

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

DEPT: Sheriff

BOARD AGENDA #: *B-6

AGENDA DATE: April 26, 2016

SUBJECT:

Approval to Award a Contract to Douglas A. Jackson Construction, Inc. for \$227,226 to Remove Existing and Install New Walk-in Refrigeration Unit at the Stanislaus County Public Safety Center

BOARD ACTION AS FOLLOWS:

No. 2016-205

On motion of Supervisor Chiesa, Seconded by Supervisor Withrow
and approved by the following vote,

Ayes: Supervisors: O'Brien, Chiesa, Withrow, DeMartini, and Chairman Monteith

Noes: Supervisors: None

Excused or Absent: Supervisors: None

Abstaining: Supervisor: None

1) Approved as recommended

2) Denied

3) Approved as amended

4) Other:

MOTION:

ATTEST: Elizabeth A. King
ELIZABETH A. KING, Clerk of the Board of Supervisors

File No.

**THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM**

DEPT: Sheriff BOARD AGENDA #: *B-6
Urgent Routine AGENDA DATE: April 26, 2016
CEO CONCURRENCE: *pk* 4/5 Vote Required: Yes No

SUBJECT:

Approval to Award a Contract to Douglas A. Jackson Construction, Inc. for \$227,226 to Remove Existing and Install New Walk-in Refrigeration Unit at the Stanislaus County Public Safety Center

STAFF RECOMMENDATIONS:

1. Award a contract to Douglas A. Jackson Construction, Inc., of Modesto, California to remove the dated, existing walk-in refrigeration unit and install a new unit at the Public Safety Center.
2. Authorize the Purchasing Agent to execute a contract with Douglas A. Jackson Construction, Inc. in the amount of \$227,226.

DISCUSSION:

The Stanislaus County Public Safety Center was dedicated in September of 1992. A walk-in refrigeration unit was located in the Public Safety Center Vehicle Sally Port to store pre-made meals for the inmate population. The Central Kitchen delivers loaded food carts to the refrigeration unit, which are later pulled by Public Safety Center staff for inmate consumption. This refrigeration unit currently sits within the footprint of the proposed Senate Bill (SB) 1022 Re-Entry and Enhanced Alternatives to Custody Training (R.E.A.C.T.) facility that is expected to begin construction in November of 2016.

The existing refrigeration unit must be moved before the construction process can begin for the R.E.A.C.T. facility. It is 24-years old, has surpassed its 20-year life span, and is in need of replacement. It is not feasible to dismantle the worn box and motor for reuse. Once replaced, a new refrigeration unit will be able to maintain needed meal storage for the Public Safety Center's inmate population on a daily basis.

The project will be funded by General Fund dollars that were requested and approved as part of the Adopted 2015-2016 Final Budget for the Sheriff's Department.

On January 8, 2016 the bid for this project was sent electronically to 52 vendors, six of whom downloaded the bid. A non-mandatory jobsite pre-proposal conference was held on January 21, 2016 and two vendors attended. The bid closed on February 2, 2016 and the County's General Services Agency (GSA) received one completed response from Douglas A. Jackson Construction, Inc. This was the only completed response received by the deadline.

Approval to Award a Contract to Douglas A. Jackson Construction, Inc. for \$227,226 to Remove Existing and Install New Walk-in Refrigeration Unit at the Stanislaus County Public Safety Center

The winning proposal includes a plan to subcontract out much of the work to the following trades, all local vendors:

- Food Service Equipment to: Champion Industrial
- Electrical to: Layman Electric
- Concrete Cutting to: Cal West
- Tile to: Muller Tile Inc.
- Paving to: Patch Crew
- Building Moving and Demolition to: Modesto Sand & Gravel

The scope of work includes:

- Installation of one (1) 40 X 20 X 8 foot tall walk-in box with refrigeration equipment, inside bumper rails, membrane roof, and 48 inch door covered with aluminum diamond plate on inside
- Installation of a concrete pad with an 8 inch ramp with hand rails on both sides
- Relocation of the electrical power and alarm to the new designated location
- Removal of the existing box and disposal of it
- Removal of the existing slab, back filling, and compacting the hole
- Cutting the black top required to move the line voltage power conduit
- Patching the black top after the job is complete at the existing boxes and trench locations
- Adding an overhang, 3 feet in length, to the front of the new unit to keep inclement weather off of personnel;
- Installation of quarry tile in refrigerator and seal to the tile

On February 5, GSA issued a Notice of Intended Award to Douglas A. Jackson Construction Inc. and a Notice-to-Proceed shall follow upon Board of Supervisors' approval. No letters of protest were received during the five-day protest period of the bid process. The project is estimated to be completed by July 1, 2016.

The Sheriff's Department staff recommends awarding a contract in the amount of \$227,226 to Douglas A. Jackson Construction, Inc. of Modesto, California as the sole bidder in order to complete the necessary project in a timely manner.

POLICY ISSUE:

County purchasing policy 05-01 requires Board of Supervisors approval of any contract exceeding \$100,000.

FISCAL IMPACT:

Funding for this project is included in the Sheriff Detention Adopted 2015-2016 Final Budget. The total cost of the project is \$227,226.

Approval to Award a Contract to Douglas A. Jackson Construction, Inc. for \$227,226 to Remove Existing and Install New Walk-in Refrigeration Unit at the Stanislaus County Public Safety Center

Cost of recommended action:		\$ 227,226
Source(s) of Funding:		
Existing Net County Cost	227,226	
Funding Total:		\$ 227,226
Net Cost to County General Fund		\$ -

Fiscal Year:	2015-2016
Budget Adjustment/Appropriations needed:	No

Fund Balance as of

BOARD OF SUPERVISORS' PRIORITY:

The recommended actions are consistent with the Board of Supervisors' priority of providing A Safe Community by replacing the current refrigerator to open up the space necessary for the forthcoming SB 1022 R.E.A.C.T. facility. If this action is not taken the SB1022 R.E.A.C.T. facility cannot be constructed as it is currently designed.

STAFFING IMPACT:

Existing Sheriff's Department and General Services Agency staff will oversee this project.

CONTACT PERSON:

Gregg Clifton, Lieutenant Telephone (209) 525-5675

ATTACHMENT(S):

1. AGREEMENT (for Public Works of Improvement)

AGREEMENT
(for Public Works of Improvement)

This Agreement, made this February 29, 2016 by and between Douglas A. Jackson dba Douglas A. Jackson Construction ("Contractor") and the COUNTY OF STANISLAUS ("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 workmanlike manner:

BID NAME: Walk-In Refrigeration Box
BID NO.: 15-60-CB

as set forth in the final bid of the Contractor dated February 2, 2016 and attached hereto for reference only as Exhibit A and in accordance with the, General Conditions, plans and specifications, bonds, addenda to this Agreement 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

Contractor's total compensation for the Work performed under this Agreement is TWO HUNDRED TWENTY-SEVEN THOUSAND, TWO HUNDRED TWENTY-SIX (\$227,226.00) DOLLARS to be paid s a lump sum with progress payments. 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 a written change order issued by the Stanislaus County Purchasing Agent. The amount to be paid by the County or to be deducted from the contract price by virtue of such alterations shall be detailed and stated in said change order and shall be approved in writing by the County and the Contractor.

Changes, additions, and alterations in the Work, may be ordered in writing by the Purchasing Agent of the County of Stanislaus in the form of a written change order.

ARTICLE IV

The Contractor shall commence the Work within **Ten (10) working days** after the date specified in the Notice to Proceed given to it by the Purchasing Agent shall prosecute said Work in a prompt, diligent and workmanlike manner. The Contractor shall complete the Work within **Ninety (90) Working Days** 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

County shall pay to Contractor in due course and at the usual time for payment of County obligations after the last day of each 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. A final payment of five percent (5%) of the contract price shall be due the Contractor 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.

Except as otherwise prohibited by law, Contractor may elect to receive all payments due under the contract without any retention. If Contractor so elects, it shall deposit with 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 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 the insurance required and listed in the General Conditions, Section 2.14, of the contract documents.

ARTICLE VIII

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 IX

Contractor shall comply with all the provisions of state and local laws relating to contracts for the prosecution of public works. 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. Contractor is required to post a copy of these prevailing wage rates at the job site.

ARTICLE X

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 Purchasing Agent.

ARTICLE XI

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. Contractor shall comply with the Subcontractor Listing Law. This contract shall be binding upon the parties hereto, their heirs, successors, assigns, subcontractors, and legal representatives.

ARTICLE XII


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 XIII

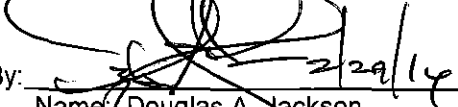
Neither the final certificate nor payment, nor any provision of the related documents, shall relieve the Contractor of responsibility for faulty workmanship or materials, and less otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom which 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 Purchasing Agent.

COUNTY OF STANISLAUS

By: 
Keith D. Boggs, Assistant Executive Officer,
GSA Director/Purchasing Agent
"County"

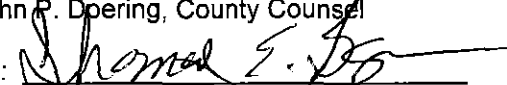
DOUGLAS A. JACKSON dba DOUGLAS A. JACKSON CONSTRUCTION

By:  2/29/14
Name: Douglas A. Jackson
Title: Owner
"Contractor"

APPROVED AS TO CONTENT:
Stanislaus County Sheriff Department

By: 
Name: Adam Christianson
Title: Sheriff

APPROVED AS TO FORM:
John P. Doering, County Counsel

By: 
Thomas E. Boze
Assistant County Counsel

**Exhibit A
STANISLAUS COUNTY GSA PURCHASING DIVISION
FOR STANISLAUS COUNTY SHERIFF DEPARTMENT
BID #15-60-CB**

PART 1 – TECHNICAL SPECIFICATION

Replace with new, walk-in refrigeration box and concrete pad with 8' ramp with hand rails on both sides.

A. SCOPE OF SERVICES

PART 1 – SCOPE OF WORK

1. To install one (1) 40x20x8' tall walk-in box with refrigeration equipment, inside bumper rails, membrane roof and 48" door covered with aluminum diamond plate on inside.
2. To install a concrete pad with an 8' ramp with hand rails on both sides.
3. To relocate the electrical power and alarm to the new location.
4. To remove the existing box and dispose of it.
5. To remove the existing slab, back fill and compact the hole.
6. To cut the black top required to move the line voltage power conduit.
7. To patch the black top after the job is complete at the existing boxes and trench locations.
8. To add overhang to front of the new unit to keep inclement weather off of personnel. Overhang to be 3' in length.
9. To install quarry tile in refrigerator and seal the tile.

B. SPECIFICATIONS

PART 2 – TECHNICAL SPECIFICATIONS

SECTION 09 30 00

TILING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Ceramic tile.
- B. Setting materials including adhesives and mortar.
- C. Tile grout.
- D. Waterproofing membrane.
- E. Accessories.

1.2 RELATED SECTIONS

- A. Section 03 30 00 – Cast-in-Place Concrete.
- B. Section 07 92 00 – Joint Sealants; for elastomeric sealants.
- C. Section 09 29 00 – Gypsum Board.

1.3 REFERENCES

- The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only. Refer to Section 01 42 00 for definitions, acronyms, and abbreviations.
- Unless otherwise noted, standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes as of the date of issue of this Project Manual.
- Referenced Standards and Manuals:
 1. ANSI A108.1A – Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar.
 2. ANSI A108.1B – Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar.
 3. ANSI A108.5 – Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 4. ANSI A108.6 – Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy.
 5. ANSI A108.10 – Installation of Grout in Tilework.
 6. ANSI A118.3 – Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive.
 7. ANSI A118.4 – Latex-Portland Cement Mortar.
 8. ANSI A118.10 – Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations.
 9. ANSI A137.1 – Ceramic Tile.
 10. ASTM A82 – Standard Specifications for Steel Wire, Plain, for Concrete Reinforcement.
 11. ASTM A185 – Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
 12. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar.
 13. ASTM C150 – Standard Specification for Portland Cement.
 14. ASTM C373 – Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products.
 15. ASTM C648 – Standard Test Method for Breaking Strength of Ceramic Tile.
 16. ASTM C1027 – Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile.
 17. ASTM C1028 – Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
 18. ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 19. ASTM D227 – Standard Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing.
 20. ASTM D2103 – Standard Specification for Polyethylene Film and Sheeting.

21. MIA Design Manual.

22. TCA Handbook for Ceramic Tile Installation by Tile Council of North America, Inc.

1.4 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 00.
- B. Submit product data indicating material specifications, characteristics and instructions for using adhesives and grouts.
- C. Submit shop drawings indicating tile layout, perimeter conditions, junctions with dissimilar materials, thresholds and setting details.
- D. Samples: Submit 2 samples of each type and color of ceramic tile and trims.
- E. Closeout Submittals: Cleaning and maintenance data.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum 10 years experience.
 - 2. Installer Qualifications: Firm specializing in installing work specified in this Section acceptable to manufacturer with experience on at least 5 projects of similar nature in past 3 years.
- B. Perform work in accordance with TCA Handbook for Ceramic Tile Installation and ANSI A108 Series. Provide a copy of TCA Handbook for Ceramic Tile Installation and ANSI A108 Series at the job site.
- C. Pre-Installation Meetings:
 - Conduct pre-installation meeting in accordance with Section 01 30 00.
 - Convene pre-installation meeting prior to commencing work of this Section.
 - Coordinate work in this Section with work in related Sections.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Section 01 60 00.
- B. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- C. Storage and Protection: Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic, and other potential damage. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Perform ceramic tile work when the ambient temperature is at least 50 degrees F (10 degrees C) and rising. Maintain temperature above 50 degrees F (10 degrees C) while the work is being performed for at least 7 days after completion of the work.
- B. Do not install adhesives in a closed, unventilated environment.

1.8 WARRANTY

- A. Two years from acceptance
- B. Provide manufacturer's standard performance warranties that extend beyond a 1-year period.

1.9 MAINTENANCE

- A. Extra Materials: Provide 5 percent extra of the total square footage of each type and color of tile installed. Comply with provisions of Section 01 70 00.
- B. Operations and Maintenance Data: Submit cleaning and maintenance data

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers (Ceramic Tile):

- 1. Dal-Tile Corp., Dallas, TX; (800) 933-8458; www.daltile.com.
- 2. United States Ceramic Tile Co., East Sparta, OH; (800) 321-0684; www.usctco.com.
- 3. American Olean Tile Co., Dallas, TX; (214) 398-1411; www.aotile.com.

B. Acceptable Manufacturers (Setting Materials):

- 1. C-Cure / Omega Products International, Inc., Rancho Cordova, CA; (916) 635-3335; www.c-cure.com.
- 2. Laticrete International, Inc., Bethany, CT; (800) 243-4788; www.laticrete.com.
- 3. Mapei Corp., Deerfield Beach, FL; (800) 426-2734; www.mapei.com.

C. Acceptable Manufacturers (Grout):

- C-Cure / Omega Products International, Inc.
- Laticrete International, Inc.

D. Acceptable Manufacturers (Waterproofing Membrane):

- The Noble Company, Grand Haven, MI; (800) 878-5788; www.noblecompany.com.

E. Acceptable Manufacturers (Accessories):

- Schlüter-Systems L.P., Plattsburgh, NY; (800) 472-4588; www.schluter.com.

F. Single Source Responsibility: Use setting, grout, and waterproofing materials from a single manufacturer to ensure system compatibility and quality; and to comply with manufacturer's warranty requirements.

G. Substitutions: Conform to Section 01 60 00.

2.2 CERAMIC TILE

A. General: ANSI A137.1, Standard Grade. Packaging shall be grade sealed. Seals shall be marked to correspond with the marks on the signed master grade certificate.

B. Properties:

1. Impact resistant with a minimum breaking strength of 90 lbs (40 kg) for wall tiles and 250 lbs (113 kg) for floor tiles in accordance with ASTM C648.
2. Water absorption shall be 0.50 percent maximum in accordance with ASTM C373.
3. Floor tiles shall have a minimum static coefficient of friction of 0.6 for walking surfaces and 0.8 for ramps in accordance with ASTM C1028.
4. Floor tiles shall be minimum Class IV – Heavy Traffic durability when tested in accordance with ASTM C1027 for abrasion resistance as related to foot traffic.

C. Quarry Tile Type QT1: ANSI A137.1, conforming to the following:

1. Field Tile: Dal Suretread

Size	6" x 6" x 3/8" with 6" x 6" cove base
Color	As indicated on Drawings.

2. Special Shapes (trimmers, angles, bases, caps, stops, and returns): Same nominal size as field tile; rounded concave and convex surfaces; same properties as field tile (moisture absorption, surface finish, and color). Provide radius at all outside vertical and horizontal corner tile. Provide base at glazed wall tile.
3. Wall Base: Unless otherwise indicated, at restrooms, and kitchen areas, wall base shall be 6 inches high with 3/8 inch minimum cove radius.

2.3 SETTING MATERIALS

A. Latex Portland Cement Mortar: Prepackaged, one-part, high performance, latex polymer modified dry-set, thin-set mortar. Meets or exceeds ANSI A118.4.

1. Products:

- C-Cure M-Flex Strata 914 Flexible Latex-Portland Cement Mortar.
- Laticrete 253 Multipurpose Thin-Set Mortar.
- Mapei Ultra/Flex 3.
- Or accepted equal.

B. Mortar Bed.

1. Materials:

- Cement: Portland cement, ASTM C150 Type I.
- Aggregate: ASTM C144, clean, graded, and passes a 16-mesh screen.
- Hydrated Lime: ASTM C206, Type S or ASTM C207, Type S.
- Water: Clean and potable.

2. Mortar Mix: Comply with ANSI A108.1A Section A-4.1a.2.

2.4 GROUTING MATERIALS

A. Epoxy Grout: 100 percent solids epoxy grout; stainless, non-sagging, water cleanable; conforming to ANSI A118.3.

1. Products:
 - ColorSet Epoxy 931 by C-Cure.
 - SpectraLOCK™ by Laticrete International, Inc.
 - Or accepted equal.
2. Colors as selected by Architect.

2.5 MEMBRANE

A. Waterproof Membrane: Trowel applied, liquid, or sheet membrane; load bearing; bonded; conforming to ANSI A118.10.

1. Product:
 - Noble TS. Elastomeric sheet membrane composed of chlorinated polyethylene (CPE), a non-plasticized elastomer with non-woven polyester laminated to both sides.
 - or accepted equal.

2.6 ACCESSORIES

- A. Reinforcing Mesh: ASTM A82 and ASTM A185; galvanized welded wire fabric; 16 gage wire (1.6 mm); 2 inch by 2 inch (50 mm by 50 mm) mesh.
- B. Expansion Joint: Dilex-EZ as manufactured by Schlüter-Systems L.P., Plattsburgh, NY; (800) 472-4588; www.schluter.com, or accepted equal.
- C. Wall surface movement joint trim: DILEX-KSN-EKSB in stainless steel as manufactured by Schlüter-Systems L.P., Plattsburgh, NY; (800) 472-4588; www.schluter.com, or accepted equal
- D. Wall Outside Corner Nosings and Tile Transition Trim: RONDEC in stainless steel as manufactured by Schlüter-Systems L.P., Plattsburgh, NY; (800) 472-4588; www.schluter.com, or accepted equal.
- E. Elastomeric Sealants: Refer to Section 07 92 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine job site conditions and verify field dimensions. Verify substrate is plumb, level, true to line and square.
- B. Substrate surface conditions shall conform to the requirements of ANSI A108.1A and ANSI A108.1B for the type setting bed specified and for workmanship.
- C. Maximum surface variation of substrate shall not exceed maximum limits as specified in specific TCA Methods or as follows, whichever is more stringent.

Type	Walls	Floors
Latex Portland Cement Mortar	1/8 inch in 8 feet	1/8 inch in 10 feet
Mortar Bed		1/4 inch in 10 feet

- D. Tile work shall not be started until roughing in for mechanical and electrical work has been completed and tested, and built-in items requiring membrane waterproofing has been installed and tested.
- E. Report unacceptable conditions to Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Install in accordance with TCA Handbook for Ceramic Tile Installation and ANSI A108.
2. Install tiles as per accepted shop drawings. Do not interrupt tile pattern through openings.
3. In areas requiring floor and wall tiles, floor tile installation shall not begin until after wall tiles have been installed.
4. Where waterproofing membrane is required, allow waterproofing membrane to cure before flood testing.
5. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align floor, base and wall joints.
6. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar or excess grout.
7. Provide grout joint spacing in accordance with tile manufacturer's recommendations.
8. Install movement joints where indicated on Drawings and as specified in this Section.
9. Sound tile after setting. Replace hollow sounding units.
10. Allow tile to set prior to grouting: Minimum of 48 hours for thin-set methods and 78 hours for mortar bed methods.

B. Installation Methods – Interior Wall:

Method	Substrate/Application	Setting Material
TCA Method W245 and ANSI A108.5	Coated Glass Mat Water-Resistant Gypsum Board	Latex Portland Cement Mortar

C. Installation Methods – Interior Floor:

Method	Substrate/Application	Setting Material
TCA Method F113 and ANSI A108.5	Concrete Slab on Grade Thin set application.	Latex Portland Cement Mortar

D. Installation Methods – Shower Receptor:

Method	Substrate/Application	Setting Material
TCA Method B420 and ANSI A108.5. Use with W245.	Wall – Coated Glass Mat Water-Resistant Gypsum Board Floor – Waterproof Membrane	Wall: Latex Portland Cement Mortar Floor: Mortar Bed

3.3 JOINTS

- A. Joint Widths at Floors: Install tile on floors with the following joint widths:
 - 1. Ceramic Mosaic Tile: 1/16 inch.
 - 2. Quarry Tile: 1/4 inch.
- B. Joint Widths at Walls: Install tile on walls with the following joint widths:
 - 1. Ceramic Mosaic Tile: 1/16 inch.
 - 2. Glazed Wall Tile: 1/16 inch.
 - 3. Quarry Tile: 1/4 inch.
- C. Expansion Joints:
- D. Provide expansion joints at locations shown on the drawings or where drawings do not indicate location, the following locations as a minimum requirement:
 - 1. At control joints and expansion joints in substrate material,
 - 2. Where substrate material changes to separate different materials,
 - 3. Over construction joints,
 - 4. Where tile abuts restraining surfaces, such as perimeter walls, curbs, and columns and at intervals of 24 to 36 feet (7.2 to 10.8 m) each way in large interior floor areas and 12 to 16 feet (3.6 to 4.8 m) in large exterior areas exposed to direct sunlight or moisture.
- E. Expansion joints shall extend through setting-beds and fill.

3.4 INSTALLATION - GROUT

- A. Epoxy Grout: Install in accordance with manufacturer's printed instructions and ANSI A108.6.
 - 1. Before grouting, ensure all tiles are firmly in place. Clean tile surfaces; remove paper and glue from face of mounted tiles. Remove spacers, strings, ropes, and pegs.
 - 2. Clean open tile joints. Remove excess setting materials present in the open grout joints.
 - 3. Mix grout in accordance with manufacturer's instructions.
 - 4. Apply grout firmly into open joints using a hard rubber float.
 - 5. Remove all excess epoxy grout from the tile surface with a rubber squeegee or rubber trowel before it loses plasticity and begins to set.
 - 6. Immediately perform final clean up in accordance with manufacturer's instructions.

3.5 CLEANING AND PROTECTING

- A. Clean as recommended by manufacturer. Do not use materials or methods which may damage finish surface or surrounding construction.
- B. Protect installed tile finish surfaces from damage during construction. Provide protective covering as required to ensure installed tile finish will not be damaged by work of other trades.

END OF SECTION

SECTION 11 40 00
FOODSERVICE EQUIPMENT

PART 1 GENERAL

1.1 DESCRIPTION:

- A. Work to be provided and installed includes, but is not limited to:
1. Furnish all labor, materials and services necessary for the assembly and setting in place of the equipment in strict compliance and in accordance with the contract documents.
 2. Cut holes; provide sleeves for pipes on equipment, for drains, electrical, plumbing, etc., as required for proper installation.
 3. Repair any damage resulting from installation.
 4. Remove all debris resulting from this installation, clean and all equipment for operation, as well as an acceptance test by the Owner.

1.2 WORK PERFORMED BY SECTIONS OTHER THAN FOODSERVICE EQUIPMENT

- A. Division 09 – Tiling
- B. Division 15 - Mechanical and Plumbing and Utilities: Mechanical and Plumbing rough-in; ducting, piping and final connection between rough-in and equipment; installation of mechanical and plumbing devices and fittings in utility lines; interconnecting field ducting and piping between foodservice equipment and components; exhaust ducts, exhaust fans, indirect waste lines, floor cleanouts and floor sinks.
- C. Division 16 - Basic Materials and Methods: Electrical rough-in; conduit, conductors and final connection between rough-in and equipment; installation of electrical fittings and devices in utility lines; interconnecting field wiring between foodservice equipment and components; circuit breakers panels other than those integral with foodservice equipment; final disconnect means.
- D. Division 32 – Site Concrete and Asphalt Concrete Work

1.3 CONTRACT DOCUMENTS

- A. Equipment drawings are definitive only and should not be used as construction documents or shop details.
- B. Drawings and equipment specifications are intended to complement each other. Therefore, neither should be considered complete without the other.
- C. Drawings are for reference, assistance and guidance only. They indicate the preferred final location of equipment. The exact final location will be dictated by the building conditions.
- D. Drawings shall govern for quantity and specifications for quality.

1.4 SUBSTITUTIONS

- A. Equipment shall be as specified by specific manufacturer, model number, size, utilities requirement, capacity, as well as options and accessories.
- B. Wherever the term "Alternate" follows the description of an item of commercial factory- manufacture it shall mean that the manufacturer listed as an alternate are approved for methods of manufacture only and not for their catalogued items without modification. The prime specified model shall govern in matters of capacity, fuel consumption, voltage and phase, overall dimensions, materials, function, and accessories. In all cases, categories of equipment of substantial quantity shall be of the same brand insofar as to limit the responsibility of Guarantee and Warranty.

- C. Contractor may present alternate equipment other than those specified as prime or acceptable alternate. Contractor shall clearly and separately state prior to bid opening that he is offering a substitution. He shall submit complete illustrations, specifications, capacities, and utilities, as well as operational data. It is Contractor's responsibility to prove that the item or items substituted are equal to the specified items. Items of standard equipment shall be the latest model, new at time of delivery.
- D. Contractor shall be responsible for all costs associated with the acceptable alternate or approved alternate items, if the item requires additional space or specific utilities that differ from specifications or drawings. Contractor shall be responsible for any retrofitting such as building changes, utility changes and engineering changes. All substitutions must be approved prior to the bid date.

1.5 LAWS AND ORDINANCES

- A. Certify that all work and materials comply with Federal, State and Local laws, ordinances and regulations and is confirmed by the local inspector having jurisdiction.
- B. Work and materials must be in full accord and when appropriate, shall be listed with the following agencies:
 - 1. Local Health Department
 - 2. O.S.H.A.
 - 3. National Sanitation Foundation (N.S.F.)
 - 4. Underwriters Laboratories (U.L.) or ETL equivalent
 - 5. A.G.A.
 - 6. N.F.P.A. – latest edition
- C. Check and confirm that drawings and specifications meet all Federal, State and Local Government bodies. The drawings and specifications shall govern wherever they require larger sizes or higher standards than required by local agencies and regulations. The regulation shall govern when drawings and specifications indicate less than the required regulation. Owner shall not be held responsible or be charged extra charges related to code compliance.

1.6 QUALITY ASSURANCE

- A. Qualifications
 - 1. Foodservice Equipment Contractor (FSEC) and its sub-contractors to have at least 5 years experience in this type of work.
 - 2. Commercially manufactured equipment is not acceptable unless evidence furnished that similar equipment has been operating successfully in a minimum of three (3) installations (excluding testing laboratories, field-testing or prototypes) for at least one (1) year.
 - 3. Commercially manufactured equipment will be reviewed based on submittal data provided on manufacturer's literature and/or manufacturer's shop drawings for prime alternate or substituted items. Failure of the equipment to meet the capacity, operation, size, utility and production as submitted will result in the rejection of the equipment regardless of disclaimers.
 - 4. Custom-fabricated equipment shall be manufactured by a foodservice equipment fabricator with at least five (5) years experience in this type of work, who has the plant, personnel, and engineering facilities to properly design, detail and manufacture high quality foodservice equipment.
- B. Requirements of Regulatory Agencies:
 - 1. NSF Compliance: All equipment subject to NSF approval shall be so labeled, or shall be constructed in accordance with applicable published NSF standards.
 - 2. Refrigerating Equipment: Conform to all applicable ASHRAE Standards. Evaporators NSF approved; electrical components UL (or ETL) approved.
 - 3. Electrical Equipment: Equipment shall carry UL (or ETL) approval and comply with applicable standards of the National Electric Code. Where specified, items shall be UL approved as a unit; if not, specified component electrical parts shall be approved separately. Where applicable, equipment shall comply with NEMA and NBFU

standards. Where local regulations permit, a certified test report by an approved nationally recognized independent testing organization establishing proof of conformance to the standards, including test methods of UL, will be considered in lieu of UL label.

4. Civil Authorities: Comply with all ordinances, codes and regulations of civil authorities having jurisdiction at Job Site.
5. Sheet Metal Fabrication: Comply with NFPA standard No. 51: "Welding and Cutting"; and applicable NSF standards.
6. ADA Compliance: Installation and construction of equipment and furnishings to comply with the American Disabilities Act as described in the Department of Justice Register Volume 56, No. 144.

1.7 GUARANTEE AND WARRANTY

- A. All equipment shall be fully guaranteed against defects in workmanship and material for (2) years after Owner's final acceptance. All repairs and replacements shall be made without charge to the Owner. Guarantee period shall commence with the first usage of the equipment for the intended purpose after final acceptance. Also see additional guarantee required for refrigeration equipment.

1.8 EQUIPMENT ACCESS

- A. Verify all building conditions and coordinate proper access of large equipment to the building. Any specific items needed for the movement of large, heavy or bulky equipment is the full responsibility of the Contractor.

1.9 SUBMITTALS

- A. Contractor to submit at least two (2) bond print for review, after which, Contractor will receive one (1) of the reviewed sets for printing and distribution. Electronic submittals are NOT acceptable unless prior approval, during the bid process, from the Consultant and Architect is obtained. All submittals; Shop Drawings, Rough-In Drawings and Equipment Brochures, must be delivered as one complete package.
- B. Shop Drawings:
 1. Shop drawing of all custom fabricated equipment shall be submitted at 3/4 inch scale. All custom fabrication shall have dimensions, fabrication, materials, thickness, and details of construction, installation and method of field joint. Shop details indicate reinforcements, methods of anchorage and quality of finishing.
 2. Verify all field dimensions and incorporate them into shop details.
- C. Rough-in Drawings: Rough-in drawings shall be submitted and show every piece of equipment, all dimensions for rough-in points for electrical, plumbing, steam, exhaust, gas, refrigeration, beverage conduits, as well as concrete curbs, sleeves, supports and any core drilling required.
- D. Equipment Brochures: Assemble and bind Equipment Brochure books as part of submittal. All equipment cut sheets shall clearly show all specified accessories, utility requirements and any other pertinent information; four (4) required.

1.10 START-UP DEMONSTRATION AND MANUALS:

- A. Provide factory-trained engineers for start-up and demonstration of equipment. Demonstration shall be done in two stages: One for operation and the second for maintenance personnel.
- B. Return to the job site within 10 days for final adjustment and calibration of equipment.
- C. Furnish service parts manuals as well as maintenance manuals.
- D. Prepare list of service agencies authorized by the manufacturer to service its equipment. Include the name of the person to contact and a telephone number.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS OF FABRICATION

- A. Fabrication shall conform to general acceptance of the foodservice industry.
- B. Fabrication shall meet or exceed National Sanitation Foundation standards including the latest editions and revisions.

2.2 MATERIALS

- A. Stainless Steel (S/S): Stainless steel shall be of U.S. Standard-gauges as indicated, but not less than 18-gauge or as noted, Type 304 with No. 4 finish.
- B. Galvanized Steel: Galvanized steel shall be of 14-gauge and shall be electro galvanized. Galvanized steel shall be used in non-exposed areas, areas, which have no contact with food or food serving items and in framework, when used in framework, galvanized steel shall be, welded construction.

2.3 METAL TOP CONSTRUCTION

- A. Metal tops shall be one-piece 14-gauge welded construction, including field joints. Secure to a full perimeter galvanized steel channel frame cross-braced not farther than 30 inches on center. Fasten top with stud bolts or tack welds. All exposed leading top edges to have "highlighted" #8 finish.

2.4 ENCLOSED CABINET BASES

- A. Bases shall be fabricated from not less than 18-gauge steel reinforced by forming the metal ends and shelves. Partitions shall be all of stainless steel. The ends and vertical partitions may be of single wall construction, with a 2-inch face, all partitions and sides shall be welded in the intersection and flush with the bottom.
- B. Unexposed backs and structural members may be constructed of galvanized steel.
- C. Intermediate shelves shall be removable, except the bottom shelf when the cabinet is on legs. When the cabinet is on a masonry base, the bottom shelf shall be removable to allow access for cleaning.

2.5 FABRICATED WORKMANSHIP

- A. Items of specially fabricated equipment shall be fabricated by an acceptable manufacturer, which is N.S.F. approved and fabricated in an approved manner to the complete satisfaction of the Owner.
 - 1. Welding and Soldering:
 - a. Materials 18-gauge or heavier shall be welded.
 - b. Seams and joints shall be shop welded or soldered as the nature of the material may require.
 - c. Welds shall be ground smooth and polished to match original finish.
 - d. Where galvanizing has been burned off, the weld shall be cleaned and touched up with high-grade aluminum paint.
- B. Rolled Edges: Rolled edges shall be as detailed, with comers bull nose, ground and polished.
- C. Coved Corners: All stainless steel foodservice equipment shall have ½-inch or larger radius coves in all horizontal and vertical comers and intersections per N.S.F. standards.
- D. Closures: Where ends of fixtures, splashback, shelves, etc. are open, fill by forming the metal, or weld sections, if necessary, to close entire opening flush to walls or adjoining fixtures.

2.6 OPERATION REQUIREMENTS

- A. Insure quiet operation of foodservice and related equipment.
- B. Insure the bumper gaskets stop and any other needed protection is installed on all fabricated equipment as needed.

2.7 COLD STORAGE ROOMS

- A. Pre-fabricated, pre-assembled, sectional, size and configuration as shown on plan, and as verified by field dimensions, with largest possible area provided.
- B. Check job site before installation of walk-in cooler to verify proper dimension for all trim pieces.
- C. General:
 - 1. The urethane foam core of the panels shall be certified by Underwriters Laboratories having tested and in accordance with UL Standard 723 (ASTM Standard E-84).
 - 2. The foam core of the panels shall be tested in accordance with ASTM Standard D-1929 to determine the self-ignition temperature.
 - 3. Panels shall be tested in accordance with ASTM Standards E-72, E-455 and E-564 for determination of the structural characteristics of the panel system.
 - 4. The foam insulation shall be tested in accordance with ASTM Standard C-177 to evaluate the insulation performance of the material.
 - 5. The urethane foam core must meet the Montreal Protocol for reduction of chlorofluorocarbons (CFCs).
- D. Construction:
 - 1. Interior and exterior metal skins formed with steel dies and roll-forming equipment. The metal skins shall be placed into steel molds and liquid urethane injected between them. Urethane shall be foamed in place (poured, not frothed) and, when completely heat-cured, shall bond to the metal skins to form a rigid thick insulated panel.
 - 2. Panels shall be equipped with "Cam-Lok" joining devices. The distance between locks shall not exceed 48-inch, or as specified. Press-fit caps shall be provided to close wrench holes.
 - 3. Exterior and interior finish per itemized specifications.
 - 4. Perimeter door heater fitted with low-conductor, anti-sweat heater wires, fully enclosed in metal, easily replaceable, for freezer compartments.
 - 5. All interior joints coved ¼-inch minimum radius.
 - 6. All conduit and switch/alarm J-boxes to be pre-installed in panel sections with recessed splice boxes at exterior ceiling panels.
 - 7. Doors:
 - a. 48-inch by 78-inch hinged flush swing type door, or as specified/shown on plans, and 4-inch insulation same as panels. 14-inch by 24-inch view windows in all doors, heated on freezer doors. Interior and exterior diamond 30-inch tread kick plate.
 - b. Chrome-plated positive door-latch and handle with interior safety release and mortise deadbolt lock assembly.
 - c. Three (3) hinges per door, NSF-approved, chrome-plated, self-closing from a 90-degree open position, cam-action.
 - d. Hydraulic door closure equal to Kason 1094.
 - e. All doors accessing walk-ins are to have locks keyed alike.
 - 8. Fluorescent 2-lamp fixtures or 12-inch by 12-inch light fixtures with two (2) 100 watt lamps with base-plate and Lexan diffuser controlled by interior/exterior light switch (3-way or 4-way) as shown on plans and itemized specifications.

9. Digital temperature alarm system, with constant "LED" read-out display, audio warning buzzer, and remote sensor, with high-low setting and twisted pair data capability, equal to Modular Corp. Model # 75.
- E. Provide permanently mounted trim and closure panels (of material to match exterior panel surfaces) between top of compartments and finished ceiling; and closure strips between wall panels and architectural walls or columns.

2.8 REFRIGERATION SYSTEM

- A. Assembly to consist of compressors, condensers and evaporators, as required for the Coolers/Freezers and any accessories required for a completely installed and functional system.
- B. Pre-assembled remote refrigeration:
 1. The compressor shall be accessible semi hermetic type with suction and discharge service valves, crankcase heater, oil sight glass and oil charging connection. Compressor shall have an operating oil charge. Compressor motor shall be high torque, semi-hermetic induction type, and shall be protected against overload, single phasing, and locked motor conditions and meet Montreal Protocol.
 2. Condenser shall be sized to a minimum of 15 degree Fahrenheit TD, medium temp and low temp compressors. Condenser coil shall be constructed of seamless copper tubes arranged in a staggered pattern and mechanically expanded into high efficiency rippled aluminum fins for maximum heat transfer or as specified.
 3. Provide pump-down cycle kits, refrigeration lines, insulation, thermo-expansion valves, refrigerant, pressure relief valves and inlet/outlet shut-off valves.
- C. Refrigeration systems shall include start up and one-year service and maintenance contract in addition to the regular two-year guarantee as stated in the General Conditions, plus, an additional four (4) year pro-rated guarantee on compressors. This includes refrigerators, ice cream cabinets, icemakers, freezers, dispensers, or any other refrigerated items.

2.9 ELECTRICAL WORK - GENERAL REQUIREMENTS

- A. Before ordering equipment, confirm with the serving electric utility, all pertinent electrical requirements such as actual voltages available, number of phases and number of wires in the system. Coordinate also with any electrical service provide with other Divisions.
- B. Components and assemblies shall bear the U.L., RU or ETL label or be approved by the prevailing authority.
- C. Custom fabricated standard refrigerator units shall be provided with vapor tight receptacles, shatterproof lamps and automatic switches. All wiring shall be concealed when possible.

2.10 CORDS AND PLUGS

- A. Where cords and plugs are used, they shall comply with National Electrical Manufacturer's Association (N.E.M.A.) requirements.

PART 3 EXECUTION

3.1 GENERAL INSTALLATION OF EQUIPMENT

- A. Supervision: A competent superintendent, representing the Contractor shall be present during progress of the work.

3.2 TRIMMING AND SEALING EQUIPMENT

- A. Any space between units to walls, ceilings, floors and adjoining units, not portable, shall be completely sealed against entrance of food particles or vermin by means of trim strips, welding, soldering, or commercial joint material suitable to the nature of the equipment.

- B. Sealer, when not exposed to extreme heat, shall be silicone construction sealant in appropriate color.
- C. Ends of hollow sections shall be closed.
- D. Enclosed fixtures without legs mounted on masonry bases or floor shall be sealed watertight to base or floor.

3.3 CUTTING AND FITTING

- A. Cutting and fitting required on the equipment by subcontractors to make their work fit.
- B. Should any repairs to foodservice equipment be required due to neglect of other contractors, all extra charges and all anticipated repairs shall be noted in writing before work is performed. In case this Contractor does not follow this procedure, the expense shall be borne by him.
- C. No cutting, notching, drilling, or altering of any kind shall be done to the building without first obtaining permission.

3.4 PROTECTION OF EQUIPMENT

- A. Be responsible during the progress of the project to protect equipment against theft and/or damage until final acceptance by the Owner.
- B. Prefabricated walk-in boxes, on-site and installed in advance of the rest of the equipment, shall not be used for general storage by other trades and shall be locked before leaving the site. Damage and/or theft resulting from failure to secure boxes will be repaired/replaced at Contractor's expense.

3.5 ITEMIZED LIST OF EQUIPMENT

ITEM 1: WALK-IN COOLERS/FREEZER

Manufacturer: American Panel 40x20x8 or 800 CF Modular

Alternate Mfg: Thermalrite, Duracold

Furnish and install as per manufacturers requirements.

1. Assembly to be 8" overall height, with recessed floor.
2. Enameled steel exposed exterior, stucco aluminum interior, white interior ceiling, remainder galvanized.
3. Two (2) lamp fluorescent light fixtures, per plan and light switches with pilot light.
4. Matching S/S trim strips to adjacent ceiling and walls.
5. Forty-eight (48") inch doors with view window, three (3) hinges, diamond tread kick plate and dead bolt lock.
6. Audio visual temperature alarms.
7. Insulated floor panels set in building floor recess. Flooring to be non-skid quarry tile
8. Three foot overhang to keep inclement weather off of personnel.
9. Quarry tile installed on floor with joint and tile sealer applied.

3.6 INSTALLATION

- A. Assemble walk in units and install refrigeration equipment as described in the respective manufacturer's instructions. Make panel joints tight and seal all panel penetrations to prevent condensation or frosting.

3.7 REFRIGERATOR/FREEZER START UP, AND PERFORMANCE TESTS AND INSTRUCTIONS

- A. **Start up Temperature Reduction:** On start up, reset the room thermostats daily for a maximum temperature drop of 8 degrees, on C scale (15 degrees on F scale per day down to 2 degrees C (36 degrees F), and a maximum of 6 degrees on C scale, (10 degrees on F scale) per day between 2 degrees C (36 degrees F) and final operating temperature.
- B. **Perform tests.** Operate each system and record conditions hourly for eight hours. Submit the following information:
1. Station, Building and System Identification, Contractor, Date and Time.
 2. Compressor nameplate data: Make, model, horsepower, RPM, refrigerant and charge in pounds.
 3. Compressor operation: Approximate percentage running time, pressure gage readings, actual amps (starting and running), condenser water temperature in and out, or condenser entering air temperature.
 4. Room temperatures.
 5. Defrost and drain functions of unit coolers. Demonstrate alarm functions.

END OF SECTION

SECTION 26 05 19

WIRE & CABLE

PART 1 GENERAL

1.1. RELATED WORK ELSEWHERE

- A. Section 26 05 33: Conduit and Fittings
- B. Section 26 05 26: Grounding

1.2. QUALITY ASSURANCE

- A. All wire and cable shall comply with applicable standards of the Underwriters Laboratories, Inc.
- B. Certify to the Engineer that all terminations made where a crimping tool is required, have been made using a crimping tool approved by the lug manufacturer.

1.3. PRODUCT DELIVER, STORAGE, AND HANDLING

- A. Deliver materials and equipment to project site in manufacturer's original packaging with labeling showing product name, brand, model, project name, address, and Contractor's name. Store in a location as agreeable with Contracting Officer, secure from weather or accidental damage.

PART 2 PRODUCTS

2.1. LABELING

- A. Electrical conductors for power shall be delivered to the job site plainly marked or tagged on 24" centers as follows:
 - 1. Underwriters Label
 - 2. Gauge
 - 3. Voltage
 - 4. Kind of Insulation
 - 5. Name of Manufacturer
 - 6. Trade Name
- B. Conductor labels shall be white PVC tubing with machine printed black marking. Tubing shall be sized to fit conductor insulation. Adhesive strips are not acceptable.

2.2. INSULATION

- A. All conductors #10 and smaller shall be 600 volt, type THWN, or THHN except as noted otherwise.
- B. All conductors #8 and larger shall be 600 volt, type THWN, XHHW, or THHN except as noted otherwise.
- C. All circuit conductors installed within fluorescent fixture raceways shall be 600 volt, 105-degree type, RHH, or THHN except in fixtures that have wiring raceways specifically approved for 75 degree Centigrade wire.

2.3. CONDUCTORS

- A. Unless specifically noted otherwise herein, all conductors for general wiring shall be a minimum of 98% conductivity, stranded, soft drawn copper.
- B. All conductors for control wiring shall be stranded copper only.

- C. Except where noted on the plans or in this specification, the minimum conductor size shall be #12.
- D. Armored cable (Type AC or MC Cable), a fabricated assembly of insulated conductors in a flexible metallic enclosure, is not permissible for use on this project, except for lighting fixture whips.
- E. Nonmetallic-Sheathed Cable (Type NM and NMC), a factory assembly of two or more insulated conductors having and outer sheath moisture resistant, flame retardant, non-metallic material, is not permissible for use on this project.
- F. All conductors shall have identical color insulation from circuit breaker or control panel to load or device.

2.4. PULLING LUBRICANT

- A. Wire pulling lubricant shall be UL or Factory Mutual approved wire-pulling compound.

2.5. CONNECTIONS

- A. Wire nuts for joints, splices and taps for conductors #8 and smaller shall consist of a cone shaped expandable coil spring insert, insulated with a Teflon or plastic shell. Threaded or crimp types will not be accepted. Use "Skotchlock", "Hydent", or equal.
- B. Terminals for stranded conductors #8 and smaller shall be a pre-insulated crimp type.
- C. Lugs and connectors for conductors #6 and larger shall be compression types of one-piece tubular construction with flat rectangular tongues. Two-hole lugs shall be used for sizes 4/0 and larger. Fittings for copper conductors shall be tin-plated copper. Fittings for aluminum conductors shall be tin-plated aluminum, factory filled with a corrosion inhibiting and oxide-penetrating compound.
- D. Electrical tape shall be UL approved plastic.

2.6. GROUNDING WIRE

- A. #12 AWG minimum, tinned, stranded copper conductor with green color insulation.
- B. Isolated ground conductors shall be #12 AWG minimum tinned, stranded copper with green color insulation and yellow tracer.

PART 3 EXECUTION

3.1. CLEANING

- A. All debris and moisture shall be removed from raceways, boxes, and cabinets before installing wire or cable.

3.2. PULLING

- A. No oil, grease or similar substances shall be used to facilitate the pulling in of conductors. Use a specifically approved anti-static wire-pulling compound.
- B. No wire or cable shall be pulled in until all construction, which might damage insulation or fill conduit with foreign material, is completed.
- C. Wire shall be pulled into conduits with care to prevent damage to insulation. Use basket-pulling grips to avoid slipping of insulation on conductors. Nylon rope or other "soft" surfaced cable must be used for pulling in conduits other than steel.

- D. Provide a mandrel pull in all switchboard and panel board feeder conduits prior to installing conductors.

3.3. CONNECTIONS

- A. Stranded conductors #8 and smaller shall be terminated with terminals of appropriate size where connected to screw type lugs.

Joints, splices and taps in dry locations for conductors #8 and smaller shall be made with twiston connectors suitably sized for the number and gauge of the conductors.

- B. Furnish and install proper lugs in all panel boards, switchboards and gutters as required to properly terminate every cable. Where paralleled conductors or conductors of large size are to terminate on a breaker, a short length of copper cable (of capacity of the breaker) shall be connected to the breaker, and the proper compression type lug installed to connect this cable to the feeder cable. The cutting of cable strands to fit the breaker will not be permitted.
- C. Connections of copper to aluminum bus bars and lugs shall be made using Belleville washers and flat washers to compensate for differing rates of thermal expansion.
- D. Only crimping tools approved by the manufacturer of the terminals or lugs shall be used.
- E. Uninsulated lugs and wire ends shall be insulated with layers of plastic tape equal to insulation of wire and switchboards, with all irregular surfaces properly padded with insulating putty prior to application of tape. Wire in panels, cabinets, pull boxes and wiring gutters shall be neatly grouped together and laced with #12 standard lacing twine, or cable ties.
- F. In underground locations, joints, splices and taps shall be insulated by the "Skotchcast" epoxy resin method.

3.4. COLOR CODING AND LABELING

- A. All wiring shall be color coded as follows:

277/480V 120/208V
Phase A: Brown Black
Phase B: Orange Red
Phase C: Yellow Blue
Neutral: Gray White
Ground: Green Green

- B. In addition to color coding, all power, control and alarm wiring shall be numbered and identified by means of wire markers at all switchboards, panel boards, auxiliary gutters, junction boxes, pull boxes, receptacle outlets, light outlets, disconnect switches, and circuit breakers. These markers shall correspond to numbers on shop drawings.

3.5. FIELD QUALITY CONTROL

- A. Operating Test: After installation has been completed, Contractor shall conduct an operating test. The equipment shall be demonstrated to operate in accordance with the requirements of this section of the specifications. Contractor shall furnish necessary instruments and personnel required for test.

SECTION 26 05 26
GROUNDING

PART 1 GENERAL

1.1. DESCRIPTION

- A. This section describes general requirements, products and methods of execution relating to the furnishing and installation of a grounding system complete as required for this project.

1.2. MINIMUM REQUIREMENTS

- A. The minimum requirement for the system shall conform to Article 250 of the NEC.

1.3. SPECIAL REQUIREMENTS

- A. Unless specified elsewhere, the ohmic values for grounds and grounding systems shall be as follows:
1. For grounding metal enclosures and frames for electrical and electronically operated equipment--5 ohms maximum.
 2. For grounding systems which electrical utilization equipment and appliances are connected--5 ohms maximum.
 3. For grounding secondary distribution systems, neutrals, non-current carrying metal parts associated with distribution systems, and enclosures of electrical equipment not normally within reach of other than authorized and qualified electrical operating and maintenance personnel--10 ohms maximum.

PART 2 PRODUCTS

2.1. PRODUCTS

- A. All grounding conductors, ground rods, and equipment required for ground systems shall be in accordance with UL 467 and as follows:
1. Grounding conductor for building service ground to be bare copper sized in accordance with NEC Article 250
 2. Grounding conductor for telephone service entrance and panels to be #8 bare copper, with 6'-0" slack cable at each panel
 3. Grounding conductor for security electronics equipment locations shall be #6 bare copper with 6'-0" slack cable at each location

2.2. CONNECTIONS

- A. Joints in grounding conductors and mats below grades shall be made with solderless compression connections or with AMPACT TAP equipment. Terminations above grade shall be made with solderless lugs, securely bolted in place.

PART 3 EXECUTION

3.1. SERVICE GROUND

- A. Create an equipotential plane for the grounding system for this project at the service entrance equipment by connecting the following to the service entrance ground bus:
1. The commercial system's grounded neutral conductor for transformer neutrals
 2. All metallic water services to the building.
 3. All "man-made" grounds specified to be installed
 4. The service entrance equipment and all conduits entering and leaving the equipment
 5. The metallic gas mains entering the building past the gas meter, if gas service is installed
 6. Reinforcing steel in slab and/or footings

- 7. Structural steel columns (one, minimum)
- 8. Other items or equipment called for on the drawings

B. Current carrying capacity of the grounding and bonding conductors shall be in conformity with table 250-94 of the NEC.

3.2. "MAN-MADE" GROUND

A. "Man-made" ground shall consist of an "Ufer Ground" as shown on the plans. The "man-made" ground shall be tested with an approved measuring device, such as "Vibroground", in order to verify that resistance does not exceed the specified level.

B. Furnish certified test results.

3.3. EQUIPMENT GROUND

A. The raceway system shall be bonded in conformity with NEC requirements to provide a continuous ground path. Where required by code or where called for on the plans, an additional grounding conductor shall be sized in conformity with table 250-95 of the NEC.

B. Provide separate grounding conductor securely bonded and effectively grounded to both ends of all conduits.

3.4. TRANSFORMER GROUNDS

A. Transformer secondary alternating current grounding electrode conductor shall be sized in accordance with NEC Table 250-94 and shall be run continuous, unbroken to the main switchboard ground bus.

B. In addition to the grounding electrode conductor in 3.04-A, and equipment grounding conductor sized in accordance with NEC Table 250-95 shall also be provided, connecting the transformer enclosure to the main switchboard ground bus.

END OF SECTION

SECTION 26 05 33
CONDUIT & FITTINGS

PART 1 GENERAL

1.1. DESCRIPTION

- A. This Section describes specific requirements, product, and methods of execution relating to conduit and conduit fittings approved for use on this project. Type, size and installation methods shall be as shown on drawings, required by code and specified in the following.

1.2. QUALITY ASSURANCE

- A. Conduit and conduit fittings shall be standard types and sizes as manufactured by a nationally recognized manufacturer of this type of materials and be in conformity with applicable standards and UL listings.

PART 2 PRODUCTS

2.1. CONDUIT

- A. Conduit types approved for use on this project shall be of the following types:
 1. Galvanized rigid steel conduit - GRC
 2. Intermediate metal conduit - IMC
 3. Rigid copper-free aluminum conduit
 4. Electrical metallic tubing – EMT
 5. Schedule 40, polyvinyl chloride conduit – PVC
 6. Flexible metallic conduit
 7. Liquid-tight flexible non-metallic conduit – LT

2.2. FITTINGS

- A. Fittings utilized with rigid steel and aluminum shall be galvanized steel or iron or copper-free aluminum weatherproof threaded type. Conduit bushings shall be of the insulated types. Where grounding bushings are required, insulated grounding bushings with pressure type lugs shall be provided.
- B. Couplings and connectors for EMT shall be made of galvanized steel or malleable iron. All connectors shall have insulated throats.
- C. Fittings for PVC 40 shall be polyvinyl chloride, installed using PVC solvent to form a watertight joint, except elbows shall be galvanized rigid steel.
- D. Fittings for flexible metal conduit shall be steel only.
- E. Fittings for liquid-tight flexible conduit shall be steel, of a type incorporating a threaded grounding cone, nylon or plastic compression ring, and a tightening gland, providing a low resistance ground connection. All throats shall be insulated.
- F. Provide compression type fitting for all conduit. Set screw type fittings will NOT be allowed

2.3. SURFACE MOUNTED METALLIC RACEWAYS:

- A. Steel with grounded receptacles, complete with outlets on centered spacings as called for on the drawings. Raceway shall be grounded and UL listed.

- B. Acceptable manufacturers: Wiremold Co., Walkerdect, or Panduit.
- C. Plugmold shall be single cell two-piece metallic raceway. Wiremold 3000 series or equal, provide grounded duplex receptacles spaced as noted on plans.

2.4. CONDUIT SUPPORTS:

- A. Pipe hangers for individual conduits shall be factory made, consisting of a pipe ring and threaded suspension rod. The pipe ring shall be springable wrought steel. Rings shall be bolted to or interlocked with the suspension rod socket.
- B. Pipe racks for groups or parallel conduits shall be constructed of galvanized structural steel preformed channels of length as required, suspended on threaded rods and secured thereto with nuts above and below the cross bar.
- C. Factory made pipe straps shall be two-hole galvanized clamps.

2.5. OUTLET BOXES:

- A. Outlet boxes shall be galvanized steel type.
- B. Outlet boxes for surface raceways exposed in public areas shall be Wiremold or equal. Paint to match adjacent surfaces.

2.6. PULL BOXES AND CABINETS:

- A. All pull boxes and cabinets shall be code gauge galvanized steel.

2.7. CONDUIT SEALS:

- A. Conduit seals shall be fire-retardant silicone foam formed in place by the mixing of two liquid components. Comply with ASTM E-119 and Underwriters' Laboratories, Inc.
- B. Manufacturers as follows; or equal:
 1. Dow Corning 3-8548 RTV
 2. Chase Technology Corp. - CTC PR-855
 3. 3M CP 25 Caulk or 3M 303 Putty

PART 3 EXECUTION

3.1. USES PERMITTED

- A. Conduits shall be of the size shown on the drawings or as required by the NEC, whichever is larger. Minimum size of conduit shall be 3/4-inch. Base sizes on using Type THW wire for wires size #6 AWG and larger. Basis type may be THWN for size #8 AWG and smaller. Conduits installed in the following locations shall be of the types specifically identified only:
 1. Underground or encased in concrete - Pabco wrapped or PVC coated rigid steel or PVC-40.
 2. Outdoors aboveground or damp locations - rigid steel, or IMC.
 3. Dry indoor locations, concealed - rigid steel, rigid aluminum, EMT or flexible conduit, IMC.
 4. Dry indoor locations exposed – rigid steel only.
 5. Motor, transformers and vibrating equipment flexible connections - liquid-tight flexible conduit, minimum 3 feet, maximum 6 feet conduit length.

3.2. INSTALLATION METHODS

- A. All conduit and tubing shall be cut square and reamed smooth at the ends and all joints made tight. Conduit threads shall be lubricated with an approved thread lubricant.
- B. Exposed raceways shall be run parallel to or perpendicular to building lines and bent symmetrically or made up with standard elbows or fittings. Concealed raceways shall be routed as directly as possible with a minimum of bends. Exposed raceways in public areas shall be Wiremold or equal, painted to match adjacent surfaces.
- C. Liquid-tight flexible conduit with supplemental ground jumper shall be used for all motor connections. The ground jumper in flexible conduits shall be within the conduit.
- D. Each conduit shall enter and be securely connected to a cabinet, junction box, pull box or outlet box by means of a locknut on the outside and a locknut and bushing on the inside, or by means of a liquid-tight, threaded, self-locking, cold-weld type wedge adapter. In EMT or flexible metal conduit, the one locknut shall be made wrench tight. All locknuts shall be the bonding type with sharp edges and shall be installed in a manner that will assure a locking installation. Locknuts and bushings or self-locking adapters will not be required where conduit is screwed into threaded connections. All runs of conduit shall be protected from the entrance of foreign material prior to the installation of conductors.
- E. Conduit or tubing deformed or crushed in any way shall not be installed. Conduit shall be bent only with approved bender (hydraulic or hickey). Bending machines shall be used to make field bends in conduit of 1-1/4" size and larger. Torches shall not be used in making conduit bends.
- F. Raceways shall be run at least 5" from parallel runs of heating system pipes, flues, or other high temperature piping systems.
- G. Pull wires shall be left in all spare and unused conduits. (Nylon "jet-line" or equal)
- H. All conduits stubbed up out of floor and termination inside of an enclosure shall have insulating grounding bushings installed.
- I. Raceways penetrating vapor barriers or traversing from warm to cold areas shall be sealed with a non-hardening duct-sealing compound to prevent the accumulation of moisture.
- J. Raceways shall be provided with expansion joints where necessary to allow for thermal expansion and contraction.
- K. The entire electrical raceway system shall form a continuous metallic electrical conductor from service point to every outlet and shall be grounded by connection to the main service ground.
- L. Rigid Steel conduit shall have threads filled with conductive sealant before screwing into fittings.
- M. A ground wire shall be installed in all PVC and flexible conduit, as required by code.
- N. Secure conduit with straps or hangers manufactured for the purpose. Do not notch structural members for the passage of raceways. All conduit shall be securely fastened to the building structure.
- O. If conduit runs penetrate a firewall, then rigid steel conduit shall be used for a Minimum of 3 feet on each side of the firewall penetration.

END OF SECTION

SECTION 26 05 73

OVERCURRENT PROTECTION

PART 1 GENERAL

1.1. DESCRIPTION

- A. This section describes general requirements, products, and methods of execution relating to overcurrent protective devices approved for use on this project. Type, duty rating and characteristics, fault interrupting capability and coordination requirements shall be determined from the plans and the following specifications.

1.2. QUALITY ASSURANCE

- A. Devices shall be the latest approved design as manufactured by a nationally recognized manufacturer and in conformity with applicable standards and UL listings.

PART 2 PRODUCTS

2.1. MOLDED CASE CIRCUIT BREAKERS

- A. Molded case circuit breakers shall be suitable for individual as well as panel board mounting. Bolt-on type, unless specifically allowed. No breakers designated "plug-on" type allowed.
- B. The breakers shall meet current NEMA and UL specifications as applicable to frame size, standard rating and interrupting capability.
- C. The breakers shall be one-, two-, or three-pole as scheduled, operate manually for normal ON/OFF switching and automatically under overload and short circuit conditions.
- D. Operating handle shall open and close all poles simultaneously on a multi-pole breaker. Operating mechanism shall be trip-free so that contacts cannot be held closed against abnormal overcurrent or short circuit condition.
- E. Circuit breakers designated on drawings to be installed into existing distribution equipment shall match existing short circuit ratings.

2.2. FUSIBLE SWITCHES

- A. Fusible switches shall be designed for individual mounting as specified in Section 26 28 16 - DISCONNECTS, or for panel board mounting.
- B. Switches designed for panel board mounting shall have the same properties as specified for the individually mounted switches.
- C. Switches shall conform to NEMA and UL 67 standards.
- D. Switches shall be used in conjunction with fuses as specified in the following in order to constitute a complete "Overcurrent Protective Devices"

2.3. FUSES

- A. Fuses of the sizes and types specified on the drawings or as required by equipment manufacturers shall be installed. Fuses shall be capable of interrupting the prospective symmetrical fault current. Furnish one complete set of spare fuses of each rating installed to the Owner. Provide fuse puller(s) for fuse sizes used.

PART 3 EXECUTION

3.1 RATINGS

- A. Size devices as shown and specified, or as required by the load being served**

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 GENERAL

1.1. DESCRIPTION

- A. This section describes general provisions, products and methods of execution relating to line voltage-wiring devices approved for use on this project.

1.2. QUALITY ASSURANCE

- A. Manufacturers mentioned and catalog number specified are for establishment of type, configuration and quality. Other manufacturers and types may be submitted for approval.

PART 2 PRODUCTS

2.1. DEVICES

- A. Provide wiring devices indicated. Catalog numbers shown are Hubbell unless noted otherwise. Equal devices manufactured by Pass and Seymour, Leviton, Bryant, Slater and G.E. are acceptable. Provide all similar devices of same manufacturer. Devices and device plates shall be ivory color unless noted otherwise on drawings. Provide weatherproof where so noted on drawings.

2.2. SWITCHES

- A. Provide 20 Amp, 120-277V rated switches with UL listing for tungsten lamp loads or inductive loads without derating. Switches shall be as follows:
 1. 20A
 2. Single Pole CAT. NO. 1221-I
 3. Three-Way CAT. NO. 1223-I
 4. Four-Way CAT. NO. 1224-I
 5. Key Operated CAT. NO. 1221-L
 6. Momentary Cont. CAT. NO. 1557-I
 7. Double Pole CAT. NO. 1222-I
 8. Pilot Switch CAT.NO.1221-PL
 9. 3-Way Pilot Switch CAT. NO. 1223-PL
- B. Multiple 277V switches shall be installed in partition boxes. Other switch types shall be provided as called for on the drawings or as required by the application.

2.3. RECEPTACLES

- A. Provide grounding type receptacles as follows, or as required to match equipment furnished in this or other divisions. Single phase, 3-wire devices:
 1. 15A-125V CAT. NO. 5262-I NEMA #5-15R
 2. 15A-125V GFCI CAT. NO. GF-5262-I NEMA #5-15R
 3. 15A-125V Iso. Gmd. CAT. NO. IG-5262 NEMA #5-15R
 4. 15A-250V CAT. NO. 5662-I NEMA #6-15R
 5. Clock hanger 125V CAT. NO. S-373-3SS NEMA #5-15R
 6. 20A-125V CAT. NO. 5362-I NEMA #5-20
 7. 20A-125V GFCI CAT. NO. GF-5362-I NEMA #5-20R
 8. 20A-125V Iso. Gmd. CAT. NO. IG-5362 NEMA #5-20R

9. 20A-250V CAT. NO. 5462-I NEMA #6-20R

- B. Outlets requiring ratings color and configurations different from those listed above shall be provided as shown on the plans and/or required by the equipment served.

PART 3 EXECUTION

3.1. COVER PLATES

- A. Install all wiring devices indicated complete with cover plates. Cover plates shall fit snugly against finished surfaces and line up true with adjacent building lines, and be symmetrical in location and appearance.

3.2. SWITCHES

- A. All switches shall be installed so their handles move in a vertical plane.
- B. Door swings shall be checked and, if necessary, switches shall be relocated to place them on the strike side of the door.

3.3. RECEPTACLES

- A. Receptacles shall not be placed back-to-back in adjacent rooms. They shall be offset at least 12".
- B. Unless otherwise noted on the drawings, receptacles shall be installed in the vertical position with the grounding pin down.

END OF SECTION

**SECTION 32 05 00
SITE CONCRETE WORK**

PART 1 - GENERAL

1.1 SCOPE

- A. Requirements of the General Conditions, Supplementary General Conditions and Division 1 apply to work of this section.
- B. Furnish all labor, materials, services, equipment and appliances required to perform all work to complete the Contract, including, but not limited to, these major items:
 - 1. Concrete - Plain and reinforced
 - 2. Formwork
 - 3. Equipment and light standard bases
 - 4. Placing of bolts, anchors and inserts, as indicated or required
 - 5. Concrete finish
 - 6. Concrete curbs and gutters.
 - 7. Concrete sidewalks.

1.2 RELATED WORK IN OTHER SECTIONS

- A. Section 31 10 00: "Site Clearing and Earthwork"
- B. Section 32 05 23: "Concrete Curbs, Gutters & Paving"

1.3 REFERENCE STANDARDS

- A. Comply with all City, County and State Codes, and conform to all local authorities having jurisdiction over the project.
- B. Comply with the City of Modesto Public Works Standard Plans and Specifications for work in Public Right-of-Ways.
- C. American Society for Testing and Materials (ASTM)
 - 1. C33 Concrete Aggregate
 - 2. C94 Ready-Mixed Concrete
 - 3. C143 Slump of Portland Cement Concrete
 - 4. C150 Portland Cement
 - 5. C171 Sheet Materials for Curing Concrete
 - 6. C231 Air Content of Freshly Mixed Concrete by the Pressure Method
 - 7. C260 Air Entraining Admixtures for Concrete
 - 8. C309 Liquid Membrane-Forming Compounds for Curing Concrete
 - 9. C494 Chemical Admixtures for Concrete
 - 10. C920 Elastomeric Joint Sealants
 - 11. C962 Guide for Use of Elastomeric Joint Sealants
 - 12. C1028 Standard Test Method for Determining the Static Coefficient of Friction
- D. American Concrete Institute ACI:
 - 1. 316R Recommendations for Construction of Concrete Pavements and Concrete Bases.

1.4 SUBMITTALS

A. Submit Following Product Data:

1. Materials list of items proposed to be provided under this Section.
2. Form release agent.
3. Concrete coloring additive.
4. Prefabricated control joint.
5. Performed joint filler.
6. Joint sealants
7. Material components that make-up the concrete mix design including admixtures as applicable, Include chemical composition and strength analysis report from the aggregate supplier.
8. Manufacturer's specifications, certificates, and other data needed to prove compliance with the specified requirements.
9. Concrete Mix Design: Submit mix design for each type and strength of concrete a minimum of two weeks prior to start of concrete work. Do not begin concrete production until each concrete mix design is reviewed by the Architect.
10. Material Certificates: Provide in lieu of materials laboratory tests reports only when permitted by the Architect. Material certificates shall be signed by the manufacturer and the Contractor to certify that each item complies or exceeds the specified requirements.

B. Shop Drawings: Submit for structural concrete and concrete slabs showing dimensioned locations, types of construction and expansion joints, and method of keying.

C. Delivery Tickets: Provide delivery ticket with each transit truck, signed by an authorized representative of the batch plant, containing all information required by ASTM C94, as well as mix design, time batched, type and brand of cement, cement content, maximum size of aggregate and total water content.

1.5 QUALITY ASSURANCE

A. Unless otherwise specified, work and materials for construction of the Portland cement concrete paving shall conform to ACI 316R.

B. Work, materials, and color of the handicap ramp paving shall conform to applicable sections of the California Building Code and the Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

C. Paving work, base course etc., shall be done only after excavation and construction work that may damage completed surfaces have been completed. Any damage caused during construction shall be repaired or replaced prior to acceptance.

D. Existing paving areas shall, if damaged or removed during the course of this project be repaired or replaced under this section of the specification. Materials and workmanship used for such repairs and replacements, unless otherwise noted shall match as closely as possible to existing surfaces.

E. New and replacement work consisting of pavements, curbs, base, or sub-base shall not be executed until sub-grade conditions are in conformance with the earthwork section.

1.6 REQUIREMENTS

- A. Concrete Work In The Public Right-of-Ways: Construct street sidewalks, curbs, gutters, and like items, in dedicated Right-of-Ways in accordance with the Standard Plans and Specifications of the City of Modesto. Secure and pay for required permits and inspections.

1.7 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: Conform to ASTM C1028 (modified for field testing).
 - 1. Level Surfaces: A minimum of 0.6
 - 2. Step Treads: A minimum of 0.6
 - 3. Ramp Surfaces: A minimum of 0.8

1.8 COORDINATION

- A. Coordinate site concrete work with work in other sections of these specifications

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: Type II cement conforming to ASTM C150, Modified.
- B. Concrete Aggregate: Comply with Title 24, CCR, Part 2, Section 1903 (a)
 - 1. Coarse Aggregate: Uniformly graded and clean gravel, crushed gravel, crushed rock, or combinations thereof maximum size 1", free from vegetable matters and other deleterious substances, of approved source, conform to ASTM C33. Do not use aggregate known to be reactive or cause excessive shrinkage.
 - 2. Fine Aggregate: Natural sand or a combination of not less than 50% natural and manufactured sand, free from deleterious coatings, roots, bark, sticks, rags and other extraneous material.
- C. Aggregate Base Course: Provide standard Cal Trans Class II base conforming to Section 26 of the CalTrans specifications, ¾" maximum AB size, where required on the plans.
- D. Water: Clean, free from deleterious amounts of acids, alkalis, salts, or organic materials and potable.
- E. Concrete Curing Compound: Clear membrane forming product conforming to ASTM C 309, Type 1-B sprays on white and dries translucent water based. W.R.Meadows 1100, Master Builders "Master-100W", Euclid "Kurez" or equal complying with Federal Air Quality Regulation 40, CFR 52.254. No sodium silicate curing aid surface hardeners will be allowed
- F. Reinforcing Bars: Conform to ACI 318 and ASTM A615 Grade 60, clean, free of paint and loose rust scale.
- G. Forms: Conform to lines and dimensions shown, mortar-tight, rigid and tied to prevent sagging or displacement. Form ties and similar accessories shall be such that all metal will be at least one (1) inch from surface when forms are stripped. Earth forms will not be permitted for paving.
- H. Through Joints Typical Non-Metallic Expansion: Isomeric polymer extruded foam material, conforming to ASTM D1752, Modified of thickness and sizes required or noted on Drawings. Fiber expansion joint filler conforming to ASTM D1751, allowed only with prior approval of Architect.

2.2 PORTLAND CEMENT CONCRETE

- A. Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 0.50 conforming to ACI 316R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading-650psi; compressive strength 2,500psi.

- B. Concrete shall be air-entrained type, conforming to ASTM C94. Air content by volume shall be $6\% \pm 1\%$, and shall be tested in accordance with ASTM C231.
- C. Concrete slump shall be no less than 2 in. nor greater than 3 in., determined in accordance with ASTM C143.
- D. Cement shall be Portland cement, conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer shall be used for the work.
- E. Fine and coarse aggregates shall conform to ASTM C33.
- F. Concrete shall contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C494.
- G. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Architect in each case.

2.3 CURING MATERIAL FOR UNCOLORED CONCRETE

- A. Curing shall be by moist curing or by use of curing compound.
- B. Curing paper shall be non-staining, fiber reinforced laminated Kraft bituminous product conforming to ASTM C171. Four-mil polyethylene sheeting may be substituted for curing paper.
- C. Curing compound shall be a resin-based, white pigmented compound conforming to ASTM C309, Type 2.

PART 3 - EXECUTION

3.1 PROCEDURES

- A. Conform to City of Modesto Public Works details for all work within city right-of-ways.

3.2 FINAL PREPARATION OF SUBGRADES

- A. Areas to be paved will be compacted and brought to sub-grade elevation per soils report before work of this section is performed. Final fine grading, filling and compaction of areas to receive paving, as required to form a firm, uniform, accurate and unyielding sub-grade at required elevations and to required lines, shall be done under the work of this Section.
- B. Existing sub-grade material that will not readily compact as required shall be removed and replaced with satisfactory materials. Additional materials needed to bring sub-grade to required line and grade and to replace unsuitable materials removed shall be a material conforming to this Section and as approved by the geotechnical engineer.
- C. Sub-grade of areas to be paved shall be re-compacted per project soils report.
- D. Excavation required in pavement sub-grade shall be completed before fine grading and final compaction of sub-grade are performed. Where excavation must be performed in complete sub-grade, sub-base, base, or pavement, subsequent backfill and compaction shall be performed per project soils report.
- E. Areas being graded or compacted shall be kept shaped and drained during construction. Ruts greater than or equal to 2 in. deep in sub-grade shall be graded out, reshaped as required and re-compacted before placing pavement.

- F. Materials shall not be stored or stockpiled on sub-grade.
- G. Disposal of debris and other material excavated under this section, and material unsuitable for or in excess of requirements for completing work of this section shall be disposed of off-site.
- H. Prepared sub-grade will be inspected by Soils Engineer. Sub-grade shall be approved before installation of Class II base course. Disturbance to sub-grade caused by inspection procedures shall be repaired under this section of the specification.

3.3 BASE COURSE

- A. Aggregate base course for paving and the spreading, grading, and compaction methods employed shall conform to Caltrans standards and the geotechnical inspector for a base course minimum of 4 inches where called for on the plans.
- B. Base course shall be compacted at optimum moisture content to not less than 95% of maximum density as determined by ASTM D 1557. Verify with Soils Report
- C. Sub-grade and base course shall be kept clean and uncontaminated. Materials that are less select shall not become mixed with gravel. Materials spilled outside pavement lines shall be removed and area repaired.
- D. Portions of sub-grade or of construction above which become contaminated, softened, or dislodged by passing of traffic, or otherwise injured, shall be cleaned, replaced or otherwise repaired to conform to the requirements of this specification before proceeding with next operation.

3.4 PORTLAND CEMENT CONCRETE PAVING

- A. Paving mix, equipment, methods of mixing and placing and precautions to be observed as to weather, condition of base etc., shall meet the requirements of ACI 316R. Pavement shall be constructed in accordance with the Drawings.
- B. The Architect shall be notified of concrete placement sufficiently in advance of start of the operation to allow his representative to complete preliminary review of the work including sub-grade, forms and reinforcing steel, if used.
- C. Normal concrete placement procedures shall be followed. Concrete shall arrive at the job site so that no additional water will be required to produce the desired slump. When conditions develop that required the addition of water to produce the desired slump, permission of the Architect must be obtained. Concrete shall be transported from the mixer to its place of deposit by a method that will prevent segregation or loss of mix materials.
- D. Work shall not be performed during rainy weather or when temperature is less than 40° F.
- E. Adjacent work, etc. shall be thoroughly protected from stain and damage during entire operation. Damaged and stained areas shall be replaced or repaired to equal their original conditions.
- F. Existing concrete, earth and other water-permeable material against which new concrete is to be placed, shall be thoroughly damp prior to concrete being placed. There shall be no free water on surface.
- G. Concrete that has set or partially set before placing shall not be employed. Re-tempering of concrete will not be permitted.
- H. Concrete shall be thoroughly spaded and tamped to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.
- I. When joining fresh concrete to concrete which has attained full set, the latter shall be cleaned of foreign matter, and mortar scum and laitance shall be removed by chipping and washing. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 in. thick, shall be well scrubbed into thoroughly dampened concrete. New concrete shall be placed immediately, before grout has dried or set.

3.5 FINISHING

- A. Concrete flatwork surfaces shall be screed off and finished true to line and grade, and be free of hollows and bumps. Surface shall be dense, smooth, and at exact level and slope required.
- B. Medium Broom Finish: Finish shall have direction of grooves in concrete surface perpendicular to length of concrete paving. After concrete has set sufficiently to prevent coarse aggregate from being torn from surface, but before it has completely set, brooms shall be drawn across to produce a pattern of small parallel grooves. Broom surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Aggregate shall not be dislodged by brooming operations.
- C. Immediately following trowel finish of flatwork, arises at edges and both sides of expansion joints shall be rounded to 1/4 in. radius. Control joints to be tooled shall be scored into slab surface with coring tool. Adjacent edges of control joint shall at same time be finished to 1/4 in. radius.
- D. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and shall be kept continuously moist from time of placing until end of curing period, or until application of curing membrane.

3.6 FINISHING PLACEMENT

- A. Tooling: Tool the edges of all joints in pavements.
- B. Pavement: The finish shall be medium sweated finish and be monolithic with structural slab. Compact freshly placed slab and screed uniformly to grade. Push large aggregate below the surface with screen tamper, screed and bull float. As soon as the surface becomes workable, wood float, then trowel to a uniform smooth surface. Follow by non-directional, even, and uniform medium sweated trowel finish. Comply with standard specifications for work in public ways. Maximum allowable tolerance to be 1/4" in 10'-0".
- C. Curbs and Gutters: Sack finish all curbs and gutters.
- D. Concrete Structures: Sack finish all exposed concrete to a smooth solid uniform finish.

3.7 CURING

- A. It is essential that concrete be kept continuously damp from time of placement until end of specified curing period. It is equally essential that water not be added to surface during floating and troweling operations, and not earlier than 24 hours concrete placement. Between finishing operations surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- B. Concrete surfaces shall be cured by completely covering with curing paper or application of curing compound.
- C. Concrete cured using waterproof paper shall be completely covered with paper with seams lapped and sealed with tape. During curing period surface shall be checked frequently, and sprayed with water as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.
- D. If concrete is cured with a curing compound, compound shall be applied at a rate of 200 sq. ft. per gallon, in two applications perpendicular to each other.

3.8 EXPANSION JOINTS

- A. Expansion joints shall be as located on the Drawings. Expansion joints shall be formed to require preformed joint filler in place. Joint filler shall extend the full depth of the slab unless otherwise indicated on Drawings. Joint filler shall extend the full length of the expansion joint.
- B. Reinforcement shall not extend continuously through any expansion joint.

- C. Expansion joint filler shall be performed, filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated. Use of multiple pieces of lesser dimensions to make up required depth and width of joint will not be permitted. Except as otherwise noted on the drawings, joint filler shall be 1/2 in. thick.

3.9 CONTROL JOINTS

- A. Joints indicated shall be saw cut by using diamond blades. Joint shall be made after concrete finishing and when the surface is stiff enough to support the weight of workmen and equipment without damage to the slab or finish. Saw cut shall be not less than 25% of slab depth.
- B. Score lines shall be tooled into the concrete slab in the pattern indicated on the drawings, or every 10'-0" O.C. maximum. Joint shall be made after concrete is finished and when the surface is stiff enough to support the weight of workmen without damage but before slab has achieved its final set.
- C. Control joints shall meet the requirements of weakened plane joints as noted in Standard Specifications for Public Works.
- D. Unless otherwise indicated on the Drawings, control joints shall be located 10'-0"oc. maximum.

3.10 CONSTRUCTION JOINTS

- A. Transverse construction joints shall be placed whenever placing of concrete is suspended for more than 30 minutes.
- B. Butt joint with dowels or thickened edge joint shall be used if construction joint occurs at location of control joint.
- C. Keyed joints with tie bars shall be used if the joint occurs at any other location.

3.11 SEALING OF JOINTS

- A. Where indicated on the Drawings, expansion joints and control joints in concrete banding and expansion joints in concrete walkways shall be sealed with joint sealant in accordance with the precautions specified in the appendix of ATSM C 962.

3.12 PROTECTION OF CONCRETE SURFACES

- A. Concrete surfaces shall be protected from traffic damage until surfaces have hardened. Use 1/2-inch thick plywood sheets to protect the exposed surface as necessary,
- B. Defective Work:
- C. Concrete under strength, out of line, level, plumb or showing objectionable cracks, honeycomb, rock pockets, voids, spilling, exposed reinforcing, etc., shall be repaired or replaced as directed by the Architect.
- D. All cleaning, patching and repairs shall be subject to Architect's approval.

3.13 CLEANING

- A. Clean and remove from the site all spillage, over pour, discarded forming materials, rejected work or materials and any other refuse or debris.

END OF SECTION

SECTION 32 12 16 ASPHALT CONCRETE

PART 1 - GENERAL

1.1 SCOPE

- A. Requirements of the General Conditions, Supplementary General Conditions and Division 1 apply to work of this section.
- B. Furnish all labor, materials, services, equipment and appliances required to perform all work to complete the Contract, including, but not limited to, these major items:
 - 1. Shaping and fine grading for paving
 - 2. Soil Sterilization
 - 3. Rock Base
 - 4. Asphalt Concrete for new surfaces
 - 5. Patch & repair existing paving inclusive of repair and reinforcement of new to existing adjoining pavement joints, as required.
 - 6. Patch and repair of existing surface paving to repair cracking and provide a fresh slurry coat sealer where noted on the plans.

1.2 RELATED WORK IN OTHER SECTIONS

- A. Section 31 10 00: "Site Clearing and Earthwork"
- B. Section 32 05 00: "Site Concrete Work"
- C. Section 32 17 00: "Paving Specialties"

1.3 REFERENCE STANDARDS

- A. PWC Spec: "Standard Specifications for Public Works Construction", latest edition, published by Building News Inc., Los Angeles, California.
- B. State Standard Spec: Standard Specifications-California Department of Transportation, (CalTrans).
- C. City of Modesto Standard Specifications.
- D. The Asphalt Institute / Asphalt Council of California
- E. American Society for Testing and Materials (ASTM)
 - 1. ASTM D422 Method for Particle-Size Analysis of Soils
 - 2. ASTM D2419 Test Method for Sand Equivalent Value of Soils and Fine Aggregate
- F. American Association of State Highway and Transportation Officials (AASHTO)

1.4 SUBMITTALS

- A. Materials list and product data of all items proposed to be provided under this Section.
- B. Certificates / certified analysis or certificate of compliance signed by the materials producer and the asphalt paving subcontractor stating that each shipment of materials meets or exceeds the specified requirements.
- C. Sampling Pavements and Mixtures: Furnish samples of specified thickness and density of the completed pavements. Cores drilled from the base and surface are to be used to test the density of the pavement using

either ASTM D1188 or ASTM D2726, whichever is applicable. The same cores used to test the density will be used to measure the thickness of the pavement. Any deficiency in base thickness shall be made up with the surface mixture when the surface course is applied. Furnish all tools and labor for cutting samples and replacing pavement in areas sampled.

- D. Submit samples of all accessory materials required under the work of this section.

1.5 REQUIREMENTS

- A. Comply with City of Modesto Public Works Requirements and Standard Specifications for Public Works Construction, 2006 Edition, for all work within the public right of-way.

1.6 QUALITY ASSURANCE

- A. Inspection: The Owner will provide special inspection to insure the quality and thickness of sub-base, base and pavements as specified; such inspection may include density testing, core sampling, etc.
- B. Inspection Report: Upon completion of the asphalt paving the special inspector shall submit a report including the following:
 - 1. Brief description of the paving work performed.
 - 2. Discuss any problems and the corrective measures undertaken.
 - 3. A statement that the work conforms to the specifications.
- C. Samples and Tests: The Owner will pay for density tests and core samples taken at random and at the discretion of the Owner's inspector. All tests and core samples that fail to meet the specification will require corrective action and retesting. Contractor shall pay for all corrective work and additional testing and / or coring. Contractor shall be notified immediately of such costs for which he is responsible.
- D. Source of Supply: Provide written certification from suppliers that all materials to be supplied meet the requirements of this specification. Furnish material weight tickets with each load delivered; these tickets will be collected at the jobsite with each delivery.
- E. Barricades: Asphalt concrete pavement shall be barricaded against use until the day following the completion of the surface.

1.7 JOB CONDITIONS

- A. Weather Limitations: Apply weed killers, tack coats, primers, construct pavements or apply sealers only when atmospheric temperature is 40 degrees F or above, not raining and when the underlying base surface is clean, dry and unyielding.

1.8 GUARANTEE

- A. Contractor shall repair or restore to a first-class condition any portion of the asphalt concrete paving placed under this contract in which creeping, shoving, cracking, raveling, softening or other defects due to improper placing or defective material that becomes apparent within one (1) year from date of completion. This guarantee shall include the extermination of vegetation that grows through paving. Repairs include the restoration of adjoining or applied materials and finish items. If such work is necessary prior to expiration of Guarantee it shall be performed in a manner that is acceptable to the owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. For all paving work provide the following:
 - 1. Provide materials in accordance with State of California Standard Specifications.

2. Aggregate Base Course: Aggregate Base shall conform to Section 26 of the CalTrans specifications and shall be Class II, ¾" maximum AB. Thickness shown on the plans shall be the minimum section allowed.
 3. Asphalt Tack Coat: SSPWC Section 302-5.4.
 4. Asphaltic Concrete: Asphalt Concrete shall conform to Section 39 of the CalTrans specifications and shall be type A Asphalt Concrete using AR4000 paving asphalt. Aggregate used in all but the final course shall be ¾" maximum, medium grading. Aggregate used in the final course shall be Type B, ½" maximum, medium grading.
 5. Asphalt Sealcoat: SSPWC Section 203-9.
- B. Rock Base: Shall be an approved decomposed granite, quarry run, conforming to Public Works Construction, Section 200-2.2 / CalTrans Class 1 or crushed miscellaneous base PWC Section 200-2.4 / CalTrans Class II. Rock shall be uniformly graded for size analysis and sand equivalent per ASTM D422 from coarse to fine to permit required compaction. Rock shall be free from vegetable matter, loam, clay or other deleterious substances. Base Aggregate Maximum Size: 3/4-inch
- C. Prime Coat: Provide SS-1 Grade liquid emulsion, SC-250. Bituminous prime coat shall be MC-250 or MC-70 and shall conform to ASTM D 2027. Application rate shall be 0.25 gallon per square yard of surface covered. Application temperature shall be as follows:
1. MC-250 140-225 degrees F. use for open surfaces
 2. MC-70 109-175 degrees F. use for open surfaces
- D. Asphalt Concrete Wearing Surfaces: Shall be Class C2 (Dense Medium) or D2 (Dense Fine), AR 4000 plant mix and shall consist of a mixture of asphalt cement and mineral aggregate consisting of coarse aggregate, sand and stone dust mixed by a central mixing plant. Asphalt content shall be 4.8-6.5% by weight of dry aggregate. The grading of the combined aggregates and the percentage of asphalt binders shall conform to the tabulations in which the percentages shown are based on the weight of dry aggregates only.
1. Temperature leaving the plant: 290 degrees F minimum, 320 degrees F maximum.
 2. Temperature at time of placing: 280 degrees F minimum.
- E. Weed Killer:
1. Provide a dry, free-flowing, dust-free chemical compound, non-flammable, soluble in water, and capable of being spread dry or in solution, per manufacturer's recommendations.
 2. Acceptable products as manufactured by "Chlorax 40": Chipman Chemical Company, Inc., Palo Alto, California; "Monobar-Chlorate": U.S. Borax and Chemical Corp., Los Angeles, California, DuPont "Oust", or equal.
- F. Asphalts: Comply with provisions of Asphalt Institute:
1. Asphalt Cement: Penetration grade 85-100. Asphaltic seal coat shall be emulsified asphalt conforming to ASTM D977 grades SS-1, SS-1H, CSS-1 or CSS-1H and shall be diluted with equal parts of water. The application rate shall be 0.15 gallon per square yard of surface covered. The application temperature shall be between 70 degrees F and 140 degrees F.
 2. Tack coat: Emulsified asphalt material used for tack coat shall conform to ASTM D977 and shall be SS-1 or SS-1H, or CSS-1 and CSS-1H conforming to ASTM D 2397. Tack coat shall be applied at a rate of 0.15 gallon per square yard of surface covered. The application temperatures are as follows:
 - a. SS-1 or CSS-175 130 degrees F.
 - b. SS-1H or CSS-1H 75-130 degrees F.
- G. Water: Potable
- H. Sand: Clean, hard-grained, moderately sharp and containing 3% by volume maximum of loam, clay or other earthy impurities. Sand equivalent test method in conformance with ASTM D2419.
- I. Mineral Filler: Portland cement, ground limestone or fly ash in conformance with ASTM D242.

- J. Sealer: Provide a sealer consisting of a mixture of well-graded fine aggregate, mineral filler, emulsified asphalt and water having a container consistency suitable for troweling after thorough stirring, and containing no clay or other deleterious substance. Product to be of Type I, II or III based on aggregate gradation required for particular usage as suggested by the International Slurry Seal Association for streets, roadways and parking lot drive lanes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to start of paving work the Contractor shall check all sub-grades to ascertain that elevations are correct and that the sub-grade has been properly shaped. Any special shaping of the sub-grade shall be done under this Section. The starting of work in this Section shall be considered as acceptance of existing conditions.
- B. The Contractor shall have ascertained conditions at the site by inspection, observing the character and extent of the new paving work and the full extent of the patch and repair of the existing paving cracks and raveling to be performed under this Contract, (sink holes, i.e. grade depressions, pot holes and cracking).

3.2 PREPARATION OF SUBGRADE

- A. Sub-grade shall be scarified and sprinkled and the entire area thoroughly compacted by rolling to obtain a smooth, hard, even surface of approved bearing compacted to 95% minimum compaction to receive the mineral base course. The sub-grades shall be finished to the required grades with due allowance being made for the thickness of base course and asphalt concrete surfacing material.
- B. Sub-grades that are soft, unstable and not readily compactable shall be removed and replaced with approved materials.

3.3 SOIL STERILIZATION

- A. Provide treatment after sub-grade has been completed and just prior to placing base course materials. Thoroughly sprinkle the treated surface area to distribute chemical to a depth of 3 inches into the sub-grade. Apply per manufacturer's recommendation.

3.4 HEADERS

- A. Place headers with the tops flush with the asphalt concrete surface at all edges of the pavement, except where they abut against rigid structures or pavement. Stakes shall be spaced not more than 4 feet - 0 inches apart and driven into the ground so tops are 1/2-inch below the tops of the headers. Wood headers shall be backed by and nailed to 18-inches long stakes with 12d galvanized common nails.

3.5 SHAPING AND COMPACTING CRUSHED ROCK BASE COURSE

- A. Spread the materials uniformly over the properly prepared sub-grade in layers whose depth does not exceed that which the equipment used is capable of compacting to the required density. The base course shall be placed in one or more lifts. The minimum lift thickness shall be at least two times the maximum particle size.
 - 1. Accomplish the preliminary compaction by rolling with tamping or grid type rollers. Accomplish the final compaction by rolling with multiple wheel pneumatic rollers and a tandem or three-wheel roller. Continue rolling until the base course material is compacted throughout the full depth to at least 95 percent of the density at optimum moisture based on the weight per cubic foot of the material passing the No. 4 sieve as determined by ASTM D 1557.
 - 2. The use of vibratory compactor in lieu of rolling equipment will be permitted, provided the compaction requirements and specified surface can be obtained.
 - 3. Blade, roll and tamp until the surface is smooth, free from waves and inequalities. Add water before and after the final rolling as approved by Owners testing laboratory. Quantity of water applied shall not exceed the amount that will assure optimum moisture and specified density.

4. To facilitate obtaining a smooth surface, the use of a small application of crushed rock screenings (material passing the 1/2 inch sieve) is permitted.
 5. The finished surface shall not show any deviations in excess of 3/8 inch when tested with a 10-foot straightedge applied parallel with and at right angles to the centerline of the surfaced area. The finished surface shall be hard, uniform and smooth and shall conform to the lines, grades and cross section indicated.
- B. The base material shall be placed with layers not exceeding 4 inches total after compaction for parking lot and access drives assuming a traffic index of 5.0 minimum.
1. Thickness tolerance: Provide the lines and grades shown on the Drawings within a tolerance of 1/4 inch in ten feet.
 2. Deviations: Correct by removing materials and replacing with new materials, reworking or re-compacting as required.

3.6 PRIME AND TACK COAT

- A. Apply the specified prime coat and tack coat at the minimum rate of 0.10 to 0.25 gallons per square yard or as recommended per selected product and in conformance to reference standards. Before any hot mix asphalt is laid apply a tack coat of asphalt to vertical faces of curbs, gutters, pavement and structures below the surface of the pavement. Allow cure in accordance with manufacturers recommendations.

3.7 ADJUSTMENTS

- A. Adjust frames and covers if required to meet final grades.

3.8 SHAPING AND COMPACTING ASPHALT CONCRETE BASE COURSE

- A. Do not accept material unless it is covered with a tarpaulin until unloaded, brought in suitable trucks and unless the material has a temperature of not less than 280 degrees F.
- B. Do not commence placement of asphalt concrete materials when the atmospheric temperature is below 50 degrees F, nor during fog, rain or other unsuitable conditions.
- C. The required perimeter curbing shall be set in place and the Sub-grade shall be clean and dry when the paving is placed. Contact surfaces of all adjoining construction and cold pavement joints shall be painted with hot asphalt cement / tack coat prior to wear coarse application.
- D. Conform to ASTM D995 for all mixing and placing.
1. Place the mixture with a bituminous spreader in ten (10) feet wide strips. Do not roll the 6-inch strip adjacent to the area that additional material is to be laid until that material is placed. After the first strip is placed and rolled, place the second strip and extend rolling to include the 6 inches of the first strip not previously rolled. Place succeeding strips while the unrolled 6 inch section of the adjoining work is hot and in a readily compactable condition.
 2. Spread the asphalt concrete on the sub-grade uniformly distributed and struck off smooth, uniform to depth, true to the proper width, cross section, uniform density, texture, and appearance, free of surface irregularities.
 3. Perform compaction by use of three-wheeled rollers, tandem rollers, vibratory rollers or pneumatic tired rollers.
 4. Spread, rake and while still hot rolled immediately and thoroughly compacted by breakdown rolling without displacement. Delays in rolling freshly spread mixture will not be accepted.
 5. The compressive weight / load on the roller drive wheels is to be at least 325 pounds per inch of tire width. Finished rolling shall be completed with a 2-axle tandem roller weighing at least 5 to 8 tons.
 6. Rolling shall be commenced at the sides or edges adjacent to the curbs / headers and gradually worked toward the center until no movement of paving material is perceptible under action of the rollers. Rolling shall be done along lines parallel with the centerline or edges of the pavement overlapping on successive strips by at least one half of the width of the rear wheel of the roller. Such longitudinal rolling will be required in all cases; cross, diagonal crescent and full circle rolling being required also where width of pavement permits.

Rolling shall continue until the surface is hard, smooth, unyielding, well bonded, true to grade, cross section, free from high spots, depressions and irregularities.

7. Compact with hot hand tampers in areas not accessible to compaction rollers. Hand tampers shall have a tamping face of not more than fifty square inches and weigh not less than twenty-five (25) pounds. Skin patching of an area that has been finish rolled will not be permitted. Remove any mixture in any way defective or becomes mixed with foreign material and replace it with fresh mixture compacted to the density of the surrounding area. Rollers shall pass over unprotected paving edge only when the laying is discontinued for a length of time that would permit the mixture to become cold. Continue rolling until all roller marks are eliminated. Obtain at least 95 percent the density of a laboratory specimen from the same mixture / location, subjected to 50 standard Marshall blows on each side of the tested specimen.

3.9 BITUMINOUS PRIME COAT

- A. Apply the prime coat only when the crushed rock base course is dry or contains moisture content not in excess of that required to permit uniform distribution and the desired penetration. Do not apply prime coat when atmosphere temperature is below 50 degrees F or wind velocity exceeds 25 miles per hour.
- B. Prior to prime coating remove all loose material, dirt, clay or other non-conforming material from surfaces to be primed with power broom or blower supplemented with hand brooms.
- C. Prime coat bituminous material shall be applied in quantities not less than 0.25 gallons per square yard.
- D. Apply bituminous prime coat by bituminous distributor so uniform distribution is obtained at all points of the surface to be primed. Allow prime coat surface to cure for a period of not less than 48 hours without being disturbed. Protect primed surfaces from damage until succeeding layers of pavement are placed.

3.10 TACK COAT

- A. Apply tack coat to asphalt base course immediately prior to spreading surface course materials.
- B. Apply 0.15 gallons per square yard of surface to be covered.
- C. Apply tack coat by bituminous distributor so uniform distribution is obtained at all points. Apply tack coat to each layer of base course (or waterproofing membrane) and allow to cure before placing succeeding course. Apply only as much tack coat on pavement as can be covered with asphalt aggregate mixture in the same day.

3.11 ASPHALT CONCRETE SURFACE COURSE

- A. Plant hot-mix asphalt concrete surface course of the specified grade shall be placed in one or more courses to the thickness indicated placed over the previously prepared / approved base course.
- B. Place asphalt concrete only when the primed or tack coated base course is dry, weather is not rainy and when temperatures are above 50 degrees F.
- C. Place mixture with a bituminous spreader in strips having a ten (10) foot width. Do not roll the edge 6-inch strip adjacent to the area that additional material is to be laid until additional materials are placed. After the first strip has been placed and rolled place the second strip and extend rolling to include the 6 inches of the first strip not previously rolled. Place succeeding strips while the unrolled 6 inch section of the adjoining work is hot and readily compactable.
- D. Perform compaction with three-wheel rollers and tandem rollers. Begin rolling as soon as the mixture will bear the rolling without displacement. Make tests for conformity with the specified crown, grade and smoothness immediately after initial compression. Before continuing the rolling, correct any variations by removing or adding materials. Continue rolling until all roller marks are eliminated and density has been obtained of at least 95 percent of the density of a laboratory specimen of the same mixture subjected to 50 blows of a standard Marshall on each side of the specimen or by a properly calibrated nuclear asphalt testing device or ASTM D1188 when slabs or cores are taken for laboratory testing. During rolling, moisten the wheels of the rollers to prevent adhesion of the mixture

to the wheels but an excess of water will not be permitted. In all places not accessible to the roller compact with hot hand tampers. Hand tampers shall weigh not less than 25 pounds and shall have a tamping face of not more than 50 square inches.

- E. Joints: All joints shall have the same texture and density.
- F. Smoothness: The finished surface shall be free of bird baths and not vary more than 1/8 inch when tested with a 10 foot straightedge applied both parallel with and at right angles to the centerline of the paved area.
- G. Thickness: as shown on the drawings.

3.12 PROTECTION

- A. Contractor shall take care in rolling operations not to damage concrete or other adjoining surfaces. Repairs shall be made at the Contractor's expense to meet the Architects approval.
- B. Protect asphalt concrete paved areas from material pick up under foot or wheeled traffic until fully set and cured.
- C. After seal coating do not permit vehicular traffic on asphalt concrete pavement until it has cooled and hardened, in no case sooner than 24 hours.

3.13 PATCH AND REPAIR

- A. Pavement in Poor Condition: The areas of local distress (alligator / cracking, pot holes, and upheavals) are to be repaired by full-depth asphalt patch.

1. Existing materials in sinkholes and crevices shall be removed along with adjacent materials back two (2) feet in all directions outside the cracked area. Where there are several sinkholes and / or crevices in close proximity to each other combine their respective areas into one uniform patch. Make cuts square or rectangular with faces straight and vertical. Remove all soft and unstable material and portions of the sub-grade that will not compact until competent soils are countered.
 2. Sinkholes and crevices shall be filled with a dense graded hot plant mixed asphalt twice the thickness of the adjacent structural surface, graded and compacted as required for proper drainage once the underlying base has been compacted and base and vertical surfaces tack coated to ensure a bond between the existing pavement and the patch. Compact in layers if the hole is more than 6 inches deep. Compact each layer thoroughly. Compaction should be done with equipment most suited to the size of the job; using vibratory plate compactor for small patches or a roller for large areas. Use a straightedge or a string line to check the riding quality of the patch.
- B. Pavement in Fair Condition: Such pavement shall be characterized by random cracks of up to 1/2 inch in width and raveled aggregate.
1. The cracks shall be prepared for filling by removing vegetation, chipping out all unstable A.C. paving, cleaning with a broom or a stream of compressed air, and the application of a soil sterilant.
 2. A fine sand-asphalt hot mix shall be used for filling cracks over 1/4-inch. Fine cracks up to 1/8-inch wide are too small to effectively fill and should be ignored when an overlay or slurry seal is to follow.
 3. The random cracks shall be filled as follows:
 - a. Cracks less than 3/8 inch: Fill with emulsified asphalt slurry or a light grade of liquid asphalt mixed with fine sand.
 - b. Cracks 3/8 inch-1/2 inch: Fill with emulsified asphalt slurry (Type 3), mixed with fine sand.
 - c. Cracks greater than 3/4-inch: Treat crack with application of tack coat. Fill with plant mixture consisting of a mixture of asphalt cement and mineral aggregate. Hand-tamp using steel wedge and hammer to fill crack flush with adjoining surface. Follow with a flood coat of Type 1 slurry.
- C. Adjustments:
1. Depressed areas shall be restored to the proper cross-section by applying a leveling or wedge course. Variable thickness layers are intended to eliminate irregularities in contour of an existing surface or prior to overlay or slurry seal coats. Finished surface shall look completely flush, level and with all seams feathered out.
 2. Repaired cracks shall not only be filled but shall also have edges of both sides ground smooth and level with adjoining surfaces. Once slurry sealed the cracks shall be virtually undetectable.
- D. Preparation of Surface: Surface lots shall be swept clean of all dust and debris, with all oil and grease droppings removed in an approved manner to expose surface asphalt concrete that would affect proper adhesion and integrity new topping surface.
- E. Seal Coat: Patching and repairs shall be protected by application of a specified seal coat. Type, number of coats and procedures are to be based on the condition of existing wearing course surfacing being covered.

3.14 FLOOD TEST

- A. Prior to application of seal coat perform a flood test in the presence of the owner or Architect.

- B. Flood the entire asphalt concrete paved area with water by use of a tank truck or hoses.
- C. If a depression is found where water ponds to a depth of more than 1/8 inch in ten feet, correct to provide proper drainage within the specified tolerances.

3.15 APPLICATION OF SEAL COAT

- A. Prepare the surfaces, mix the sanded emulsified asphalt slurry seal coat material and apply 1 coat over all new paving and 2 coats over existing areas in accordance with the manufacturer's recommendations and referenced standards. Adjust type of slurry mixture used and application procedures based on actual project conditions and direction of placement so that a uniform distribution is obtained at all points.
- B. Type I to be used for maximum crack penetration and surface sealing in low traffic areas. Type II is to be used for preventative maintenance applications to correct severe raveling, oxidation and loss of matrix and to improve skid resistance in areas of moderate to heavy traffic. Type III is to be used as the first course in multi-course applications to correct severe surface conditions and to impart skid resistance on pavements with heavy traffic loadings.
- C. Mix Design: The aggregates, emulsified asphalt and water shall form creamy textured slurry that, when spread, will flow in a wave ahead of the strike-off squeegee. This will allow the slurry to flow down into the pits and cracks in the pavement and fill them before the strike-off passes over.
- D. Prior to application of slurry, failed areas and depressions shall be repaired and dust, dirt and other foreign material removed from the surface. Any standard cleaning method can be used.
- E. A tack coat of diluted emulsified asphalt of the same type and grade specified for the slurry is recommended for all pavement surfaces except clean asphalt mixes that are only a few days old.
- F. Monitor placing procedures to watch the spreader box and to observe that the slurry is rolling in one continuous mass evenly distributed across the box to the end of the pass. Slurry shall be placed in such a manner that all lane widths and longitudinal joints will conform to the existing traffic lanes. Use proper procedures in making joints so as not to cause any tearing or scarring. Minimize handwork slurry placement as much as possible.
- G. Uniformly apply slurry by the requirements of the Standard Specification for Mineral Filler for Bituminous Paving Mixtures ASTM D242, rolling in a continuous mass evenly distributed.
- H. Finished dry and thoroughly set surface seal is to be smooth, tough, resilient, uniform color and free from coarse textured areas, lap marks, ridges and other surface irregularity.
- I. Seal coat shall be allowed to cure before allowing traffic on the pavement. Light dusting of the area with fine sand may be used to remedy excess seal coat application.

3.16 CLEAN-UP

- A. Clean all surfaces of excess or spilled asphalt materials to the satisfaction of the Architect.
- B. Remove from the site surplus materials, disused implements, equipment and debris resulting from the work. Site shall be left in a neat, clean and acceptable condition.

END OF SECTION

GENERAL REQUIREMENTS:

- 1.1. **Identification** – Stanislaus County requires all contractor and/or subcontractor personnel working on Stanislaus County's premises to wear uniforms with company identification supplied by the respective employer. Contractor, subcontractors and its employees immediately upon entering Stanislaus county property shall sign in the contractor logbook located at the main security desk and shall sign out at the end of each workday.
- 1.2. **System of communication and emergency numbers** - Contractor shall provide and maintain for the duration of the project, a current list of emergency contact numbers for 24-hour emergency response. In case of emergency contractor shall respond immediately upon notification. Contractor shall notify the Stanislaus County's building maintenance manager or his designee of the emergency.
- 1.3. **Protection of property** – During periods of storms or inclement weather contractor shall provide supervisory inspections of the project during regular assigned hours to prevent or minimize possible damage from inclement weather. Contractor shall report any storm damage to the Stanislaus County's building maintenance manager or his designee immediately.
- 1.4. **Supervisory personnel** – Contractor shall supply adequate onsite supervision for the project. The supervisor shall communicate in English orally and in writing with the Stanislaus County's building maintenance manager or his designee and shall be comprehensively familiar with these specifications.
- 1.5. **Project inspections** – Upon request of the Stanislaus County's building maintenance manager or his designee contractor or his representative shall walk the project to determine compliance with all codes and specifications listed. The Stanislaus County's building maintenance manager or his designee shall provide a list of corrections to the contractor. Contractor shall make all noted corrections prior to the next scheduled or requested inspection by Stanislaus county.
- 1.6. **Licensing** – Contractor shall be licensed by the state of California in all categories necessary to perform work under this contract and in compliance with all state and local governmental agencies.
- 1.7. **Construction schedules** - The contractor shall provide to the Stanislaus County's building maintenance manager or his designee within five (5) days after receiving the "notice to proceed", a construction schedule in the format of a Gantt chart using the computer program format in Microsoft project 4.0 for windows. The contractor shall also provide a compact disk of said chart at the time of submittal of proposed schedule. Any change in the construction schedule will require the contractor to provide additional charts and disk copies of those changes to the Stanislaus County's building maintenance manager or his designee within two (2) working days.
- 1.8. **Project completion** - Contractor shall provide the Stanislaus County's building maintenance manager or his designee, upon completion of the project, a final written report. This report must include all project notes and corrections, the equipment user's manual, manufacturer's warranty documents, specification sheets, parts diagrams, startup procedures, operational guidelines, maintenance schedules and procedures.
- 1.9. **Addenda:** Addendum No. 1 and Addendum No. 2 to BID 15-60-CB are incorporated herein by reference.
- 1.10 **STATE OF CALIFORNIA SB-854 COMPLIANCE LANGUAGE:**
 - o No Contractor or subcontractor may be listed on a bid proposal for a public work project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
 - o No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
 - o This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

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 Agent of the County of Stanislaus, California.

2.03 ENGINEER. The Stanislaus County Purchasing Agent shall supervise and be responsible for the Work, and whenever the word "Director" or the word "Engineer" is used herein, it shall mean the Purchasing Agent 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 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.

2.09 AGREEMENT. The Contractor to whom the Work is awarded shall, within ten days after receipt of the contract documents as mailed by the Purchasing Agent, enter into an agreement with the owner. The form of agreement is attached herein and made a part of these General Conditions.

2.10 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.

2.11 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.

2.12 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 Purchasing Agent 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.

2.13 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.

2.14 INSURANCE.

2.14.1 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) General Liability. 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) Fire Insurance. 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) Automobile Liability Insurance. 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. For Workers' Compensation insurance, the insurance carrier shall agree to waive all rights of subrogation against the County, its officers, officials and employees for losses arising from the performance of or the omission to perform any term or condition of this Agreement.

2.14.2 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.

2.14.3 Additional Insured. The Contractor shall provide a specific endorsement to all required insurance policies, except Workers' Compensation insurance, 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.

2.14.4 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.

2.14.5 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.

2.14.6 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.

2.14.7 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 mail has been given to Owner.

2.14.8 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.

2.14.9 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.

2.14.10 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.

2.14.11 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.

2.15 DEFENSE AND INDEMNIFICATION.

2.15.1 Owner and each of its officers, employees, consultants and agents including, but not limited to, the Board, Project Manager and each Owner's Representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.

2.15.2 To the furthest extent permitted by law (including without limitation California Civil Code §2782), Contractor shall assume defense of, and indemnify and hold harmless, Owner and each of its officers, employees, consultants and agents, including but not limited to the Board, Project Manager and each Owner's Representative, from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence.

2.15.3 With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against Owner and each of its officers, employees, consultants and agents including, but not limited to Owner, the Board, Project Manager and each Owner's Representative. Owner shall provide timely notice to Contractor of any third-party claim relating to the Contract Documents, in accordance with Section 9201 of the California Public Contract Code.

2.15.4 Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.

2.15.5 To the furthest extent permitted by law (including, without limitation, Civil Code §2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of Contract, negligence (active or passive), fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, Owner may in its discretion back charge Contractor for Owner's costs and damages resulting therefrom and withhold such sums from progress payments or other Contract moneys which may become due.

2.15.6 The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to Owner or other indemnified party to the extent of its active negligence.

2.16 ASSIGNMENT OF CONTRACT. 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.

2.17 PREVAILING WAGES. Pursuant to Labor Code section 1771, the work under this Agreement is subject to the provisions of Article 2 (commencing with section 1770) of Chapter 1 of Part 7 of Division 2 of the Labor Code, and the Contractor shall pay all workers 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 this Agreement. The Contractor shall post a copy of these prevailing wage rates on the job site.

CONTRACTOR HEREBY ATTESTS THAT CONTRACTOR AND ALL SUBCONTRACTORS ARE REGISTERED WITH THE DEPARTMENT OF INDUSTRIAL RELATIONS ("DIR"). Senate Bill 854 requires that all contractors performing work on any public works project valued at more than \$1,000.00 must be registered with the DIR, and that all said contractors submit certified payroll reports directly to the DIR, unless excused. FAILURE TO COMPLY WITH THIS SECTION CONSTITUTES A MATERIAL BREACH OF THIS CONTRACT.

2.18 PAYROLL RECORDS. Pursuant to and in accordance with the provisions Labor Code section 1776, the Contractor shall keep accurate payroll records of employees performing work under this Agreement and shall make available for inspection a certified copy such payroll records.

2.19 EIGHT HOUR DAY. Pursuant to and in accordance with the provisions of Labor Code sections 180 0, 181 1 and 181 5, the time of service of any laborer, workman, or mechanic employed upon any of the work under this Agreement is limited and restricted to eight (8) hours during any one calendar day, and forty(40) hours during any one calendar week, except that work performed by employees of Contractors in excess of eight (8) hours per day, and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

2.20 REQUIRED LISTING OF PROPOSED SUBCONTRACTORS. Each bid shall have listed therein the name, license number 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.

2.21 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.

Stanislaus County Code Title 16, Chap. 16.05

Stanislaus County Code Title 16, Chap. 16.10

Stanislaus County Code Title 16, Chap. 16.15

Stanislaus County Code Title 16, Chap. 16.20

Standard Specifications, State of California, Department of Transportation (2006)

Stanislaus County Improvement Standards

California Building Code (California Code of Regulations, Title 24, Part 2)

2.22 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.

2.23 TIME FOR COMPLETION. The Work to be performed under this contract shall be completed as stated within ARTICLE IV of this Agreement.

2.24 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.

2.25 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.

2.26 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 Contractor may furnish any equal material, product, thing or service. The Contractor 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.

2.27 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.

2.28 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.

2.29 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.

2.30 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.

2.31 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 2.27 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.

2.32 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.

2.33 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.

2.34 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.

2.35 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.

2.36 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 Purchasing Agent.

2.37 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.

2.38 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.

2.39 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.

2.40 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.

2.41 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.

2.42 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.

2.43 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.

2.44 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 judgement 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.

2.45 DIGGING TRENCHES OR EXCAVATIONS.

2.43.1 Trenching shall be done in accordance with the California Labor Code Section 6705, 6706, and 6707.

2.43.2 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 and 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.

2.43.3 Digging trenches or excavations shall be in accordance with the California Government Code Section 4216, the California Business and Professions Code Section 7110 and the CalOSHA Regulation Title 8 Chapter 4 Subchapter 4 Article 6 Section 1541.

2.46 UTILITY RELOCATION. Pursuant to Government Code section 421 5, the Contractor shall be compensated for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. The Contractor shall not be assessed liquidated damages for delay in completion of the project, when such delay is caused by the failure of the County of the utility owner to provide for removal or relocation of such utility facilities.

2.47 NOTICE. Any notice, communication, amendment, addition or deletion to this Agreement, including change of address of either party during the term of this Agreement, which Contractor or County shall be required or may desire to make shall be in writing and may be personally served or, alternatively, sent by prepaid first class mail to the respective parties as follows:

To County: County of Stanislaus
Purchasing Agent
1010 10th Street, Suite 5400
Modesto, CA 95354

To Contractor: Douglas A. Jackson dba Douglas A. Jackson Construction
Douglas Jackson, Owner
P.O. Box 578733
Modesto, CA 95357

2.48 FINAL PAYMENT.

A. FINAL PAYMENT

1. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punch list, testing, record documents and Contractor maintenance after Final Acceptance, Contractor shall submit its Application for Final Payment.
2. Provided Contractor has met all conditions required for Final payment, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including, without limitation, retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.

B. FINAL ACCOUNTING

1. Prior progress payments and change orders shall be subject to audit and correction in the final payment.
2. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to final payment, an Agreement and Release of Claims.

2.49 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.

2.50 EXAMINATION AND AUDIT. Any contract exceeding \$10,000.00 is subject to examination and audit of the California State Auditor, at the request of the County for a period of three (3) years after the final payment under the contract (pursuant to Public Contract Code section 8546.7).