard Condenser 106.70, Electrical Data Compressor Electrical Data, 30HXCO76-WD, Contractor shall confirm and verify specifications are correct.
- Installation of the new chillers shall include but not be limited to:
 - a. Reconnection of system piping to the new units.
 - b. Reconnection of electrical power to the new units.
 - c. Reconnection of automated building controls to the new units.
 - d. Crane and crane operation for placement and installation of the new chiller units.
- Contractor shall provide all tools and materials necessary for a complete operational job;
- Reconnect to the existing chilled water, condenser water piping and pumps; to include any new materials needed
- Reconnect to existing line and low voltage wiring; to include any new materials needed.
- Reinstate chilled water lines in the basement; to include any new materials needed.
- All piping insulation meets the current requirements set forth in Title 24. Also, the exterior piping is required to be jacketed in aluminum to protect the insulation from thermal and U.V. radiation.
- Reconnection of electrical power, to include any new materials needed.
- Provide energy management controls and connect to existing County EMS system.
- Provide factory start up and two (2) hours minimum training on both new chillers;
- Reconnection of automated building controls, to include any new materials needed
- Provide two year factory warranty;
- Complete start-up and verification of new unit's correct operation.
- Provide two (2) year comprehensive PM service on both units in accordance with the manufacturer's suggested warranty requirements and shall include chemical treatment using Chemtreat BL-151, Chemtreat BL-1295, Chemtreat CL-2150, Chemtreat CL-216, Chemtreat BL-1821. Service schedule shall comprise of two (2) annual inspections, and eight (8) quarterly inspections. Annual inspections will include quarterly inspections:
- · All work shall comply with prevailing wage law.

PART 2 - INDUSTRIAL HYGENIST RECOMMENDATIONS

N/A

- Permits and Fees
- Removal of Mold

PART I. GENERAL INFORMATION

SECTION 1.01 - SCOPE OF WORK

The Contractor shall furnish all materials, equipment, supervision, and personnel necessary to accomplish the complete replacement of the chiller and all associated equipment, controls, and piping.

With regard to the drawings and specifications, Contractor shall provide items, articles, materials, operation and methods required by drawings and specifications including labor, equipment, supplies and incidentals necessary for completion of work as specified in this document:

- 1. Submittals
- 2. Coordination Drawings
- 3. Record Documents
- a. The scope of the project will include, but not limited to, the removal of the existing chiller and associated equipment in accordance with OSHA construction standards.
- b. Modification of existing structural steel base and the installation of new steel framing to supplement the existing support may be required.
- c. All work to meet current SMACNA standards in regard to seismic bracing and support.
- d. Electric service to existing chiller will be upgraded to current code.

GENERAL

- a. The demo and installation work will be performed in winter months according to phasing of the project as depicted on the drawings.
- b. The "physical" work must be completed and commissioned no later than May 15th (start of the cooling season). This is critical in order to have the chiller plant at full capacity for the summer cooling season.
- c. The phasing and temporary winter cooling solution outlined in contractor submitted work plan. Once the temporary winter cooling solution is in place, systematic equipment shut-downs, demolition and removals, among other work may commence. The contractor will provide a detailed phasing plan for approval prior to commencing work.
- d. Design, submittals and plans to be developed by this contractor shall be furnished to Stanislaus County in triplicate
- e. Provide cranes, operators, and permits for rigging of trailers as required.
- f. Contractor to abide by their in-house infection control policies.
- g. Contractor to provide all user manuals and O&M/service manuals for all newly installed equipment.
- Replacement chiller must synchronize with the existing control systems.
- Certification from chiller manufacturer evidencing that Contractor is authorized and trained to install the manufacturer's product.
- i. Contractor must stipulate the warranty period of the chiller and state whether said warranty includes individual components of the unit, i.e. compressors, motors, etc.

SECTION 1.02 - RELATED DOCUMENTS

The General Provisions described herein, together with the conditions of contract, and the General Requirements as related to the entire scope of this project.

SECTION 1.03 – QUALITY ASSURANCE

- 1. All permits and licenses that are required by governing authorities for the performance of the work shall be procured and paid for by the Contractor.
- All work shall be performed in compliance with all applicable and governing safety regulations including the regulations of the Occupational and Safety Health Act. All safety lights, signs and guards required for performance of work shall be provided by the Contractor.
- 3. All work shall conform to the requirements of all applicable codes, ordinances and regulations including the rules and regulations of the National Electrical Code, the National Fire Protection Association, the International Building Code, O.S.H.A. and all State and local laws, codes and ordinances.

- 4. Laws, codes, ordinances and regulations shall take precedent excepting only where the work called for by the drawings and specifications exceeds by quality and quantity.
- Fixtures, appliances, equipment and materials which are subject to Underwriter's Laboratory tests shall bear such approval.
- 6. Manufacturers listed in the equipment schedules are intended to establish quality only. Mechanical and electrical designs are based on the requirements for the specified manufacturers listed on the equipment schedules. Conduit, disconnects, motor starters, breakers, fuses and wire sizes are selected on basis of scheduled equipment. Increased current requirements necessitating larger wire, breakers, switches, etc., to accommodate any alternate or substitute manufacturer's equipment, other than as shown on drawings shall be provided without any increase in contract price by Contractor furnishing the equipment.
- 7. When applicable, manufacturers must provide factory tests, unit installation observations, unit start-up and tests, etc., as specified and submit signed reports to the Project Manager upon completion of these services.
- 8. The contract drawing(s) are in part schematic and intended to convey the scope of work and indicate the general layout, design and arrangement. The Contractor shall follow these drawing(s) in the layout of their work and shall verify all existing site conditions to determine all conditions affecting the work shown or specified. The contract drawing(s) are not to be scaled and the Contractor shall verify spaces in which the work is to be installed.
- 9. Follow drawing(s) in laying out work, verify spaces in which work will be installed, and maintain maximum headroom and space conditions at all points. Where headroom or space conditions appear inadequate, Project Manager shall be notified before proceeding with installation.
- 10. All work shall be performed by trained mechanics of a particular trade involved and done in a neat and workmanlike manner as approved by the Project Manager. Work shall be performed in cooperation with operation of existing systems and scheduled to allow timely and efficient completion of project.
- 11. Where specific details and dimensions are not shown on the drawings, the Contractor shall take measurements and make layouts for the proper installation of the work and coordination with all other work on the project. In case of any discrepancies between the drawings and the specifications, it shall be assumed, by the signing of the Contract, that the higher cost (if any difference in costs) is included in the contract price, and the Contractor shall perform the work in accordance with the drawings or with the specifications, as determined and approved by the Project Manager.

12. Definitions:

- a. "Piping" includes, in addition to pipe, all fittings, valves, sleeves, hangers, and other supports and accessories related to such piping.
- b. "Concealed" means hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, or in crawl spaces.
- c. "Exposed" means not installed underground or "concealed" as defined above.
- d. The words "furnish and install", "provide", "furnish", "install", or equivalent words are used or are understood, to mean the Contractor shall furnish and completely install the system, service, equipment, or material named, together with other associated devices, equipment, material, wiring, piping, etc. as required for a complete operating installation, and conforming to the manufacturer's standards and recommendations.
- e. It is the intent of the mechanical specifications and drawings to call for finished work, tested and ready for operation.
- 13. All apparatus, appliances, materials or work not shown on drawings, but mentioned in specifications, or vice versa, and/or all incidental accessories necessary to make work complete and ready for operation, even though not specified or shown on drawings, shall be furnished and installed without increase in contract price.
- 14. Should there be discrepancies or questions of intent, refer matter to Project Manager in writing for decision before ordering any equipment or materials, or before starting any related work.

SECTION 1.04 -SUBMITTALS

1. In addition to the requirements specified, the Contractor at the project's completion shall submit two (2)

copies of a complete system operating and maintenance manual (one (1) hard copy and one (1) PDF soft copy). O&M manual shall be organized into systems and shall contain the manufacturer's complete detailed operating and maintenance instructions with equipment data for each piece of installed equipment furnished under this project. Manual at a minimum shall include the following:

- a. Manual shall be composed of typed instruction sheets with large drawing sheets (not reduced) folded in with reinforced margin, all included in a post binder system so that sheets can be easily substituted.
- b. Include in O&M manual the manufacturer's written maintenance instructions for each different piece of equipment provided and installed on this project.
- Include spare parts list for each major piece of equipment furnished for the project including, any accessories.
- d. Provide a comprehensive list of maintenance procedures for preventative maintenance and troubleshooting; disassembly, repair and reassemble; aligning and adjusting instructions.

SECTION 1.05 - RECORD DOCUMENTS

- 1. Prepare record documents and indicate installed conditions for:
 - a. Piping systems, size and location, locations of control devices; and valve final set-point positions.
 - b. Approved substitutions, Contract Modifications, and actual equipment and materials installed.
 - All documents will be prepared and saved electronically in PDF and or Autocad format.

PART II. PRODUCTS

SECTION 2.01 - GENERAL

- 1. All materials and equipment shall be new and shall bear manufacturer's name, model number, serial number, date of manufacture and other identification marking.
- 2. All materials and equipment shall be standard product of manufacturer regularly engaged in production of required type of material or equipment for at least 5 years (unless specifically exempted by Project Manager) and shall be manufacturer's latest design having published properties.

PART III. EXECUTION

SECTION 3.01 – STORAGE AND HANDLING

- 1. Comply with manufacture's installation instructions for rigging, lifting, unloading, and transporting unit.
- 2. Protect unit from physical damage. Leave factory shipping covers in place until installation. Contractor is responsible for the repair or replacement of parts, panels, or other components damaged during transportation, rigging, lifting, and the installation of the unit at the site
- 3. Provide a one (1) year warranty, all parts and labor, second (2) year parts only and a five (5) year warranty for replacement compressors (Material Only). Warranty must be transferable in the event the site is sold or leased to another entity.

SECTION 3.02 - MANUFACTURES FIELD SERVICES

1. Supply service of factory trained technician for a period of up to eight (8) hours to supervise testing, startup, and provide instruction on operation and maintenance to owner.

SECTION 3.03 - POST INSTALLATION

- Perform startup on chillers, and conduct training for GSA-FMD maintenance staff on the operation and programming of the chillers.
- 2. Provide two (2) copies of service and operations manuals one hard copy and one PDF soft copy.
- 3. Provide warranties as required in this agreement on equipment and workmanship
- 4. Provide two (2) copies of installation drawings for project one hard copy and one PDF soft copy.

SECTION 3.04 - MAINTENANCE SERVICE

Provide service and mintenance of complete assembly for two (2) years from date of issue of Notice of Completion.

The Contractor shall perform all work and provide all labor, equipment, materials, delivery and pick up for the completion and operation of the project set forth in this Agreement.

AHRI* capacity ratings



30HXC WATER-COOLED CHILLER ARI RATINGS (60 Hz ONLY)

SIZE 30HXC	САРАС	CITY	INPUT POWER	COOLE	RFLOW	PRES	SURE	CONDE	NSER	CONDI PRES DR		FULL-LOAD EFFICIENCY	IPLV†
	30HXC	Tons	Output kW	(kW)	GPM	⊔s	Ft of Water	kPa	GPM	L/S	Ft of Water	kPa	(kW/Ton)
076	75.4	265.2	53.7	181.0	11.4	14.5	43.2	226.2	14.3	8.9	26.6	0.712	0.512
086	83.1	292.3	60.4	199.4	12.6	17.2	51.4	249.3	15./	10.7	31.8	0./2/	0.523
096	94.0	330.5	67.0	225.5	14.2	17.0	50.7	282.0	17.8	11.0	32.7	0.713	0.513
106	104.3	366.8	75.3	250.3	15.4	15.4	46.0	312.9	19.7	13.3	39.6	0.722	0.521
116	113.5	399.3	83.2	272.5	17.2	13.3	39.8	340.6	21.5	17.0	50.6	0.733	0.509
126	122.9	432.1	92.2	295.2	18.6	15.4	45.9	369.0	23.3	19. <u>6</u>	58.5	0.751	0.530
136	136.5	479.9	97.0	327.5	20.7	14.6	43.7	409.4	25.8	18.5	55.1	0.711	0.541
146	145.9	513.2	105.1	350.2	22.1	16.5	49.3	437.8	27.6	20.9	62.4	0.720	0.533
161	156.5	550.6	111.7	375.5	23.7	13.7	40.9	469.6	29.6	21.3	63.6	0.714	0.520
171	165.9	585.3	118.2	398.1	25.1	15.2	45.4	497.6	31.4	17.2	51.4	0.712	0.538
186	177.2	623.1	126.7	426.2	26.8	13.9	41.5	531.6	33.5	19.5	58.1	0.715	0.562
206	211.5	744.0	146.4	507.7	32.0	14.7	43.9	634.7	40.0	20.9	62.4	0.692	0.510
246	248.6	874.1	172.4	596.5	37.6	16.2	48.3	745.7	47.0	21.9	65.2	0.693	0.522
261	257.2	904.6	180.5	617.3	38.9	17.2	51.4	771.6	48.7	23.3	69.5	0.702	0.523
271	267.4	940.3	189.5	641.7	40.5	18.5	55.1	802.1	50.6	25.1	74.7	0.709	0.525

LEGEND

IPLV - Integrated Part-Load Value

*Air Conditioning, Heating, and Refrigeration Institute (U.S.A.). †IPLV shown is the lower of Sequence A or Sequence B unloading.

- Rated (60 Hz only) in accordance with AHRI Standard 550/590 at standard rating conditions.
- Standard rating conditions are as follows:

Standard rating Conditions:
 Cooler Conditions:
Leaving Water Temperature: 44 F (6.7 C)
 2.4 gpm per ton (0.043 L/s per kW)

Flow:
Condenser Conditions:
Entering Water temperature: 85 F (29.4 C)
3.0 gpm per ton (0.054 L/s per kW)

Fouling Factor (Cooler): 0.00010 hr x sq ft x F per Btuh (0.000018 m2 x K per W) Fouling Factor

(Condenser):

0.00025 hr x sq ft x F per Btuh (0.000044 m² x K per W)

- IPLV is a single number part-load efficiency value calculated using the efficiency values at 100%, 75%, 50%, and 25% of load when the chiller is operating at ARI conditions.
- All data in this table is rated (60 Hz only) in accordance with AHRI Standard 550/590 as represented in the Chiller Selection Program (E-Cat) version 2.93.
- Contact Carrier for custom ratings.



60 Hz only

Physical data



		FNO	GLISH						
UNIT SIZE 30HX	076	086		096	106	116	126	136	146
UNIT OPERATING WEIGHT (Ib) Water-Cooled (HXC) Condenseriess (HXA)	5700 4717	5723 4744		5855 4835	6177 5151	6415 5163	6465 5205	6688 5309	6718 5333
COMPRESSORS Quantity Nominal Capacity per Compressor (tons) Economizer	2 89/39 No	46/3 N		2 56/39 No	Semi-Hermet 2 66/39 No	ic, Twin Scre 2 66/46 No	w 2 66/56 No	2 80/56 No	2 80/66 No
No. Capacity Steps 30HXC Unit 30HXA Unit (maximum on 30HXC unit with factory-installed option)	6 8	6		6 8	6	6 8	6 8	6 8	6 8
Minimum Step Capacity (%) 30HXC Unit 30HXA Unit (30HXC unit with factory- installed	20	20		20	20	20	20	20	20
option)	10	10		10	10	10	10	10	10
REFRIGERANT Charge* (Ib) Circuit A/Circuit B	75/75	7 6 /75		94/70	110/70	34a 112/89	112/89	124/89	119/100
COOLER Part No. 10HX400- Net Fluid Volume (gal) Maximum Refrigerant Pressure (psig) Maximum Weter-Side Pressure (psig)	401 17.0 220 300	401 17.0 220 300		Shell and 402 19.0 220 300	Tube with Er 408 22.6 220 300	1hanced Cop 406 21.4 220 300	406 21.4 220 300	405 24.0 220 300	405 24.0 220 300
Water Connections Inlet and Outlet (in.) (Standard Pass) Drain (in. NPT) (Standard Pass) Relief Valve	4 3/ ₈		4 3/ ₈	4 ³ / ₈	5 3/ ₈	5 3/ ₈	5 ³ / ₈	ⁱ , ³ / ₈	3/8
Connection (in. NPTF) Flow Capacity (lb air/min) Relief Setting (psig) Standard Number of Passes	³ / ₄	31.7 220	³ / ₄ 31.7 22 ⁽ 3	³ / ₄ 31.7) 220 3	³ / ₄ 31.7 220 3	³ / ₄ 31.7 220 2	³ / ₄ 31.7 220 2	3/ ₄ 31.7 220	3/ ₄ 31.7 220
30HXA OIL SEPARATOR Part No. 09RX400- Maximum Refrigerant Pressure (psig) Refrigerant Connections (in.) Discharge Circuit A/B Liquid Circuit A/B	217 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈		8/2 ¹ /8 8/1 ¹ /8	216 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈	216 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈	215 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈	215 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈	215 320 2 ¹ / ₈ /2 ¹ / ₈ 1 ¹ / ₈ /1 ¹ / ₈	215 320 21/ ₈ /21/ ₈ 11/ ₈ /11/ ₈
Relief Valve Connection (in. SAE Flare) Flow Capacity (Ib air/min) Relief Setting (psig)	⁵ / ₈	21.6 320	^{5/} 8 21.6 32	^{5/} 8 21.6 320	^{5/} 8 21.6 320	⁵ / ₈ 21.6 320	^{5/} 8 21.6 320	⁵ / ₈ 21.6 320	^{5/} 8 21.6 320
CONDENSER (HXC) Part No. 09RX400- Net Fluid Volume (gal) Maximum Refrigerant Pressure (psig) Maximum Water-Side Pressure (psig) Water Connections (in.)	257 16.8 220 300	257 16.8 220 300		258 18.3 220 300	Tube with Er 258 18.3 220 300 Victaulic Typ	259 23.9 220 300	259 23.9 220 300	260 27.5 220 300	260 27.5 220 300
Inlet and Outlet (Standard Pass) Drain (NPT) (Standard Pass) Relief Valve	5 ³ / ₈		5 ³ / ₈	5 ³ / ₈	5 3/8	5 3/8	5 3/8	3/8	3 / 8
Connection (in. NPTF) Flow Capacity (lb air/min) Relief Setting (psig) Standard Number of Passes	³ / ₄ 2	31.7 220	³ / ₄ 31.7 22 ⁱ 2	³ / ₄ 31.7 220 2	3/ ₄ 31.7 220 2	³ / ₄ 31.7 220 2	³ / ₄ 31.7 220 2	³ / ₄ 31.7 220 2	³ / ₄ 31.7 220 2
DISCHARGE LINE† Relief Valve Connection (in. SAE Flare) Flow Capacity (lb air/min) Setting (psig)	^{3/} 8 6.3 350	35	^{3/} 8 5.3 0	³ / ₈ 6.3 350	³ / ₈ 6.3 350	³ / ₈ 6.3 350	^{3/} 8 6.3 350	³ / ₈ 6.3 350	³ / ₈ 6.3 350

LEGEND

NPTF — National Pipe Thread Female
SAE — Society of Automotive Engineers
*Charges listed are for 30HXC units. The 30HXA units are shipped with a nitrogen holding charge only. To determine the refrigerant charge requirements for 30HXA units see the System Refrigerant Charge for Start-Up table in the Application Data on page 29.
†Only on units with factory-installed suction service valves.

Options and accessories



ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
Wye-Delta Start	X	
Brine	X	
Minus-One-Pass Cooler Head	X	
Plus-One-Pass Cooler Head	X	
Control Power Transformer		X
Minimum Load Control	X	X
Sound Reduction Enclosure		X
Vibration Isolation		X
Temperature Reset Sensor		X
Chillervisor System Manager III		X
Cooler Head Insulation		X
Suction Service Valves	X	
Energy Management Module	X	X
Nitrogen Holding Gharge (30HXC)	X	
BACnet Communications	X	

Wye-delta start — Generally, Wye-delta start is not required when using multiple compressors since the starting current is generally less than with one larger compressor using Wye-delta start. Wye-delta start is standard on 208/230 v, 60 Hz, 230 v, 60 Hz, and 230 v, 50 Hz units. It is available as a factory installed option for all other unit voltages.

Brine — The brine option permits supply liquid temperatures to be set below 40 F (4.4 C). Refrigeration circuit components, such as the expansion device, are modified at the factory to correct for the lower refrigeration flow rates. Special installation requirements apply to brine units. See Cooler and Water-Cooled Condenser Freeze Protection section, page 24.

Minus-one-pass cooler — This factory-installed option reduces pressure drop for high flow applications and/or provides same end inlet and outlet for 076-106 sizes, or opposite end inlet and outlet on 116-271 sizes.

Plus-one-pass cooler — This factory-installed option improves low temperature brine performance. See the 30HX electronic catalog for performance data

Minimum load control — This option allows additional capacity reduction for unit operation below the minimum step of unloading (down to 10% of full load capacity). Minimum load control is also available as a field-installed accessory.

Suction service valves — Standard refrigerant discharge isolation and liquid valves enable service personnel to store the refrigerant charge in the cooler or condenser during servicing. This factory-installed option allows further isolation of the compressor from the cooler vessel.

Energy management module (EMM) — The EMM is used for 4 to 20 mA leaving fluid temperature reset, cooling point reset, 4 to 20 mA demand limit and two-step demand limit. Temperature reset lets the unit reset the leaving fluid temperature to a higher temperature during low load conditions. Temperature reset can also be accomplished based on return fluid, outdoor air or space temperature. (The EMM option is not required when using enteringwater, outdoor-air, or space temperature for

temperature reset. These types of reset are available with the main board. However, an accessory thermistor is required for outdoor air and/or space temperature reset.) Demand limiting allows the unit capacity to be limited during periods of peak energy usage. Demand limit requires an external 4 to 20 mA signal or a 2-step remote pair of dry contacts. Both the 4 to 20 mA and 2-step demand limit percentage values are adjustable. EMM is also avail- able as a field-installed accessory.

Nitrogen holding charge — The 30HXC units can be shipped with either the standard HFC-134a refrigerant charge or an optional nitrogen charge. The 30HXA units

are always shipped with a nitrogen holding sharge.

BACnet communication option — Provides factory installed communication capability with a BACnet MS/TP network. Allows integration with i-Vu° Open control system or a BACnet building automation system.

Field-installed accessories

Control power transformer — The transformer is sized to supply the needs of the control circuit, sourcing power from the main unit power connection.

Minimum load control — This accessory allows additional capacity reduction for unit operation below the minimum step of unloading (down to 10% of full load capacity). Minimum load control is also available as a factory-installed option.

Sound reduction enclosure — This kit contains a sound enclosure that covers the entire unit to reduce sound levels.

Vibration isolation — Neoprene isolators are field installed to reduce vibration transmission from the compressor through the floor and into the conditioned space.

Temperature reset sensor — This accessory sensor provides temperature reset capability from either the occupied space or outdoor-air temperature.

NOTE: Temperature reset capability using return temperature is standard.

*Sponsored by ASHRAE (American Society of Heating, Refrigerating, and Air Conditioning Engineers).



Chillervisor System Manager III — This control can be used to regulate up to eight 30HXA or 30HXC chillers.

Cooler head insulation — This accessory is designed with flexible, ³/₄ in. (19 mm) PVC foam (closed-cell) to insulate the cooler heads to minimize heat loss and head sweating.

Energy management module (EMM) — The EMM is used for 4 to 20 mA leaving fluid temperature reset, cooling point reset, 4 to 20 mA demand limit and two-step demand limit. Temperature reset lets the unit reset the leaving fluid temperature to a higher temperature during low load conditions. Temperature reset can also be accomplished based on return fluid, outdoor air or space

temperature. (The EMM option is not required when using entering-water, outdoor-air, or space temperature for temperature reset. These types of reset are available with the main board. However, an accessory thermistor is required for outdoor air and/or space temperature reset.) Demand limiting allows the unit capacity to be limited during periods of peak energy usage. Demand limit requires an external 4 to 20 mA signal or a 2-step remote pair of dry contacts. Both the 4 to 20 mA and 2-step demand limit percentage values are adjustable. EMM is also available as a factory- installed option.

Consult factory for other available options not listed here.

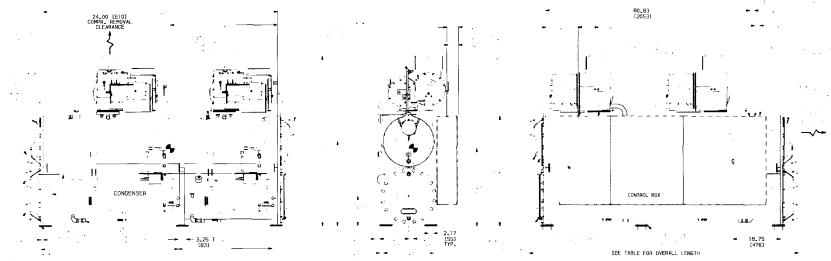
WEIGHT DISTRIBUTION

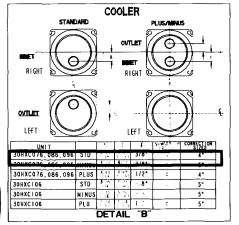
30HXC076-106

JNIT ,	OPERATING	В	С	E	L	WGT		ATE - II		СН МТ	G T
30HXC076	5700	5.87	4 5.87	32.50	65.22	738	943	3 595	4 1110	5 1418	6 396
30HXC086	(2586) 5723	45.87	1165) 15.87	826\ 82.50	65.22	738	947	597	1112	1427	902
30HXC096	(2597) 5855	(1165) \$4.12	1165) 37.63	826) 32.50	(1657) 65.22	335) 686	430) 968	2/1) 693	504) 1027	647) 1447	409) 1034
30HXC106	(2657) 6177	(13/5) \$4.12	956) 37.63	826) 33.50	(1657) 67.22	730 730	(439) (028	314) 744	466) 1073	(656) (510	469) 1092
	(2803)	(1375)	(956)	(851)	(1707)	(331)	(466)	(337)	(487)	(685)	(495)

- IOTES: pregating weight includes weight of water and refrigerant.
 Denotes center of gravity.
 Dimensions are in inches (mm).

 - Recommended service clearance around machine is 36 in. (914.4 mm).
 Victaulic nozzles are standard on all models. Flow switch factory installed in cooler inlet victaulic nozzle.

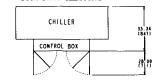




	C	ONDE	NSER		
STAN	DARD			MINUS	
OVILET RIGHT		- 1 ·	NLET		
LH1			WILET (
3.1		A	8	NUMBER OF	CONFECTION
Elbert Banker Bak		5.30 (160)	6,30 (160)	2	5*
5,2814 1 4 , 0.58 , 7.91	8:41.	-			.6.
30HX-114	-11-	6.30 {160]	6.30 [[60]	2	5*
)34+. Ce	V 7.5	-	-		6'
	ÞE	TAIL	-c-		

	OVERALL LE	NOTH TABLE	
COOLER	CONDENSER	्रतन्त्रीः स्थानन र%, ८४, उस्स	9184, 115 TH
11 5 %() £25 - (.1	735732 6 7357377	106 - 19 17 17/7	167.00
11.0	TV TV TX	(375)	p#4591
F1.3 51 12 51 [P	7 N. 15	1(4,1)	4,05
A. STEE	M. No. 191 2	1,4,4	(+, 00 (*k a
V N 1	11/12/0	(1) } (641)	33,20 1,635
9 5 1 351 1811 C OOLER	Mission over dama Constitution	1 7 10	(3,00 (.a-9)

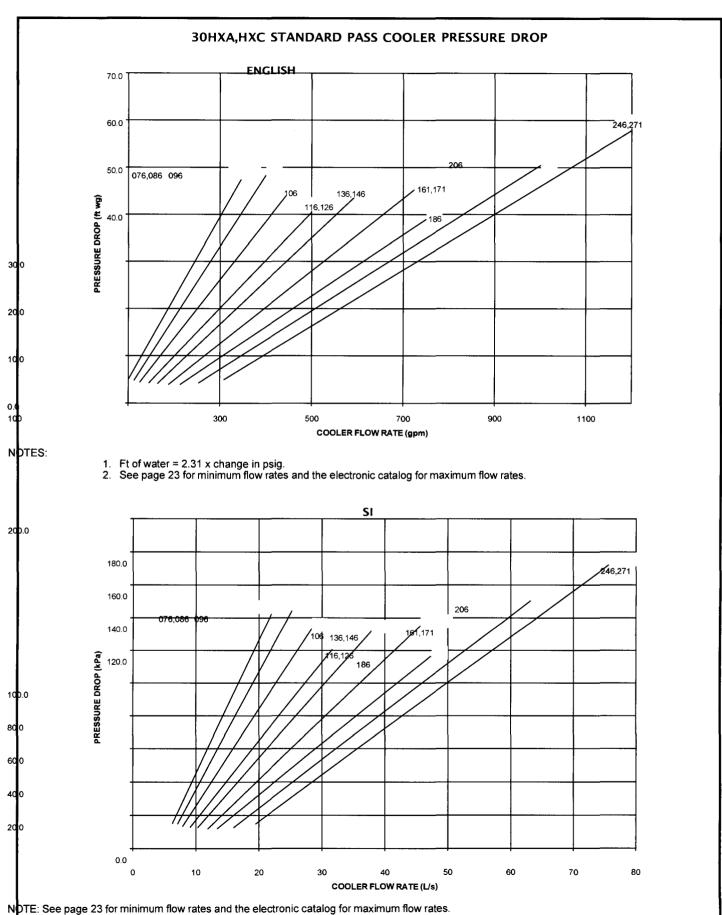
DOOR SWING CLEARANCE





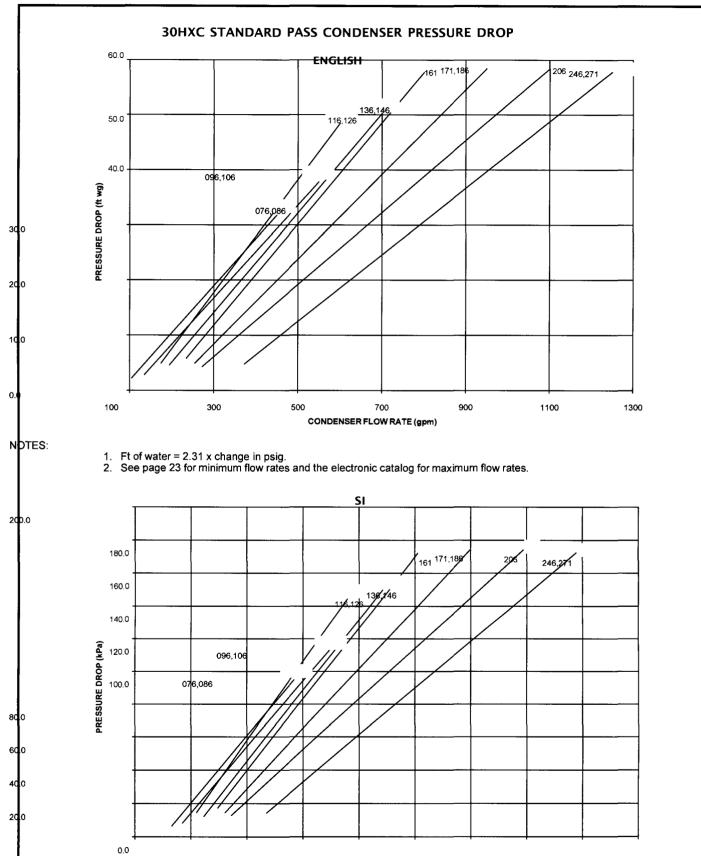
Performance data





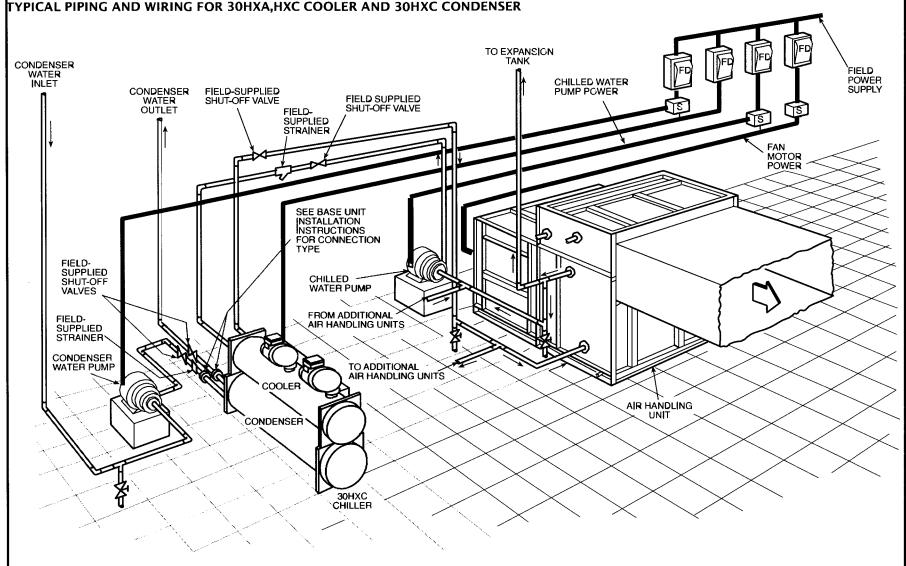
Performance data (cont)





CONDENSER FLOW RATE (L/s)

NDTE: See page 23 for minimum flow rates and the electronic catalog for maximum flow rates.



NOTES:

- Chiller must be installed *levelly* to maintain proper compressor oil return.

 Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.

 Wiring and piping shown are for a quick overview of system and are not in accordance with recognized standards.

 All wiring must comply with applicable local and national codes.
- All piping must follow standard piping techniques. Refer to the System Design Manual or appropriate ASHRAE (Ameri-
- can Society of Heating, Refrigeration, and Air Conditioning Engineers) handbook for details.

 5. See Application Data section on page 24 for minimum cooler loop volume. This system may require the addition of a holding tank to ensure adequate volume.

EGEND

Airflow Through Air-Handling Unit

Chilled Fluid Piping

Starter

Field-Supplied Disconnect



Electrical data



ELECTRICAL DATA, 30HXC UNITS

	UNIT VOLTA	GE		POWER	NO. POWER		_	UNIT	VOLTAG	E		CONTRO	OL CIF	RCUIT	
UNIT 30HXC	V-Hz (3	Supp	olied	SUPPLY	SUPPLY			I	ICF	Rec Fu	use Size	V-Hz			MCA and
	Ph) \	Min	Max	QTY. REQD.	CONDUCTORS	MCA	MOCP	XL	WD	XL	WD	(Single Ph)	Min	Max	MOCP
	230-60	207	253	1	3	198.7	250	I —	297.3	I —	225	115-60	104	127	15
	208/230-60	187	253	1	3	220.7	300	1_	307 1	l _	250	115-60	104	127	15
070	460-60	414	506	1	3	99 7	125	374 3	148 3	125	125	115-60	104	127	15
076	575-60	518	633	1	3	79 7	110	299 4	118 4	90	90	115-60	104	127	15
	380-60	342	418	1	3	120 R	150	4187	168 7	150	150	230-60	207	254	15
	380/415-50	342	440	1	3	125 6	175	399 8	164 8	150	150	230-50	198	254	15
	230-50	207	253	1	3	207.2	250		266.1		250	230-50	207	254	15
	230-60	207	253	1	3	221.7	300	_	297.3	 	250	113-00	104	127	15
	208/230-60	187	253	1	3	246 4	350	l —	307 1	_	300	115-60	104	127	15
086	460-60	414	506	1	3	111.3	150	374.3	148 3	125	125	115-60	104	127	15
000	575-60	518	633	1	3	88.9	125	299 4	118 4	100	100	115-60	104	127	15
	380-60	342	418	1	3	134 8	175	418 7	168 7	175	175	230-60	207	254	15
	380/415-50	342	440	1	3 3	140 4	200	478 8	189 8	175	175	230-50	198	254	15
	230-50	207	253	 	 	231.9	300	+	305.1	+	300	230-50	207	254	15
	230-60	207	253	1 1	3	251.3	350	-	344.3	-	300	115-60	104	127	15
	208/230-60	187	253	1	3	279 2	400	440.0	354 1	150	350	115-60	104	127	15
096	460-60 575-60	414	506	1 1	3	126 2	175	449 3 359 4	172 3	150 125	150	115-60	104	127	15 15
030	380-60	518 342	633 418		3 3	100 8 152 7	150 225	501 7	137 4 194 7	175	125 175	115-60 230-60	104 207	127 254	15
	380/415-50	342	440	l i	3	157 9	225	561.8	215.8	200	200	230-50	198	254	15
	230-50	207	253	i	3	260.7	350		347.1		300	230-50	207	254	15
	230-60	207	253	1	3	285.6	400	T	395.3		350	115-60	104	127	15
	208/230-60	187	253 253		3	317.4	450	-	405.3	-	400	115-60	104	127	15
	460-60	414	506	1 1	3	143 3	200	529 3	197 3	175	175	115-60	104	127	15
106	575-60	518	633	1 1	3	114.5	175	423 4	158 4	150	150	115-60	104	127	15
	380-60	342	418	l i	3	173 6	250	589 7	222 7	200	200	230-60	207	254	15
	380/415-50	342	440	1 1	3	178 1	250	660.8	246.8	225	225	230-50	198	254	15
	230-50	207	253	1	3	294.2	450		397.1	_	350	230-50	207	254	15
	230-60	207	253	1	3	304.1	450		413.7	_	350	115-60	104	127	15
	208/230-60	187	253	l i	3	337.9	500		425 6	l	400	115-60	104	127	15
	460-60	414	506	l i	3	152 6	225	538 6	206.6	175	175	115-60	104	127	15
116	575-60	518	633	1	3	121 9	175	430 R	165 8	150	150	115-60	104	127	15
	380-60	342	418	1	3	184 8	250	600.9	233 9	225	225	230-60	207	254	15
	380/415-50	342	440	1	3	190.0	250	672 7	258 7	225	225	230-50	198	254	15
	230-50	207	253	1	3	313.9	450	ļ <u></u>	416.8		400	230-50	207	254	15
	230-60	207	253	1 1	3	327.7	450	l —	437.4	_	400	115-60	104	127	15
	208/230-60	187	253	1	3	364 2	500	l —	451.9		450	115-60	104	127	15
	460-60	414	506	1	3	164.5	225	550.5	218.5	200	200	115-60	104	127	15
126	575-60	518	633	1	3	131 4	175	440.3	175 3	150	150	115-60	104	127	15
	380-60	342	418	1	3	199 1	250	615.2	248 2	225	225	230-60	207	254	15
	380/415-50	342	440	1 1	3	204.0	300	686 7	272 7	250	250	230-50	198	254	15
	230-50	207	253	 1	3	337.0	450	+=-	439.9	+	400	230-50	207	254	15
	230-60	207	253	1 1	3	366.7	500		497.4	-	450	115-60	104	127	15
	208/230-60	187	253	1 1	6	407 4	600	45.5	511.9	-	500	115-60	104	127	15
126	460-60	414	506	1 1	3	183 8	250	645.5	248 5	225	225	115-60	104	127	15
136	575-60 380-60	518 342	633 418	1 1	3	147 1 222 8	200 300	536 3 720 2	199 3 282 2	175 300	175 300	115-60 230-60	104 207	127 254	15 15
	380-50	342	440	1 1	3	230 2	300	796 7	307 7	300	300	230-50	198	254	15
	230-50	207	253	l i	6	380.3	500	[_ ′	495.9		450	230-50	207	254	15
	230-60	207	253	1	6	394.1	500		524.9	1	450	115-60	104	127	15
	208/230-60	187	253 253		6	437.9	600	1	542.4		500	115-60	104	127	15
	460-60	414	506		3	197.5	250	659 2	262 2	225	225	115-60	104	127	15
146	575-60	518	633	1	3	158 1	225	547.3	210.3	200	200	115-60	104	127	15
	380-60	342	418	i	3	239 5	350	736 9	298.9	300	300	230-60	207	254	15
	380/415-50	342	440	1	3	246.3	350	812 8	323 B	300	300	230-50	198	254	15
	230-50	207	253	11	6	407.1	600	1-	522.7	 - - - - - - - - - -	500	230-50	207	254	15
	230-60	207	253	1	6	398.7	600	1 —	574.8		500	115-60	104	127	15
	208/230-60	187	253	i	6	443.0	600	l —	590.6	_	600	115-60	104	127	15
	460-60	414	506	1	3	200 1	300	756 2	287 2	250	250	115-60	104	127	15
161	575-60	518	633	1	3	159 9	225	604.9	229.9	200	200	115-60	104	127	15
	380-60	342	418	1 1	3	242 2	350	843 2	325 2	300	300	230-60	207	254	15
	380/415-50	342	440	1 1	3	249 0	350	944 2	358 2	300	300	230-50	198	254	15
	230-50	207	253	1 1	1 6	411.3	600	1 —	577.7	l —	500	230-50	207	254	l 15



Electrical data (cont)

COMPRESSOR ELECTRICAL DATA, 30HXC UNITS

UNIT SIZE 30HXC	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS				
		A1 B1				
	202/202	RLA	LRA	RLA	LRA	
	208/230-60	*	*	*	*	
	<u>230-60</u> 460-60	44.3		44.3	<u> </u>	
076-XL	575-60	35.4	330 264	35.4	330 264	
	380-60	53.7	365	53.7	365	
	230-50	*	*	*	*	
	380/413-30	ეე.გ	344	ეე.გ	344	
	208/230-60	98.1	209	98.1	209	
	230-60	88.3	209	88.3	209	
	460-60	44.3	104	44.3	104	
076-WD	575-60	35.4	83	35.4	83	
	380-60	53.7	115	53.7	115	
	230-50	92.1	174	92.1	174	
	380/415-50	55.8	109	55.8	109	
	208/230-60	*	*	*	*	
	230-60	*	*	*	*	
000 141	460-60	53.6	330	44.3	330	
086-XL	575-60	42.8	264	35.4	264_	
	380-60	64.9	365	53.7	365	
	230-50	 				
	380/415-50 208/230-60	67.7 118.6	<u>423</u> 209	55,8 98.1	209	
	230-60	106.7	209	88.3	209	
	460-60	53.6	104	44.3	104	
086-WD	575-60	42.8	83	35.4	83	
000-WD	380-60	64.9	115	53.7	115	
	230-50	111.8	213	92.1	174	
	380/415-50	67.7	134	55.8_	109	
	208/230-60	*	*	*	*	
	230-60	*	*	*	*	
	460-60	65.5	405	44.3	330	
096-XL	575-60	52.3	324		264	
	380-60	79.2	448		365	
	230-50	*				
	380/415-50	81.7	506	44.3 35.4 53.7 * 55.8 98.1	209	
	208/230-60 230-60	144.9 130.4	256 256	88.3	209	
	460-60	65.5	128	44.3	104	
096-WD	575-60	52.3	102	35.4	83	
036-WD	380-60	79.2	141	53.7	115	
	230-50	134.9	255	92.1	174	
	380/415-50	81.7	160	55.8	109	
	208/230-60	*	*	*	*	
	230-60	*	*	*	*	
	460-60	79.2	485	44.3	330	
106-XL	575-60	63.3	388	35.4	264	
	380-60	95.9 *	536	53.7	365	
	230-50		*			
	380/415-50	97.8	605	55.8	344	
	208/230-60	175.4	307	98.1 88.3	209 209	
	230-60 460-60	157,9 79.2	307 153	44.3	104	
106-WD	575-60	63.3	123	35.4	83	
100-440	380-60	95.9	169	53.7	115	
	230-50	161.7	305	92.1	174	

	380/415-50	97.8	191	55.8	109
LEGEND			 -		
LRA					
Locke d Rotor Amps RLA					
Rated Load Amps WD — Wyo XL — Acr	e-Delta Start oss-the-Line Start				

^{*}Units are shipped with wye-delta start as standard. Across-the-line start is not available.

2.00 GENERAL CONDITIONS.

- **2.01 OWNER.** The term "Owner", where used herein, shall mean the County of Stanislaus, a political subdivision of the State of California.
- **2.02 BOARD.** The term "Board", where used herein, shall mean the Stanislaus County Purchasing Division of the County of Stanislaus. California.
- **2.03 ENGINEER.** The Director of Public Works shall supervise and be responsible for the work, and whenever the word "Director" or the word "Engineer" is used herein, it shall mean the Director of the Department of Public Works of the County of Stanislaus, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.
- **2.04 CONTRACTOR.** The term "Contractor", where used herein, shall mean the Contractor to whom the contract for the work described and specified herein has been awarded to by the Board.
- **2.05 SUBCONTRACTOR.** The term "Subcontractor", where used herein, includes only those having a direct contract with the Contractor for the work or portion of the work described and specified herein.
- **2.06 WORK.** The term "Work", where used herein, includes all labor, materials and any necessary equipment required for complete performance of the contract.
- **2.07 CONTRACT DOCUMENTS.** The term "Contract Documents", where used herein, includes the following: The Notice to Bidders, the Instructions to Bidders, the General Conditions, the plans and specifications, the bid, the Agreement, the general bond and insurance certificates. The contract documents are complementary, and what is called for by one shall be as binding as if called for by all.
- **2.08 DOCUMENT CLARITY.** The Contractor's attention is directed Government Code section 27361.7, which requires that documents will reproduce readable photographic record:

Whenever the text of a document presented for record may be made out but is not sufficiently legible to reproduce a readable photographic record, the recorder may require the person presenting it for record to substitute a legible original document or to prepare a legible copy of the first document by handwriting or typewriting and attach the same to the original as a part of the document for making the permanent photographic record. The handwritten or typewritten legible copy shall be certified by the party creating the copy under penalty of perjury as being a true copy of the original. As used in this section, the word "text" includes the notary seal, certificates, and other appendages thereto.

- 2.09 COMPLETE CONTRACT. The complete contract consists of all of the contract documents.
- **2.10 PLANS AND SPECIFICATIONS.** The term "Plans and Specifications", where used herein, shall mean and include all specifications and provisions of any kind, whether general, detailed or otherwise, relating to the labor, equipment, material or work in the installation thereof, and the plans and drawings, if any, accompanying same which are made a part hereof.
- **2.11 AGREEMENT.** The Contractor to whom the work is awarded shall, within eight days after receipt of the contract documents as mailed by the Department of Public Works, enter into an agreement with the owner. The form of agreement is attached herein and made a part of these General Conditions.
- **2.12** MATERIAL, LABOR, EQUIPMENT AND OTHER FACILITIES. Unless otherwise provided, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, lights, power, transportation and other facilities necessary for the execution and completion of the work.
- **2.13 PERMITS AND LICENSES.** All permits and licenses necessary for the prosecution of the work shall be secured and paid for by the Contractor, except those secured by Owner and so noted.
- **2.14 INSPECTION OF WORK.** A representative of the Owner shall, at all times, have access to the work and the Contractor shall provide proper facilities for such access and for inspection. The Contractor's attention is directed to Government Code Section 1126 and Stanislaus County Department of Public Works regulations wherein the Owner's representative is prohibited from accepting from the Contractor, his employees, and subcontractors any gratuity, gift, service or material of any value or use of equipment or facilities, and agrees to abide by the section and regulations.

2.15 BONDS. The Contractor shall furnish and deliver to the Board a surety bond in the amount equal to one hundred percent (100%) of the contract price to guarantee the faithful performance of the contract, and a surety bond in an amount equal to one hundred percent (100%) of the contract price for the faithful payment and satisfaction of all lawful claims of all persons for labor and material furnished and the prosecution of the contract. Such surety bonds shall be issued by a corporation duly and legally licensed to transact surety business in the State of California and approved by the Board. All participating signatures on the bonds shall be notarized.

2.16 INSURANCE.

- **2.16.1** Scope of Coverage. Contractor shall take out, and maintain during the life of this Agreement, insurance policies with coverage at least as broad as follows:
 - (a) <u>General Liability</u>. Comprehensive general liability insurance covering bodily injury, personal injury, property damage, products and completed operations with limits of no less than One Million Dollars (\$1,000,000) per incident or occurrence. If Commercial General Liability Insurance or other form which uses a general aggregate limit, either the general aggregate limit shall apply separately to any act or omission by Contractor under this Agreement or the general aggregate limit shall be twice the required occurrence limit.
 - (b) <u>Fire Insurance</u>. Builder's Risk Fire Insurance, including Extended Coverage and Vandalism and Malicious Mischief endorsements, jointly in the name of the Owner and the Contractor, such insurance at all times to be of sufficient amount to cover fully all loss or damage to the work under this agreement, resulting from fire and perils covered by the above-referenced endorsements, with limits of not less than one hundred percent of the contract price.
 - (c) <u>Automobile Liability Insurance</u>. If the Contractor or the Contractor's officers, employees, agents, representatives or subcontractors utilize a motor vehicle in performing any of the work or services under this Agreement, owned/non-owned automobile liability insurance providing combined single limits covering bodily injury, property damage and transportation related pollution liability with limits of no less than One Million Dollars (\$1,000,000) per incident or occurrence.
 - (d) Workers' Compensation Insurance. Workers' Compensation insurance as required by the California Labor Code. In signing this contract, the Contractor certifies under section 1861 of the Labor Code that the Contractor is aware of the provisions of section 3700 of the Labor Code which requires every employer to be insured against liability for workmen's compensation or to undertake self-insurance in accordance with the provisions of that code, and that the Contractor will comply with such provisions before commencing the performance of the work of this Agreement.
- 2.16.2 Deductibles, Self-insured Retentions and Named Insureds. Any deductibles, self-insured retentions or named insureds must be declared in writing and approved by Owner. At the option of the Owner, either: (a) the insurer shall reduce or eliminate such deductibles, self-insured retentions or named insureds, or (b) the Contractor shall provide a bond, cash or letter of credit guaranteeing payment of the self-insured retention or deductible and payment of any and all costs, losses, related investigations, claim administration and defense expenses.
- 2.16.3 Additional Insured. The Contractor shall provide a specific endorsement to all required insurance policies, except Workers' Compensation insurance and Professional Liability insurance, if any, naming the Owner and its officers, officials and employees as additional insureds regarding: (a) liability arising from or in connection with the performance or omission to perform any term or condition of this Agreement by or on behalf of the Contractor, including the insured's general supervision of the Contractor; (b) services, products and completed operations of the Contractor; (c) premises owned, occupied or used by the Contractor; and (d) automobiles owned, leased, hired or borrowed by the Contractor. For Workers Compensation insurance, the insurance carrier shall agree to waive all rights of subrogation against the Owner and its officers, officials and employees for losses arising from the performance of or the omission to perform any term or condition of this Agreement by the Contractor.
- **2.16.4 Primary Insurance.** The Contractor's insurance coverage shall be primary insurance regarding the Owner and Owner's officers, officials and employees. Any insurance or self-insurance maintained by the Owner or Owner's officers, officials and employees shall be excess of the Contractor's insurance and shall not contribute with Contractor's insurance.

- **2.16.5** Compliance. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Owner or its officers, officials, employees or volunteers.
- **2.16.6 Application of Insurance.** The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- **2.16.7 Notice of Cancellation.** Each insurance policy required by this section shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party or reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to Owner.
- **2.16.8** Acceptability of Insurers. Insurance is to be placed with California admitted insurers (licensed to do business in California) with a current rating by Best's Key Rating Guide of no less than A-:VII.
- **2.16.9 Subcontractors.** Contractor shall require that all of its subcontractors are subject to the insurance and indemnity requirements stated herein, or shall include all subcontractors as additional named insureds under its insurance policies.
- **2.16.10 Verification of Coverage.** At least ten (10) days prior to the date the Contractor begins performance of its obligations under this Agreement, Contractor shall furnish County with certificates of insurance, and with original endorsements, showing coverage required by this Agreement, including, without limitation, those that verify coverage for subcontractors of the Contractor. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements shall be received and, in County's sole and absolute discretion, approved by County. County reserves the right to require complete copies of all required insurance policies and endorsements, at any time.
- **2.16.11 Limitation of Liability.** The limits of insurance described herein shall not limit the liability of the Contractor and Contractor's officers, employees, agents, representatives or subcontractors.

2.17 DEFENSE AND INDEMNIFICATION.

- 2.17.1 Contractor Indemnification. Contractor and its officers, employees, agents, representatives or subcontractors shall defend, indemnify and hold harmless the Owner and its agents, officers and employees from and against all claims, damages, losses, judgments, liabilities, expenses and other costs, including litigation costs and attorney fees, arising out of, resulting from, or in connection with the performance of this Agreement by Contractor or Contractor's officers, employees, agents, representatives or subcontractors. Contractor's obligation to defend, indemnify and hold the Owner and its agents, officers and employees harmless applies to any actual or alleged personal injury, death, or damage or destruction to tangible or intangible property including the loss of use. Contractor's obligation under this paragraph extends to any claim, damage, loss, liability, expense or other cost which is caused in whole or in part, directly or indirectly, by any act or omission of the Contractor and its officers, employees, agents, representatives, subcontractors, suppliers or anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them may be liable.
- **2.17.2 Effect of Insurance.** Contractor's obligation to defend, indemnify and hold the Owner and its agents, officers and employees harmless under the provisions of this paragraph is not limited to or restricted by any requirement in this Agreement for Contractor to procure and maintain a policy of insurance.
- **2.17.3 Owner Indemnification.** To the extent permitted by law, the Owner shall defend, indemnify and hold harmless Contractor and its officers, employees, agents, representatives or subcontractors from and against all claims, damages, losses, judgments, liabilities, expenses and other costs, including litigation costs and attorney's fees, arising out of or resulting from the active negligence or wrongful acts of Owner and its officers or employees.
- **2.18 ASSIGNMENT OF CONTRACT.** The Contractor shall not assign the contract or sublet it as a whole without written consent of the owner, nor shall the Contractor assign any monies due or to become due to him hereunder without the written consent of the Owner.
- **2.19 EIGHT-HOUR DAY.** The time of service of any laborer, workman, or mechanic employed upon any of the work herein specified is limited and restricted to eight (8) hours during any one calendar day, and 40 hours during any one calendar week, except that work performed by employees of contractors in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of eight (8) hours per day and not less than one and one-half (1-1/2) times the basic rate of pay.

The Contractor shall forfeit, as a penalty to the owner \$25.00 for each laborer, workman or mechanic employed in the execution of this contract by him or by any subcontractor under him, upon any public work herein

specified for each calendar day or week during which any laborer, workman or mechanic is required or permitted to labor more than eight (8) hours in any one calendar day or 40 hours in any one calendar week in violation of the provisions of Article 3 of Chapter 1, Part 7, Division 2 of the Labor Code of the State of California, and said sums and amount which shall have been so forfeited pursuant to this paragraph and said provisions of said Labor Code shall be withheld and retained from payment due to the Contractor under this contract, pursuant to this contract and the said terms of said Code; but no sums shall be so withheld, retained, or forfeited except from the final payment without a full investigation by either the Division of Labor Law Enforcement of the State Department of Industrial Relations or by said Board.

2.20 PREVAILING WAGES. The Contractor shall comply with Labor Code Section 1775. In accordance with said Section 1775, the Contractor shall forfeit, as a penalty to the County of Stanislaus, \$25.00 for each calendar day or portion thereof for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work done under the contract by him or by any subcontractor under him. In addition to said penalty, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor.

Pursuant to Sections 1770 and 1773 of the Labor Code, the Board of Supervisors has ascertained the general prevailing rate of per diem wages applicable to the work to be done for straight time, overtime, Saturday, Sunday and holiday work. These wage rates, which are set forth by the Director of the Department of Industrial Relations, are now on file with the Department of Public Works and are a part of the contract. The Contractor is required to post a copy of these prevailing wage rates on the job site.

The Owner will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth as provided herein. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the Owner on the contract.

- **2.21 PAYROLLS AND BASIC RECORDS.** The Contractor shall meet the requirements of Section 7-1.01A(3), "Payroll Records", of the State of California Standard Specifications. The Contractor shall be responsible for compliance by his subcontractors.
- **2.22 REQUIRED LISTING OF PROPOSED SUBCONTRACTORS.** Each bid shall have listed therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in the amount of 1/2 of one percent of his total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. A sheet for listing the subcontractors, as required herein, is included in the Bid. The bidder's attention is invited to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractor or by making unauthorized substitutions.
- **2.23 STANDARD SPECIFICATIONS AND CODES.** All work herein specified shall be performed in accordance with applicable sections of the following Standard Specifications or Codes which are herein named and hereby made a portion of these specifications. In a case of conflict between these specifications and said Standards, these specifications shall be paramount.

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Stanislaus County Code Title 16, Chap. 16.05 (Uniform Building Code, 1994 Edition)
Stanislaus County Code Title 16, Chap. 16.10 (Uniform Plumbing Code, 1994 Edition)
Stanislaus County Code Title 16, Chap. 16.15 (National Electric Code, 1993 Edition)
Stanislaus County Code Title 16, Chap. 16.20 (Uniform Mechanical Code, 1994 Edition)
Standard Specifications, State of California, Department of Transportation (1996)
Stanislaus County Improvement Standards
California Building Code (California Code of Regulations, Title 24, Part 2)
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- **2.24 TAXES.** Any federal, state or city tax payable on articles furnished by the Contractor under the contract shall be included in the contract price paid by the Contractor.
- **2.25 TIME FOR COMPLETION AND LIQUIDATED DAMAGES.** The work to be performed under this contract shall be completed within

"Seventy-five (75) Working Days"

from the date of Notice to Proceed. Should the Contractor fail to complete this contract and the work provided for therein within the fixed time for such completion, the parties hereto agree that it would be impracticable or extremely

difficult to fix the actual damage, and therefore agree that the Contractor shall be liable to the Owner and may be assessed by the Owner in the sum of five hundred dollars (\$500.00) per day for each calendar day this contract is delayed beyond the time of completion above agreed upon by failure of the Contractor to complete the contract as specified. Such payment shall be construed to be liquidated damages by the Contractor in lieu of any other claim for damage because of such delay, and shall not be construed as a penalty.

- **2.26 PREFERENCES.** Price and quality being equal, preference shall be given by the Contractor to Stanislaus County products.
- **2.27 DEFECTS IN WORK.** The Contractor shall be responsible for and must make good any defects through faulty, improper or inferior workmanship or materials arising or discovered in any part of this work within one (1) year after the completion and acceptance of the same.
- **2.28 DEVIATION FROM PLANS AND SPECIFICATIONS.** No deviation shall be made from the plans and specifications. If the Contractor shall vary from the plans and specifications in the form of quality or in the work or the amount or value of the materials herein provided for, the Owner shall have the right to order such improper work or materials removed, remade or replaced. In the event that the work is ordered changed, any other work disturbed or damaged by such alteration shall be made good at the Contractor's expense.
- **2.29 BRANDS.** Wherever the name or brand of a manufacturer or an article is specified herein, it is used as a measure of quality and utility or a standard. If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified, he shall make application to the Owner in writing and submit samples, if requested. The Contractor shall have 35 days after the award of the contract for submission of data substantiating any such request for substitution of "equal" items. The Owners will then determine whether or not the name brand or article is equal in quality and utility to that specified, and its decision shall be final.

Except in those instances in which the product is designated to match others presently in use, specifications herein calling for a designated material, product, thing or service by specific brand or trade name shall be deemed to be followed by the words "or equal" so that bidders may furnish any equal material, product, thing or service. The successful bidder shall have thirty-five (35) days after award of the contract for submission of data substantiating a request for a substitution of "an equal" item, pursuant to Section 3400 of the Public Contract Code.

- **2.30 NEW MATERIALS.** All materials used in the work shall be new and the best market quality, unless specified or shown otherwise. All labor used on this contract shall be competent and skilled for the work. All work executed under this contract shall be done in the best, most thorough substantial and workmanlike manner. All material and labor shall be subject to the approval of the Engineer as to quality and fitness, and shall be immediately removed if it does not meet with his approval.
- 2.31 ABANDONMENT OF WORK. Should the Contractor abandon the work called for under the plans and specifications and contract documents, or assign his contract, or if the Contractor unnecessarily and unreasonably delays the work, or if the Contractor willfully violates any of the conditions of the plans and specifications or contract documents, or performs the work in bad faith, the Owner shall have the power to notify the Contractor to discontinue all work or any part thereof under this contract, and thereupon the Contractor shall cease to continue said work or such part thereof as the Owner may designate, and the Owner shall thereupon have the power to employ such persons as it may consider desirable, and to obtain by contract, purchase, hire or otherwise, such implements, tools, material or materials as the Owner may deem advisable to work at and be used to complete the work herein described, or such part thereof as shall have not been completed, and to use such material as it may find upon the site of said work, and to charge the expense of such labor and material, implements and tools to the Contractor, and the expense so charged shall be deducted and paid by the Owner out of such monies as may be either due, or may at any time thereafter become due to the Contractor hereunder and by virtue of the contract.

In the case such expense is less than the sum which would have been payable under the contract, if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference, and in case such expense shall exceed the last said amount, then the Contractor or his bondsman shall pay the amount of such excess to the Owner on notice to either from the Owner the excess so due.

2.32 OCCUPANCY OF BUILDING. The Owner reserves the right to occupy or use any part or parts or the entirety of the building or project upon which the work is to be performed during the performance of the work. The exercising of this right shall in no way constitute an acceptance of such part or parts of the work, nor shall it in any way effect the date and time when the work is to be completed, nor shall it in any way prejudice the Owner's rights in the Contractor any bond guaranteeing the same; this contract is to be deemed completed only when all of the work contracted for shall be duly and properly performed and accepted by the Board.

- **2.33 EXTENSION OF TIME.** If it appears to the Contractor that he will not complete the work herein specified in the time agreed, he shall make written application to the Owner at least five (5) calendar days prior to the expiration of the time for completion, stating the reasons why and the amount of extension which he believes he should be granted. The Owner may then, in its discretion, grant or deny such extension.
- **2.34 SUSPENSION OF WORK.** Should the Owner, for any cause, authorize a suspension of work, the time of such suspension will be added to the time allowed for completion. Suspension of work by order of the Board shall not be deemed a waiver of the claim of the Owner for damages for non-completion of the work as above required.
- 2.35 JUSTIFIABLE DELAYS. The Contractor shall not be held responsible for delays in the completion of the work caused by strikes, labor disturbances, lack or failure of transportation, war, inability to obtain materials due to war conditions, perils of the sea, insurrection, riot, acts of any government, whether foreign or domestic, federal or state, and/or any other causes similar to the foregoing which are beyond the control of and are not the fault of the Contractor, or if prevented by conditions directly resulting from the execution of contracts or the placing of orders by the Federal government or its authorized agencies or representatives, which are required by law to be given priority, but provided that whenever the Contractor shall claim that delays are due to any or all of the above named cause or causes of delay, request an extension of time in accordance with paragraph 2.31 of these General Conditions, and if the Board finds that such cause or causes of delay exist, it shall grant him an extension of time equal to the delay resulting from such cause or causes, or the Board may at its option, rescind said contract and pay said Contractor for the reasonable value of the work completed and let a new contract for the completion of the remainder of the work herein specified.
- **2.36 PATENTS AND ROYALTIES.** If any material, composition, process or any other thing called for or required by the plans and specifications heretofore adopted by the Owner is covered by letter patent, all royalties and expenses thereof, all litigation therefrom, or other things whatsoever which may develop as a cost from the use of such material, composition, process or any other thing which is covered by letter patents shall be borne by the Contractor. The Contractor shall pay all license and/or royalty fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof.
- **2.37 EXAMINATION OF SITE.** The Contractor shall be held to have examined the site, compared it with the drawings and specifications, and to have satisfied himself as to the conditions under which the work is to be performed. No allowance or claims on his behalf will be made for any expense to which he may be put as a result or failure on his part to thoroughly acquaint himself with conditions at the site.
- **2.38 DAMAGE TO OTHERS.** The Contractor shall exercise due caution during his operations so as not to damage the property of others or Owner's property not directly involved under the plans and specifications, and shall be responsible for the protection of this property and shall replace any and all such property to its former condition as a result of his failure to provide protection or exercise due caution during his operations.
- **2.39 SURVEYS AND GRADES.** The Engineer shall establish permanent type reference monuments or posts for the alignment and elevations of all work. For structures he will provide said monuments for reference data only. For general engineering contracts he shall provide the usual stakes sufficient for construction. The Contractor shall be charged with the responsibility of adequately protecting said stakes and monuments. The Contractor shall be requested to set supplemental posts for detailed construction needs.
- **2.40 SHOP DRAWINGS.** The Contractor shall furnish two (2) copies of shop drawings for all steel, miscellaneous iron, electrical and sheet metal work at such time as to cause no delay in his own or other person's work. The Engineer shall, with reasonable promptness, check the drawings, making corrections, and return them for fabrication; two (2) copies of the corrected drawings used for fabrication shall be returned to the Engineer. The drawings shall not relieve the Contractor from any errors made in fabrication or deviation from original plans and specifications unless such deviation has been specifically permitted in writing by the Director of the Department of Public Works.
- **2.41 CORRECTION OF WORK AFTER FINAL PAYMENT.** Neither the final certificate nor final payment, nor any provision of the contract documents shall relieve the Contractor of responsibility for faulty materials or workmanship, and unless otherwise specified, he shall remedy any defects due thereto and shall pay for any damage or other work resulting therefrom which shall appear within a period of one year from the date of substantial completion. The Owner shall give notice of observed defects with reasonable promptness. All questions arising under this article shall be decided by the Director of Public Works.
- **2.42 CHANGES IN WORK.** The Owner, without invalidating the contract, may order extra work or make changes by altering, adding to or deducting from the work, the contract sum being adjusted accordingly. All such work shall be performed under the conditions of the contract except that any claim for extension of time caused

thereby shall be adjusted at the time of ordering the change. The Engineer shall have authority to make minor changes not involving extra cost and not inconsistent with the purpose of the project.

The value of such extra work or change shall be determined in one or more of the following ways:

- (a) By estimate and acceptance in a lump sum;
- (b) By unit prices named in the contract or subsequently agreed upon;
- (c) By cost and percentage and fixed fee.

Should conditions below surface of the ground be at variance with the conditions indicated by the drawings and specifications, the contract sum shall be equitably adjusted upon claim by either party made within a reasonable time after first observation of conditions.

The amount agreed upon as the value of any extra work resulting from any change order shall constitute full and complete compensation for all overhead, labor, material, tools, and equipment furnished in the performance of work required by that change order. Furthermore, the amount agreed upon as the value of extra work for any change order shall be accepted by the Contractor as full and complete compensation for any and all claims of any nature whatsoever, including, but not limited to, any actual or alleged claims for compensation by Contractor, or any subcontractor of Contractor for delays occasioned by or in any way arising out of stoppage of the work, coordination of the work with others, or processing of that change order.

- **2.43 CLEANING UP.** Contractor shall at all times keep the premises free from accumulations of waste material or rubbish as a result of this operation. Upon completion of work he shall remove all rubbish, material and his equipment from the job and shall leave the job site in a "broom clean" or equivalent condition. In case of a dispute regarding this item, the Owner may remove rubbish or material and charge the cost to the several contractors as the authorized representative shall deem just.
- **2.44 SUPERVISION.** The Contractor shall, at all times during the working hours of the contract, have a competent foreman or superintendent on the job who shall be authorized to act as an agent of the Contractor. Such agent shall be familiar with the type of work hereunder and be aware of the hazards and the safety rules relating to this particular type of construction. Ignorance or incompetence of a foreman shall be due cause for his removal from the job and cessation of work under this contract until the intent of this paragraph is fulfilled, without recourse by the Contractor for any extension of the time of completion as a result of the removal of such unsatisfactory agent.
- **2.45 APPRENTICESHIP STANDARDS.** This contract is subject to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1968) and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under the Contractor. Section 1777.5, as amended, requires the Contractor or subcontractor employing tradesmen in any apprenticeable occupation to apply to the Joint Apprenticeship Committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used in the performance of the contract. The ratio of apprentices to journeymen in such cases shall not be less than one to five, except:
 - (a) When unemployment in the area of coverage by the Joint Apprenticeship Committee has exceeded an average of fifteen percent (15%) in the 90 days prior to the request for certificate; or
 - (b) When the number of apprentices in training in the area exceeds a ratio of one to five; or
 - (c) When the trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis statewide or locally; or
 - (d) When the Contractor provides evidence that he employs registered apprentices on all of his contracts on an annual average of not less than one apprentice to eight journeymen.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employees registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

2.46 ASSIGNMENT OF ANTI-TRUST ACTIONS AND UNFAIR BUSINESS PRACTICE CLAIMS.

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

2.47 EQUAL EMPLOYMENT OPPORTUNITY. Contractor agrees for the duration of this contract that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

The Contractor will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap.

The Contractor will send to each labor union or other representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the workers' representative of the Contractor commitments under this agreement.

The Contractor agrees that it will comply with the provisions of Titles VI and VII of the Civil Rights Act, Revenue Sharing Act Title 31, U.S. Code Section 2716, and California Government Code Section 12990.

The Contractor agrees that it will assist and cooperate with the County of Stanislaus, the State of California and the United States Government in obtaining compliance with the equal opportunity clause, rules, regulations, and relevant orders of the State of California and United States Government issued pursuant to the Acts.

In the event of the Contractor's non-compliance with the discrimination clause, the affirmative action plan of this contract, or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part by the Owner.

- **2.48 HANDICAPPED NON-DISCRIMINATION.** This project is subject to Section 504 of the Rehabilitation Act of 1973 as amended (29 U.S.C. 794) and all requirements imposed by the applicable office of Revenue Sharing Regulations (31 CFR Part 51) and all guidelines and interpretations issued thereto. In this regard, the Owner and all of its contractors and subcontractors will take all reasonable steps to ensure that handicapped individuals have the maximum opportunity for the same level of aid, benefit or service as any other individual.
- 2.49 FAIR EMPLOYMENT AND HOUSING ACT ADDENDUM. In the performance of this contract, the Contractor will not discriminate against any employee or applicant for employment because of race, sex, color, religion, ancestry, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, sex, color, religion, ancestry, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, promotion 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 shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the State or local agency setting forth the provisions of this Fair Employment and Housing Section.

The Contractor will permit access to his records of employment, employment advertisements, application forms, and other pertinent data and records by the State Fair Employment and Housing Commission, or any other agency of the State of California designated by the awarding authority, for the purposes of investigation to ascertain compliance with the Fair Employment and Housing section of this contract.

Remedies for willful violation include:

- (a) The State or local agency may determine a willful violation of the Fair Employment and Housing provision to have occurred upon receipt of a final judgment having that effect from a court in an action to which Contractor was a party; or upon receipt of a written notice from the Fair Employment and Housing Commission that it has investigated and determined that the Contractor has violated the Fair Employment and Housing Act and has issued an order or obtained an injunction under Government Code Section 12900, et seq.
- (b) For willful violation of this Fair Employment and Housing provision the State or local agency shall have the right to terminate this contract either in whole or in part, and any loss or damage sustained by the State or local agency in securing the goods or services hereunder shall be borne and paid for by the Contractor and by his surety under the performance bond, if any, and the State or local agency may deduct from any monies due or that thereafter may become due to the Contractor, the difference between the price named in the contract and the actual cost thereof to the State or local agency.
- **2.50 CONTRACTS WHICH INVOLVE DIGGING TRENCHES OR EXCAVATIONS.** Pursuant to Public Contract Code section 7104, the Contractor is hereby notified as follows:

Any public works contract of a local public entity which involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause which provides the following:

- (a) That the Contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:
- (1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- (2) Subsurface or latent physical conditions at the site differing from those indicated.
- (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- (b) That the public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
- (c) That, in the event that a dispute arises between the public entity and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.
- **2.51 ARBITRATION.** The last paragraph in Section 9-1.10, "Arbitration," of the Standard Specifications is amended to read as follows:

Arbitration shall be initiated by a Complaint in Arbitration made in compliance with the requirements of said regulations. A Complaint in Arbitration by the Contractor shall be made not later than 180 days after the date of service in person or by mail on the Contractor of the final written decision by the Department on the claim.

- **2.52 NOTICE OF POTENTIAL CLAIM.** Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications is amended to read as follows:
 - **9-1.04 Notice of Potential Claim.** The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless he shall have given the Engineer due written notice of potential claim as hereinafter specified. Compliance with this Section 9-1.04 shall not be a prerequisite as to matters within the scope of the

protest provisions in Section 4-1.03, "Changes," or Section 8-1.06, "Time of Completion," or the notice provisions in Section 5-1.116, "Differing Site Conditions," or Section 8-1.07, "Liquidated Damages," or Section 8-1.10, "Utility and Non-Highway Facilities," nor to any claim which is based on differences in measurements or errors of computation as to contract quantities.

The written notice of potential claim shall be submitted to the Engineer prior to the time that the Contractor performs the work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Engineer, or in all other cases within 15 days after the happening of the event, thing, occurrence, or other cause, giving rise to the potential claim.

The written notice of potential claim shall be submitted on Form CEM-6201 furnished by the Department and shall be certified with reference to the California False Claims Act (Government Code sections 12650 et seq.). The notice shall set forth the reasons for which the Contractor believes additional compensation will or may be due and the nature of the costs involved. Unless the amount of the potential claim has been stated in the written notice, the Contractor shall, within 15 days of submitting said notice, furnish an estimate of the cost of the affected work and impacts, if any, on project completion. Said estimate of costs may be changed or updated by the Contractor when conditions have changed. When the affected work is completed, the Contractor shall submit substantiation of his actual costs. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

It is the intention of this Section 9-1.04 that differences between the parties arising under and by virtue of the contract be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that he shall have no right to additional compensation for any claim that may be based on any such act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was filed.

Should the Contractor, in connection with or subsequent to the assertion of a potential claim, request inspection and copying of documents or records in the possession of the Department that pertain to the potential claim, Contractor shall make its records of the project, as deemed by the Department to be pertinent to the potential claim, available to the Department for inspection and copying.

2.53 FINAL PAYMENT AND CLAIMS. Section 9-1.07B, "Final Payment and Claims," of the Standard Specifications is amended to read as follows:

"9-1.07B Final Payment and Claims. After acceptance by the Director, the Engineer will make a proposed final estimate in writing of the total amount payable to the Contractor, including therein an itemization of said amount, segregated as to contract item quantities, extra work and any other basis for payment, and shall also show therein all deductions made or to be made for prior payments and amounts to be kept or retained under the provisions of the contract. All prior estimates and payments shall be subject to correction in the proposed final estimate. The Contractor shall submit written approval of the proposed final estimate or a written statement of all claims arising under or by virtue of the contract so that the Engineer receives such written approval or statement of claims no later than close of business of the thirtieth day after receiving the proposed final estimate. If the thirtieth day falls on a Saturday, Sunday or legal holiday, then receipt of such written approval or statement of claims by the Engineer shall not be later than close of business of the next business day. No claim will be considered that was not included in the written statement of claims, nor will any claim be allowed as to which a notice or protest is required under the provisions in Sections 4-1.03, "Changes," 8-1.06, "Time of Completion," 8-1.07, "Liquidated Damages" 5-1.116, "Differing Site Conditions," 8-1.10, "Utility and Non-Highway Facilities," and 9-1.04, □Notice of Potential Claim," unless the Contractor has complied with the notice or protest requirements in said sections.

"On the Contractor's approval, or if he files no claim within said period of 30 days, the Engineer will issue a final estimate in writing in accordance with the proposed final estimate submitted to the Contractor and within 30 days thereafter the State will pay the entire sum so found to be due. Such final estimate and payment thereon shall be conclusive and binding against both parties to the contract on all questions relating to the amount of work done and the compensation payable therefor, except as otherwise provided in Sections 9-1.03C, 'Records,' and 9-1.09, "Clerical Errors."

"If the Contractor within said period of 30 days files claims, the Engineer will issue a semifinal estimate in accordance with the proposed final estimate submitted to the Contractor and within 30 days thereafter the State will pay the sum so found to be due. Such semifinal estimate and payment thereon shall be conclusive and binding against both parties to the contract on all questions relating to the amount of work done and the compensation payable therefor, except insofar as affected by the claims filed within the time and in the manner required hereunder and except as otherwise provided in Sections 9-1.03C, "Records," and 9-1.09, "Clerical Errors."

"Claims filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of said claims. If additional information or details are required by the Engineer to determine the basis and amount of said claims, the Contractor shall furnish such further information or details so that the information or details are received by the Engineer no later than the fifteenth day after receipt of the written request from the Engineer. If the fifteenth day falls on a Saturday, Sunday or legal holiday, then receipt of such information or details by the Engineer shall not be later than close of business of the next business day. Failure to submit such information and details to the Engineer within the time specified will be sufficient cause for denying the claim.

"The Contractor shall keep full and complete records of the costs and additional time incurred for any work for which a claim for additional compensation is made. The Engineer or any designated claim investigator or auditor shall have access to those records and any other records as may be required by the Engineer to determine the facts or contentions involved in the claims. Failure to permit access to such records shall be sufficient cause for denying the claims.

"Claims submitted by the Contractor shall be accompanied by a notarized certificate containing the following language:

"Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act (Government Code Section 12650 et. seq.), the undersigned, hereby certifies that the claim for the additional compensation and time, if any, made herein for the work on this contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the contract between parties.

Dated	/s/		
	(name)		
	(title)	of	
	(company)		
Subscribed and sworn befo	re me this day of		
Notary Public			<u></u>
My Commission Expires _			

Failure to submit the notarized certificate will be sufficient cause for denying the claim.

Any claim for overhead type expenses or costs, in addition to being certified as stated above, shall be supported by an audit report of an independent Certified Public Accountant. Any such overhead claim shall also be subject to audit by the State at its discretion.

Any costs or expenses incurred by the State in reviewing or auditing any claims that are not supported by the Contractor's cost accounting or other records shall be deemed to be damages incurred by the State within the meaning of the California False Claims Act.

The District Director of the District which administers the contract will make the final determination of any claims which remain in dispute after completion of claim review by the Engineer. A board or person designated by said District Director will review such claims and make

a written recommendation thereon to the District Director. The Contractor may meet with the review board or person to make a presentation in support of such claims.

Upon final determination of the claims, the Engineer will then make and issue his final estimate in writing and within 30 days thereafter the State will pay the entire sum, if any, found due thereon. Such final estimate shall be conclusive and binding against both parties to the contract on all questions relating to the amount of work done and the compensation payable therefor, except as otherwise provided in Sections 9-1.03C, "Records," and 9-1.09, "Clerical Errors."

2.54 CLAIMS UNDER \$375,000.

The provision of Article 1.5 (commencing with section 20104) of the Public Contract Code, relating to the resolution of construction Claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency are hereby incorporated in this Contract and set forth below.

- 20104. (a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) 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 Section 10240) of Chapter 1 of Part 2.
- (b) (1) "Public work" has the same meaning as in Sections 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.
- 20104.2. For any claim subject to this article, the following requirements apply:

 (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 to the claim 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 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 to the claim 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 local agency's response or within 15 days of the local 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) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 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 that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
- (f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- 20104.4. 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 15-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 Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
- (2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.
- (3) 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 judgment 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.
- (c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

- 20104.6. (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 Section 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 suit is filed in a court of law.