COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS PROJECT

NOTICE TO CONTRACTORS
GENERAL AND SPECIAL PROVISIONS
PROPOSAL AND CONTRACT

FOR

SKYWAY/BRUCE ROAD INTERSECTION, SKYWAY RECONSTRUCTION and MANGROVE AVENUE RECONSTRUCTION

PROJECT NOs. MAJGC/16008-300-4150, 352-000-8800/16009-352-4150 and 352-000-8800/16006-352-4150

For use in connection with:

(1) State of California
Department of Transportation
STANDARD SPECIFICATIONS May 2006

(2) City of Chico
STANDARD PLANS
CONSTRUCTION SPECIFICATIONS

Prepared By or Under the Supervision of:

Robert Greenlaw R.C.E. 62529
License Expiration Date: December 31, 2007

BID OPEN DATE: August 4, 2006

FOR INFORMATION PURPOSES ONLY;
THIS IS NOT PART OF THE CONTRACT DOCUMENT

WHEN SUBMITTING YOUR BID, PLEASE SUBMIT ONLY:

1. All PF pages from the set of specifications.
2. All addenda (if there are any).
3. Bidder's bond.

IT IS NOT NECESSARY TO SUBMIT THE ENTIRE SET OF SPECIFICATIONS. PLEASE KEEP THE REMAINDER OF SET FOR YOUR INFORMATION.

Proposal shall be submitted in a sealed envelope plainly marked on the outside with project name, project number, bid opening date, and time of bid opening.

TABLE OF CONTENTS

III. SPECIAL PROVISIONS

PROJECT NAME

SKYWAY/BRUCE ROAD INTERSECTION,
SKYWAY RECONSTRUCTION and
MANGROVE AVENUE RECONSTRUCTION

PROJECT NO.

MAJGC/ 16008-300-4150,
352-000-8800/ 16009-352-4150
352-000-8800/ 16006-352-4150

A. DEFINITIONS

The work embraced herein shall be done in accordance with the appropriate provisions of construction details of the specifications entitled State of California, Department of Transportation, Standard Specifications dated May 2006 and as revised, which specifications are hereinafter referred to as the Standard Specifications, and the City of Chico Design Criteria and Improvement Standards, insofar as the same may apply, and in accordance with the following special provisions.

Whenever in the Standard Specifications the following terms are used, they shall be understood to mean and refer to the following:

Department of Transportation - The Community Services Department of the City of Chico.

Director, Department of Transportation - The Director of Engineering of the City of Chico.

Engineer - The Director of Engineering of the City of Chico acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Laboratory - The designated laboratory authorized by the Director of Engineering to test materials and work involved in the contract.

State - The City of Chico.

Other terms appearing in the Standard Specifications, the General Provisions, and these Special Provisions, shall have the intent and meaning specified in Section 1, Definition of Terms of the Standard Specifications.

In case of conflict between the Standard Specifications and these Special Provisions, the Special Provisions shall take precedence over and be used in lieu of such conflicting portions.

B. REQUIRED LISTING OF PROPOSED SUBCONTRACTORS

The third paragraph of section 8.01.01, “Subcontracting,” of the state Standard Specifications shall not apply. The Contractor shall not be required to perform at least 50% of the original total contract price with his own organization.

Each proposal shall have listed therein the name and address of each subcontractor, the associated bid item numbers, and the dollar value of the subcontractors work to whom the bidder proposes to subcontract portions of the work, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The list shall include all subcontractors regardless of the value of the subcontract amount. The bidder's attention is invited to other provisions of said Act related to the imposition of penalties for failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

A sheet for listing the subcontractors, as required herein, is included in the Proposal. If there will be no subcontractors enter “None” on the subcontractor’s listing sheet.

C. COOPERATION

Attention is directed to Section 7-1.14, of the Standard Specifications.

Should construction or other work of any other nature be under way by other forces or by other contractors within or adjacent to the limits of the work herein specified, the Contractor shall cooperate with all other such contractors or other forces to the end that any delay or hindrance to their work will be avoided.

D.PROGRESS OF THE WORK AND TIME FOR COMPLETION

The Contractor shall begin work within eight (8) calendar days after receiving a written notice to proceed from the City of Chico and shall diligently prosecute the same to completion before the expiration of

60 WORKING DAYS

from the date of said NOTICE TO PROCEED.

E. PLANS AND SPECIFICATIONS FURNISHED

The Contractor will be furnished, free of charge, eight (8) copies of the contract drawings and contract specifications. Any additional copies requested by the Contractor will be furnished to the Contractor at the actual cost of reproduction. The Contractor shall retain an approved set of plans and specifications on the job at all times during the progress of the work.

F. UNDERGROUND FACILITIES

NOTICE IS HEREBY GIVEN THAT there may be underground water, gas, telephone, electric and other utility pipes located beneath the surface of the roadway.

Prior to submittal of bids, and upon obtaining appropriate encroachment permits, prospective bidders may, at their expense, investigate the nature of the site by digging test holes within public right-of-way areas in the vicinity of the work.

The Contractor shall contact the appropriate utility company prior to any excavation and shall determine the exact vertical and horizontal location of any underground facilities.

Following the award of contract for the work, any cost in locating underground facilities shall be considered as included in the cost of other items of the contract and no additional compensation will be allowed.

Section 19-1.04, "Removal and Disposal of Buried Man-Made Objects”, of the Standard Specifications shall not apply. Payment for removal and disposal of buried man-made objects shall be included in the contract price paid for other items of work and no separate payment shall be allowed.

G. MATERIALS

The Contractor shall furnish for use under these Special Provisions all materials required to complete the attached contract.

Quantity Certificates: The contractor shall present a certified weight slip to the Engineer or his assistants for all materials used in the contract measured by weight. The above-mentioned weight slips shall be submitted to the Engineer on the same day that the material has been delivered to the construction area.

H. DESCRIPTION OF WORK

The work, in general, to be done under this contract consists of the reconstruction of the roadway section using the cold foam in-place recycling (CFIPR) asphalt process including lowering and raising manholes, hand holes and valve holes; thermoplastic striping and pavement markings, and installing traffic signal detector loops. In addition, there will be the removal and replacement of miscellaneous concrete and the relocation of one storm drain drop inlet and one street light, all in conformance with the attached contract specifications and the details as shown on the contract plans entitled:

SKYWAY/BRUCE ROAD INTERSECTION,
SKYWAY RECONSTRUCTION and
MANGROVE AVENUE RECONSTRUCTION

MAJGC/ 16008 -300-4150,
352-000-8800/ 16009 -352-4150
352-000-8800/ 16006 -352-4150

I. QUANTITIES

The preliminary estimates of the quantities of work to be done and materials to be furnished are approximate only, being given as a basis for the comparison of bids, and the City of Chico does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

J. CONSTRUCTION PROCEDURES AND DETAILS

1. Order of Work

The order of work shall be determined by the Contractor and approved by the Engineer.

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work", of the Standard Specifications and these Special Provisions.

The Contractor shall submit a detailed construction schedule in Gantt Chart format to the Engineer for review and approval at least three working days prior to commencing with any work and prior to the distribution of notices as described in Section 3 below. The schedule shall include all major and minor tasks of work, by whom and starting/ending dates of specific task. The contractor shall update the schedule weekly and submit to the engineer by 4:00 PM Monday of each work week. If the contractor does not comply with the requirements contained within these Special Provisions, the City of Chico will deduct a penalty charge of $500.00 from the Contractor's progress payment for each occurrence.

In production of said schedule the following parameters shall be included.

All paving work shall be completed no later than October 15, 2006.

No CFIPR work may start on Mangrove Avenue prior to September 15, 2006.

2. Contractor Daily Work Hours

The Contractor shall restrict his work hours on all Project related work to 7 a.m. to 9 p.m. daily, except Sundays and holidays, when his work hours shall be from 10 a.m. to 6 p.m. unless otherwise approved by the Engineer. The restriction shall include all associated move on, set up, equipment and material delivery, and other project activities not strictly related to the daily progress of the project. Work hours during the night may be requested by the Contractor for approval by the City. The Contractor shall be required to prove substantial benefit to the City of increased public convenience, enhanced safety or reduction in working days, or a combination thereof, for night work to be approved.

Should the Contractor, his subcontractors, or others under the Contractor's control not comply with the requirements contained in this Special Provision, the City of Chico will deduct a penalty charge from the Contractor's next progress payment for each occurrence. The penalty assessed shall be $1,000.00 for the first occurrence, and $2,000.00 for each occurrence thereafter.

3. Notification of Residents and Businesses

The Contractor shall notify all residents and businesses that may be affected by or are in the immediate vicinity of the construction at least 72 hours prior to construction. Notification shall be in writing and include a brief description of the work, starting date, scheduled date of completion, Contractor contact person and Contractor telephone number. Notification shall be submitted to the City for review and approval at least 24 hours prior to distribution. Notice to be hand carried by Contractor Representative. Should a change in the work schedule occur after the residents and/or businesses have been notified the Contractor shall notify the residents and/or businesses of the change in schedule within 24 hours of the originally scheduled starting date.

Contractor shall have at the job site, during contractor's working hours, a full time public relations person to deal with public and business concerns and shall report to the Engineering Department.

When the construction requires prohibiting parking, "No Parking" signs shall be posted along the construction routes. The signs shall include the dates and times that no parking periods will be in effect. "No Parking" signs shall be mounted on Class I barricades and placed in the gutter pan not more than 100' apart. Signs shall be posted a minimum of 24 hours in advance of construction and immediately removed upon completion. Should the Contractor not commence work after 24 hours from placement of the signs, the signs shall be removed. If a vehicle is parked in a properly posted no parking area and is prohibiting the progression of work, the Contractor shall notify the Chico Police Department to arrange for removal of the vehicle.

Failure to comply with the provisions for notification shall result in the suspension of all work until the provisions have been met, although working days will continue to be charged.

Full compensation for conforming to the requirements of this provision shall be considered as included in the prices paid for the various contract items and no additional compensation will be allowed.

4. Access to Business and Residences

The Contractor shall provide access to all businesses and residences within the construction zone at all times throughout the project. When the work requires the closing of a business driveway or other entrance, the Contractor shall post signs directing the public to the most convenient access to the business.

5. Air and Water Pollution Control and Dust Control

The Contractor's attention is directed to Standard Specifications, Section 7 - *"Legal Relations and Responsibilities"* and Section 10 - *"Dust Control"* for requirements related to air and water pollution control and dust control and sound control. The Contractor shall abide by the following regarding the control of dust, **water pollution, air pollution, and noise pollution**:

All exposed earth surfaces shall be watered periodically during construction activities. This practice shall be conducted twice during the morning and afternoon work hours. Further, the frequency of watering shall increase if wind speeds exceed 15 miles per hour.

Mud and dust carried onto street surfaces by construction equipment shall be removed on a daily basis.

Haul trucks shall be covered with tarpaulins or other effective covers at all times.

Exposed surfaces shall be revegetated in accordance with the plans as soon as feasibly possible.

The Contractor shall be required to submit a Storm Water Pollution Prevention Plan (SWPPP) which complies with the conditions of the Water Quality Order 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges Associated with Construction Activity (General Permit). The SWPPP shall be prepared with guidance from the City of Chico Best Practices Manual, the City of Chico Best Practices Technical Manual, and Caltrans Storm Water Quality Handbooks. This plan shall be approved by the Engineer prior to beginning any work. The Contractor shall be responsible for implementing, maintaining, and monitoring such water pollution control measures as called for in the SWPPP, the Standard Specifications, and as directed by the Engineer.

Copies of the General Permit, the manuals, and the handbook referred to above are available at the City of Chico Municipal Center. The General Permit is also available on the Internet at http://www.swrcb.ca.gov/stormwtr/construction.html

The Contractor shall be responsible for inspecting the work site a minimum of once at the beginning and once at the end of the work day to insure that pollution control measures as specified in the SWPPP are in place and functioning properly. Inspections will also be required on non-work days when rainfall is forecasted. Monitoring shall be required for all rainfall events whether on work or non-work days. Unless specified otherwise in the approved SWPPP, Contractor-performed monitoring duties shall end when the project Notice of Completion is filed with the County Recorder. All inspections and monitoring shall be documented in a log that will be maintained on site with the approved SWPPP.

Should the Contractor be found not to be in compliance with the approved SWPPP and the requirements in these Special Provisions, he shall be fined $2,000.00 for the first occurrence and $3,000.00 for each occurrence thereafter. The fine shall not relieve the Contractor's obligation to indemnify the City from third-party lawsuits as a result of the Contractor's actions.

If the Contractor has been found not to be in conformance with the approved SWPPP and fails to provide the required maintenance of the pollution control devices within the same day that he is notified of the deficiency, the City of Chico reserves the right to complete the work necessary to bring the devices into conformance with the SWPPP. In addition to the fine stated above, the City shall charge the Contractor for the actual cost of such maintenance, which shall be deducted from the Contractor's next progress payment.

a. Measurement and Payment: Water pollution control, including full compensation for furnishing all labor, tools, materials, equipment, and incidentals for doing all the work involved in preparing the SWPPP and supplying, installing, monitoring, and maintaining the measures implemented as part of the SWPPP as required by the Standard Specifications and these Special Provisions, and as directed by the Engineer, shall be considered as being included in the contract unit price paid for other items of work, and no separate payment will be allowed.

Air pollution control and dust control and noise control shall be included in other items of work and shall not be measured.

6. Testing

The Contractor shall pay for all failed tests as determined by the Engineer and as per **Item 15. Cold Foam In-Place Recycling** and **Item 16. Repair Failed Cold Foam In-Place Recycling (CFIPR) Area**, of these Special Provisions. The cost of failed tests shall be deducted from the Contractor's progress payment. Tests shall include all tests normally performed by the Engineer to check the Contractor's compliance with the contract provisions.

7. Hazardous Waste in Excavation

If the Contractor encounters material in excavation which he/she has reason to believe may be hazardous waste, as defined by §25117 of the Health and Safety code, he/she shall immediately so notify the Engineer in writing. Excavation in the immediate area of the suspected hazardous material shall be suspended until the Engineer authorizes the work to be resumed. If such suspension delays the current controlling operation, the Contractor will be granted an extension of time as provided in Section 8-1.07, "Liquidated Damages", of the Standard Specifications.

If such suspension delays the current controlling operation more than 2 working days, the delay will be considered a right of way delay and the Contractor will be compensated for such delay as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

The Department reserves the right to use other forces for exploratory work to identify and determine the extent of such material and for removing hazardous material from such area.

8. Unanticipated Cultural Resources Discovery

Construction operations on this project may unearth or uncover cultural resources of a historic or prehistoric nature. If buried or obscured cultural materials are observed during vegetation removal and/or construction, the work in the area of discovery shall cease, the City Planning Department shall be notified, the encountered resource shall then be identified, recorded, and an assessment made of the resource by a qualified archaeologist.

The right is reserved to the City and its authorized agents, including a qualified archaeologist and appropriate professionals to enter upon the right-of-way for the purpose of investigating and/or excavating and removing such resources. The Contractor shall cooperate with forces engaged in such work, and shall conduct his operations in such a manner to avoid any unnecessary delay or hindrance to the work being performed by such other forces.

The Contractor shall immediately notify the City of any delays to his operations as a direct result of the discovery of possible cultural resources which were not indicated on the plans or in the Special Provisions. Any such delays will be considered right-of-way delays within the meaning of Section 8-1.09, "Right of Way Delays," and compensation for such delay will be determined in accordance with said Section 8-1.09. The Contractor shall be entitled to no other compensation for any such delay.

9. Right of Public Utilities

The rights of Public Utilities to enter upon the work for the purpose of making changes necessitated by the improvement are as specified in Section 8-1.10 of the Standard Specifications.

10. Maintenance and Control of Traffic

a. Description of Work: The Contractor shall supply at his own expense all flagmen, detour signs, barricades and all other traffic control devices and personnel in compliance with provisions of Section 7-1.08 - Public Convenience, Section 7-1.09 - Public Safety and Section 12 - Construction Area Traffic Control Devices of the Standard Specifications, and as ordered by the Engineer, necessary to provide a satisfactory level of safety and minimum inconvenience to the general public.

Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in said Section 7-1.09.

The Contractor shall provide the Engineer with a Traffic Control Plan for each separate element of work seven (7) working days prior to starting work or the pre-construction meeting, whichever is earliest. The Engineer retains the right to modify the plan as he may determine necessary.

The Contractor or his representative and all subcontractors shall have a copy of the approved Traffic Control Plan pertinent to the work in progress on the jobsite at all times. Failure to adhere to the Traffic Control Plan shall be grounds for the City of Chico to require the Contractor to stop the work until traffic

control is in compliance with the approved Traffic Control Plan, although working days will continue to be charged.

Should the Contractor or his subcontractors be required to stop work by direction of the Engineer due to non-compliance with the Traffic Control Plan, the City of Chico will deduct a penalty charge from the Contractor's next progress payment for each occurrence. The penalty shall amount to $1,000.00 for the first occurrence and $2,000.00 for each occurrence thereafter.

During Contractor working hours a minimum of one (1) traffic lane (in each direction - 4 lane street), not less than twelve (12') feet wide shall be open for public use. During non-working hours all traveled lanes, on all roadways, shall remain open. Whenever vehicles or equipment are parked on the pavement or on the shoulder, within 6 feet of a travel lane, the parking area shall be delineated with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment or along the closed portion of the pavement or shoulder at 25-foot intervals to a point approximately twenty-five (25') feet past the last piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead), as appropriate, shall be mounted on a telescoping flag tree with flags. **Six (6) Portable Changeable Message signs will required for the duration of the project at locations approved by the Engineer.**

Whenever a traffic lane is to be closed to public traffic, the Contractor shall install a traffic control system in accordance with the current "MANUAL OF TRAFFIC CONTROLS - Warning Signs, Lights, and Devices for Use in Performance of Work Upon Highways."

In lieu of Section 12-4.01 “Measurement and Payment” the two Portable Changeable Message signs shall be included in the item of “Traffic Control” and no additional compensation will be allowed therefore.

The Contractor shall keep current and notify the local Police, Butte Regional Transit (B-Line), and Fire Departments of his construction operation and traffic control changes three (3) days before work is to begin or traffic changes are made. The Contractor shall at no time obstruct bus stops without prior written authorization from the City. The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make his own arrangements in keeping the work area clear of parked vehicles.

When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

Personal vehicles of the Contractor’s employees shall not be parked on the traveled way or shoulders, including any section closed to the public.

Wherever the Contractor's operations obliterate pavement delineation (lane lines, either pavement markers or painted lane lines or both), such pavement delineation shall be replaced by either permanent or temporary delineation before opening the traveled way to the traffic. Temporary delineation shall consist of reflective traffic line tape applied in pieces not less than 12 inches long nor less than 4 inches wide spaced no more than 12 feet apart. Reflective traffic line tape shall be applied in accordance with the manufacturer's instructions. Temporary delineation shall be the same color as the permanent delineation. Full compensation for temporary delineation shall be considered as included in the prices paid for the work and no separate payment will be made.

WORK IN TRAFFIC AREAS:

Roadway Excavation

At the end of each work day, or at the time pedestrian or vehicular traffic is allowed within the work area, conforms between existing pavement and an excavation, or within excavated areas shall have been constructed in accordance with the following:

Where longitudinal excavations are within 5 feet of the traveled way, and there is a difference in elevation in excess of .2' between existing pavement and any excavated surface, or between excavated surfaces, material shall be placed against the vertical cuts at a maximum slope 4:1.

At intersections where a difference in elevation greater than .08' exists perpendicular to the direction of travel, material shall be placed against the vertical cuts at a maximum slope of 8:1.

Where a difference in elevation greater than .08' exists at the lip of gutter within a pedestrian pathway, material shall be placed against the vertical cut at a maximum slope of 8:1 to create a minimum 4' wide path of travel. Side slopes shall be a maximum slope of 4:1.

Material placed for vehicular or pedestrian traffic shall be compacted sufficiently to provide a sound, traversable surface. During excavation operations, native material may be used for this purpose. However, once the placing of the structural section commences, structural material shall be used. A paper joint shall be used when conforming asphalt concrete surfaces. Treated base shall not be used for the conform. The Contractor shall be responsible for placing conforms, maintaining them in good repair, and for their subsequent removal and reshaping of the structural material to the lines and grades shown on the plans.

Underground Pipe Installation

Trench excavation shall be brought flush with the pavement surface at the end of each work day and shall be maintained flush with the pavement continuously until the final pavement replacement is completed. Trench backfill shall be placed in accordance with the provisions of these specifications. If the final surface treatment is not completed a temporary surface treatment consisting of cold mix asphalt concrete shall be placed. The Contractor shall have on the job site prior to the start of any trench excavation sufficient cold mix material to complete all required trench repairs by the end of each day.

If the Contractor fails to provide the required trench repair, the City of Chico will complete the necessary work to make the trench conform to the requirement of these specifications to ensure that it is safe for vehicular and pedestrian traffic and shall charge the Contractor a penalty in addition to the actual cost of repair to be included in the next progress payment. The penalty shall amount to $1,000.00 for the first occurrence and $2,000.00 for each occurrence thereafter.

The Contractor shall ensure and guarantee that any traffic control devices removed or damaged by his operation are reinstalled and in good repair before leaving the work site. Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of work may be permitted upon the written request of the Contractor if in the opinion of the Engineer public traffic will be better served and the work expedited. Such deviations shall not be adopted until the Engineer has indicated his written approval. All other modifications will be made by contract change order.

b. Measurement: Maintaining and Control of Traffic Control shall be measured on a lump sum basis.

c. Payment: The contract lump sum price paid for maintaining and control of traffic control shall include full compensation for furnishing all labor, materials (including signs), tools, equipment, and incidentals, and for doing all the work involved in clearing and grubbing, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

11. Notice of Potential Claim

The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless he/she has given the Engineer due written notice of potential claim as hereinafter specified. Compliance with Section 9-1.04 of the Standard Provisions shall not be a prerequisite as to matters within the scope of the protest provisions in Section 4-1.03, "Changes" or Section 8-1.06, "Time and Completion" or Section 8-1.07, "Liquidated Damages" all of the Standard Provisions, nor to any claim which is based on differences in measurements or errors of computation as to contract quantities.

The written notice of potential claim shall be submitted to the Engineer prior to the time that the Contractor performs the work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Engineer, or in all other cases within 24 hours after the happening of the event, thing, occurrence, or other cause, giving rise to the potential claim.

The written notice of potential claim shall be submitted on a City Standard Form furnished by the City and shall be certified with reference to the California False Claims Act, Government Code Sections 12650 - 12655. The notice shall set forth the reasons for which the Contractor believes additional compensation will or may be due and the nature of the costs involved. Unless the amount of the potential claim has been stated in the written notice, the Contractor shall, within 15 calendar days of submitting said notice, furnish an estimate of the cost of the affected work and impacts, if any, on project completion. Said estimate of costs may be changed or updated by the Contractor when conditions have changed. When the affected work is completed, the Contractor shall submit substantiation of his actual costs. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

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

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

12. Construction Layout and Staking

a. Description of Work: This work shall consist of furnishing and setting construction stakes and marks to establish the lines and grades required for the completion of the work as shown on the plans and as specified in the Standard Specifications and these Special Provisions. Also included in this work shall be the re-establishment of all control monuments as delineated on the plans.

The Contractor shall be responsible for re-establishing control monuments disturbed by his negligence at his expense.

The second paragraph of Section 2-1.056 of the Standard Specifications shall not apply to construction staking work.

The contract drawings show sufficient control points and control lines as may be necessary for the Contractor to establish proper control for the work. The Contractor shall check and verify the accuracy of all control and verify the accuracy of all control lines and shall report any and all discrepancies to the City prior to starting construction.

All contract work shall be constructed to conform to the lines and grades shown on the contract plans and the Contractor shall provide construction layout and staking for all items of work, including the following:

Alignments: One set of centerline reference stakes will be set at 50 foot intervals and at the beginning and end of all curves. The radius points for all curb returns at each intersection shall be set.

Street Grades: Blue tops shall be set to grade for subgrade and for finish rock grade at 50 foot intervals (25 foot intervals on vertical curves) and at all changes in grade.

Curb and Gutter: Stakes for curb and gutter shall be set no more than five foot from the proposed work and maximum of 50 feet intervals (25 foot in vertical curves and horizontal curves with a radius of less that 2000 feet) and at all changes in grade or alignment.

Sanitary Sewers and Storm Drains: Sanitary sewers and storm drains shall be staked on an appropriate offset from the centerline of pipe at 50 foot intervals on tangents and 25 foot intervals on all horizontal curves.

Manholes and Drop Inlets: All manholes, drop inlets, and the beginning and end of all curves or changes in alignment layout and grade shall be staked on an appropriate offset.

Bridges: A minimum of two bridge centerline reference stakes shall be required at each bridge approach. A minimum of two abutment/bent centerline reference stakes, clear of the area of construction, shall be required both upstream and downstream of each bridge element. The Contractor shall provide sufficient vertical elevation reference stakes for adequate vertical control of all elements of the bridge. Prior to commencing staking, the Contractor shall submit a proposed staking plan for the Engineer's review and approval.

The Contractor shall furnish to the Engineer two complete sets of all alignment layout and grade information for all construction staking. The City reserves the right to check any and all construction layout and staking made by the Contractor for control of any contract item of work.

All computations necessary to establish the exact position of the work from control points shall be made by the Contractor. All computations, survey notes, and other records necessary to accomplish the work shall be neat, legible and accurate. Copies of such computations, notes, and other records shall be furnished to the Engineer prior to beginning work that requires their use.
Construction stakes shall be removed from the site of the work when no longer needed.

The Contractor shall re-establish control points at the locations designated on the contract plans. Re-establishment shall be performed by a registered Civil Engineer or a licensed Land Surveyor. A minimum of three points referencing the control point shall be set, clear of construction, prior to the commencement of work. The control point shall be reestablished after construction is complete.

Re-established control points shall be a 1½" brass cap monument with an 18" x ½" shaft, set in ground.

b. Measurement: Construction layout and staking shall be paid for on a lump sum basis.

c. Payment: The contract lump sum price paid for construction layout and staking shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in performing construction staking and re-establishing control points, as shown on the plans, as specified in these Special Provisions, and as directed by the Engineer.

13. Clearing and Grubbing

a. Description of Work: Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing," of the Standard Specifications and these Special Provisions.

In addition, the removal and disposal of the following existing facilities, as described below and as shown on the contract plans, shall be considered a part of this contract item of work:

REMOVING PAVEMENT MARKERS

The area to be cleared and grubbed shall remain within the excavation and embankment slope lines.

b. Measurement: Clearing and grubbing shall be measured on a lump sum basis.

c. Payment: The contract lump sum price paid for clearing and grubbing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in clearing and grubbing, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

14. Existing Highway Facilities

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.

The Contractor shall be responsible for locating all existing irrigation systems within the project limits whether shown on the plans or not. Where not in conflict with the work the Contractor shall protect the

irrigation systems, and where a conflict with the work is found, the Contractor shall make the modifications necessary to remove the irrigation system and leave any part that remains in a fully operational condition as approved by the Engineer. The cost to repair damaged irrigation systems shall be the responsibility of the Contractor. The cost to modify existing irrigation systems found to conflict with the work shall be included in the contract price for other items of work and no additional compensation shall be allowed.

15. Cold Foam In-Place Recycling (CFIPR)

a. Description of Work: Cold Foam In-Place Recycling shall consist of the following:

A. Mill and reuse materials in the upper layers of the existing roadway structural section;

B. Change the grading of the existing materials by the addition of imported aggregate base if and where necessary;

C. Procure, furnish, and mix in a combination of foamed bitumen and cementitious stabilizing agents together with sufficient water to approximate the optimum moisture content; and

D. Place and compact to achieve a new structural section, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

MATERIALS

Where it is necessary to modify the grading of the material in the existing structural section, aggregate base and cement shall be spread on the existing roadway surface prior to recycling.

Cementitious Stabilizing Agent

Cementitious Stabilizing Agents are not anticipated to be needed for the CFIPR process. Portland Cement shall be the only cementitious stabilizing agent employed in the cold foam in-place recycling process. Payment for this work will be paid under section for extra work as per Section 4-1.03D of the Standard Specifications.

Bituminous Stabilizing Agent

Foamed bitumen shall be the only bituminous stabilizing agent employed in the cold foam in-place recycling process. Foamed bitumen shall be produced from bitumen (also referred to as "asphalt") and shall conform to the provisions in Section 92, "Asphalts," of the Caltrans Standard Specifications. The grade of asphalt binder to be mixed with tile cold foam in place recycling material shall be **PG64-16**. Bituminous Stabilizing Agent will be paid for per ton used in CFIPR process.

Water

Water shall be clean and free from deleterious concentrations of acids, alkalis, salts, sugar and other organic or chemical substances.

PLANT AND EQUIPMENT

Foamed Asphalt Recycling Machine

Recycling shall be performed utilizing a machine capable of pulverizing to a depth shown on the plans, the existing structural section, along with any imported materials, in a single pass. Equipment employed shall be of adequately rated capacity and in good working order. For safety reasons, at no time shall asphalt be circulated back to the tanker, nor shall diesel or other solvents be used for a cleaning or softening agent. Contractor must be able to provide references so that the City may verify the completion of at least five (5) successful jobs using the same proposed equipment within the last three years. Obsolete, poorly maintained, or dilapidated equipment shall

not be allowed on the job site. The recycler shall be a Wirtgen WR2500 or approved equal, and as a minimum have the following features:

A. A minimum power capability of 600 horsepower.

B. Where the recycling depth exceeds five (5) inches the effective volume of the mixing chamber shall be increased in relation to the depth of cut.

C. Two (2) microprocessor controlled systems, complete with two (2) independent pumping systems and spray bars. One (1) system to regulate the application of the foamed asphalt stabilizing agent, the second system for application of additional water (for increasing the moisture content of the recycled material). The systems shall vary the application of both in relation to the forward speed and mass of the material being recycled.

D. The two spray bars shall each be fitted with nozzles at a maximum spacing of one nozzle for each seven and one-half (7.5) inch width of the chamber. The spray bar used for addition of moisture into the recycled section shall have self-cleaning nozzles.

E. The foamed asphalt shall be produced at the spray bar in individual expansion chambers into which both the hot asphalt and water are injected under pressure through individual and separate orifices that promote atomization. The rate of addition of water into the hot asphalt shall be kept at a constant rate (percentage by mass of asphalt) by the microprocessor.

F. An inspection (or test) nozzle shall be fitted at one end of the spray bar that produces a representative sample of foamed asphalt.

G. An electrical heating system capable of maintaining the temperature of all asphalt flow components above 340°F.

H. Single asphalt feed line installed between the recycling machine and the supply tanker. Circulating systems that incorporate a return line to the supply tanker shall not be used.

I. The operator cabin shall be movable from right to left.

J. A printer shall be included to record amounts of materials used.

K. EQUIPMENT SUBSTITUTIONS - Bidders are required to submit equipment substitution requests to and get written approval from the Engineer before the bidding. No substitution will be allowed after the award of bid. Submittals for equipment substitution shall be submitted to Bob Greenlaw, P.E., Senior Civil Engineer at the City of Chico Engineering Division, P.O. Box 3420, Chico, CA 95927 or by Fax at (530) 895-4899 or by email at bgreenla@ci.chico.ca.us . All submittals pertaining to equipment substitution shall be received no later than 72 hours before bid opening.

Compaction Equipment

The method and equipment used to compact the newly placed structural section shall be determined by the engineer responsible for the mix design and shall take into account issues specific to each job. Compaction equipment may include any or all of the following:

A. Static sheep's foot (static mass to exceed 20 tons)

B. Vibratory sheep's foot (static mass to exceed 15 tons)

C. Smooth drum vibratory (static mass to exceed 15 tons)

D. Pneumatic tired roller (static mass to exceed 25 tons)

Supply Tanker for Asphalt Stabilizing Material

Only tankers with a capacity exceeding 2,650 gallons shall be used to supply the recycling machine with asphalt. Each tanker shall be fitted with a rear mounted recessed pin-type tow hitch, thereby allowing the tanker to be pushed from behind by the recycling machine. No leaking tanker will be permitted on the job site. In addition, each tanker shall be equipped with the following:

A. A thermometer to show the temperature of the contents in the bottom third of the tank.

B. A rear feed valve, with a minimum internal diameter of three (3) inches, capable of draining the contents of the tank when fully opened.

C. All-round cladding to retain heat.

D. A heating system capable of raising the temperature of the contents in the tank by at least 70°F per hour.

E. An externally mounted gauge to indicate the volume of material remaining in the tanker, calibrated in fifty (50) gallon intervals.

CONSTRUCTION LIMITATIONS AND REQUIREMENTS

Before obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers) that is to be replaced on the same alignment and location, as delineated by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment, limits, and location of the new pavement delineation, The references shall include the limits or changes in striping pattern, including one- and two-way barrier lines, limit lines, crosswalks and other pavement markings and as directed by the Engineer.

Prior to cold foaming existing asphalt concrete and base, the Contractor shall remove all indestructible material in the roadway including, but not limited to, loop detector wiring, conduit, hand holes, and pull boxes. Manhole covers and utility boxes will be lowered to clear the recycling process. Removal of indestructible material shall occur immediately prior to cold foaming operation.

At the end of each working day if a difference in excess of 0.15 feet exists between the elevation of the existing pavement and the elevation of excavations within 1 feet of the traveled way, cut-back material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the structural section commences, structural material shall be used. The cut-back material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 4:1 (horizontal : vertical) or flatter to the bottom of the excavation, Treated base shall not be used for the taper. Full compensation for placing the material on a 4: 1 slope, regardless of the number of times the material is required, and subsequent removing or reshaping of the material to the lines and grades shown on the plans shall be considered part of this item of work and no additional payment will be made.

Prior to overlay, no earlier than 2 days after cold-foam, the Contractor and Engineer shall investigate the entire limits of cold-foam for localized failures. In the event of a failure, the Contractor shall repair the failed section per Section: “Repair Failed Cold Foam In-Place Recycling (CFIPR) Area” of these Special Provisions.

Weather Limitations

No cold foam in-place recycling work shall be performed during wet conditions, nor started without completing before the wet conditions set in. No recycling work shall be performed if the ambient air temperature is below 41°F. Other than the finishing and compaction operations, no work will be allowed if the air temperature drops below 50°F.

If cementitious stabilizing agents are ordered by the Engineer, spreading of the cementitious stabilizing agents on the roadway ahead of the recycling machine will not be allowed when windy conditions adversely affect the operation.

Determination of In-Situ Moisture Content

The existing structural section to be recycled shall be tested for the in-situ moisture content using California Test 226. A line of samples shall be extracted for testing at 6 foot intervals across the roadway width every 1,500 feet and where there is a known change in the material in the existing structural section.

Moisture content tests shall not be performed more than one week in advance of the recycling process. Samples shall be representative of the in-situ material.

Time Limitations

The maximum time period between mixing the recycled material with a stabilizing agent and compacting the placed material shall be determined by the type of stabilizing agent applied. "Where combination of two or more different stabilizing agents are used, the time limitation shall be dictated by the stabilizing agent that predominates. Where Portland cement is added in conjunction with a bituminous stabilizing agent at an application rate of less than 2 percent, the time limit of the bituminous stabilizing agent shall apply. The maximum time periods shall be as follows:

Stabilizing Agent	Time Limit
Portland Cement	3 hours
Bitumen Emulsion	Before the emulsion breaks
Foamed Bitumen	24 hours if kept moist

Surface Preparation

Before any recycling work begins, the surface of the existing roadway to be recycled shall be prepared by:

1. Clearing all vegetation and other foreign matter from the entire roadway width, including any adjacent lanes or shoulders that are not to be recycled.

2. Removing all standing water; and

3. Accurately pre-marking the proposed longitudinal cut lines on the existing roadway surface; and

4. Set offset stakes/survey markings to maintain centerline.

5. Pre pulverization of the existing roadway will not be allowed prior to the start of the cold foam process.

Profile and Cross Slope Requirements

The profile essentially matches existing conditions as delineated by the existing curb and gutter. The cross slope will be modified to 2% minimum - 3.5% maximum, lip of gutter to centerline/median, as shown on plans or as directed in the field by the Engineer. Prior to the Cold Foam In-Place Recycling process, the existing pavement shall be cold planed to remove material to achieve proper cross slope and to lower the finish grade of the cold foam to allow for a compacted Asphalt Concrete overlay on top of the cold foam that will achieve a final grade. Cross slopes are typically 2% from centerline, unless directed by the Engineer.

Adjustment of Maintenance Hole Covers

The Contractor's attention is directed to Section 15 of the Standard Specifications and these Special Provisions. The Contractor shall protect all existing facilities from damage. Existing maintenance hole frames and covers, sewer clean outs, steel pullboxes, catch basin frame and grate, lampholes, survey monuments, detector handhole covers, monitoring wells, fire hydrant and City of Chico owned water valve boxes shall be adjusted to the new finish grade. Any damage to the existing facilities caused by the Contractor shall be repaired or replaced to the satisfaction of the Engineer.

The catch basin frame, grate, steel pull box etc., shall be adjusted to grade using new materials, and the existing frame and grate shall be reused to the extent possible as directed by the Engineer. The catch basin shall be raised as directed by the Engineer in the field. Any concrete removal and construction shall be the responsibility of the Contractor.

Maintenance hole adjustment is to be made by installing cast iron adjusting rings. The Contractor shall furnish cast iron grade rings fitting the configuration of the existing frame. The rings shall be free of twists, warps, and cracks and shall fit firmly into the existing frames without rocking. The rings shall have a machined surface bearing on the frame as well as a machined surface supporting the maintenance hole cover.

The existing frame shall be wire brushed clean of all loose dirt, rust and scale, and given a coat of coal tar pitch heated to 180 degrees Fahrenheit after which the ring shall be firmly seated in the frame. All finished adjusted frames and covers shall be level with adjacent pavement surface.

All valve boxes, lamp hole covers, detector hand hole covers, and survey monument boxes shall be adjusted by installing grade rings, flush with new finish grade, stable, firmly seated, and free of movement or noise from traffic. If existing casing is crooked, bent, or deteriorated so that weld ring will not produce an acceptable finish product, the following alternatives are required:

A. Removal of existing casing and installation of City of Chico standard valve box and traffic cover to new finish grades; or

B. Removal of existing casing to firm material, welding of new casing extension to new finish grade, and encasement of weld and extension in concrete to dimensions required for standard valve box. Noisy or settling valve box covers found after resurfacing shall be removed and replaced with City of Chico standard valve box and cover at the Contractor's expense. All valve box replacement, other than the City of Chico's, shall be at the expense of the owner utility.

Contractor shall adjust the maintenance hole frame grade rings and/or the concrete grade rings as needed to the satisfaction of the Engineer.

Upon completion of placement of overlay on each street, all utility covers (maintenance hole, water valve, lamp hole, and detector handhole covers, etc.) shall be clean and free of any asphalt concrete and shall seat securely in their frames.

Cementitious Stabilizing Agents

Cementitious Stabilizing Agents are not anticipated to be needed for the CFIPR process. Although this specification is included in the event it is directed by the engineer under changing conditions. A uniform layer of powdered cementitious stabilizing agents shall be spread on the prepared roadway surface prior to milling.

The powdered cementitious stabilizing agents shall be spread uniformly over the full width of roadway to be recycled prior to each pass of the recycling machine, in a continuous process, either by means of a mechanical spreader at the rate of application in a continuous process, or by hand. Cementitious stabilizing agents shall be spread at the prescribed rate of application of approximately 1.5% of unit weight or as directed by the Engineer.

Bituminous Stabilizing Agents

Bituminous stabilizing agents shall be added to the milling or recycling process by pumping from a mobile bulk tanker that is pushed from behind by the recycling machine. The application rate of bituminous stabilizing agent shall be approximately **2.5%** of unit weight or as directed by the Engineer.

Tankers shall be equipped with a built-in thermometer and heating facilities to ensure that the bituminous stabilizing agent is maintained at 360°F $\pm$ 20°F.

Bitumen that has been heated above 425°F shall not be used for producing foamed bitumen and shall be removed from the site.

The system employed to add a foamed bitumen stabilizing agent to the cold foam in-place recycling process shall conform to the requirements specified in "Plant for Cold Foam In-Place Recycling" of these special provisions.

The Contractor shall verify bituminous stabilizing agent usage quantities by measuring tanker volume at start of cut, every 1000 linear feet recycled and at the end of each cut. At the end of each workday the measurements and bitumen weight tickets shall be given to the Engineer.

A one-quart sample of bituminous stabilizing agent shall be taken from each tanker load and submitted to the Engineer for testing.

Moisture Content Control for Recycled Material

Sufficient water shall be added during the recycling process to meet the moisture requirements specified below. Water shall be added only by means of the microprocessor control system on the recycling machine and care shall be taken to prevent excessive wetting.

Any portion of the work that becomes too wet will be rejected and the Contractor shall correct the moisture by drying out and reprocessing the material, together with fresh stabilizing agent (only where cementitious stabilizing agent is employed as the principal stabilizing agent). Corrective work shall be at the Contractor's expense.

At the time of compaction, the moisture content of the recycled material can be determined as follows, depending on the principal type of stabilizing agent employed:

1) When cementitious stabilizing agents are used:

The moisture content during compaction shall not exceed 75 percent of the saturation moisture content of the natural material without the stabilizing agent, calculated at Maximum Dry Density.

2) When non-cementitious stabilizing agents are used and material recycled without stabilizing agents:

The moisture content during compaction shall not exceed the optimum moisture content, nor shall it be more than 2 percent below the Optimum Moisture Content.

When bitumen stabilizing agents are used:

The total fluid content of the material during compaction shall not exceed the optimum total fluid content. The total fluid content shall be determined by summing the total amount of bitumen emulsion applied (not only the water fraction) to the in-situ moisture content before mixing, plus any other water applied independent of the water fraction of the emulsion.

Grading of the Recycled Material

The forward speed of the recycling machine, rotation rate of the milling drum, and the positioning of the gradation control beam shall be set to break down the in-situ material to an acceptable grading.

Addition of Water and Foamed Bitumen Stabilizing Agent

The microprocessor control system for the addition of water and foamed bitumen shall be set and carefully monitored to meet the required compaction moisture and stabilizer content.

Control of Cut Thickness

The actual depth of cut shall be physically measured at both ends of the milling drum at least once every 330 feet along the cut length.

The cold foam depth shall be as shown on the plans.

Overlap on Longitudinal Joints

To ensure complete recycling across the full width of the road, longitudinal joints between successive cuts shall overlap a minimum of 2 inches.

The pre-marked cut lines marked on the road surface shall be checked to ensure that the width of the first cut is equal to that of the milling drum and that the width of all the successive cuts shall be narrower than the drum width by at least 2 inches. The recycling machine shall be steered so as to accurately follow the pre-marked cut lines. Any deviation in excess of 2 inches shall be rectified immediately by reversing to where the deviation commenced and reprocessing along the correct line, without the addition of any further water or stabilizing agent.

The overlap width shall be confirmed before starting each new cut sequence and any adjustments made to ensure that the amount of water and fluid stabilizing agent to be added is reduced proportionately by the width of the overlap.

Continuity of Stabilized Layer

The Contractor shall ensure that there is no gap of un-recycled material created between successive cuts (along the same longitudinal cut line), nor any untreated wedges created by the entry of the milling drum into the existing material. The exact location at which each cut terminates shall be carefully marked. This mark shall coincide with the position of the center of the milling drum at the point at which the supply of stabilizing agent ceased.

To ensure continuity of the stabilized layer the next successive cut shall begin at least 1m behind this mark.

Level and Shape Control

Processed material shall be spread to fill the cut void. Such spreading shall be achieved either by a screed attached to the rear of the recycling machine, or by a motor grader following behind. Care shall be exercised while spreading to prevent undue segregation. If segregation of material occurs the work will be rejected, and the Contractor shall reprocess the material. No Stabilization agent shall be used. Corrective work will be at the Contractor's expense.

To prevent the final Surface from tearing and scarring, the level and cross-sectional shape requirements shall be addressed prior to the material receiving the final compactive effort.

Compaction

After placing and shaping, the compacted recycled material shall have a relative compaction of not less than 98 percent as measured by California Test 231. Rolling shall commence as soon as it is practical, and shall follow the predetermined sequence specified in "Test Strip Section" of these special provisions.
Excess material for shoulder backing shall not be compacted, but remain in a loose state until pulled back and then compacted.

Watering, Finishing and Curing

After compaction, the roadway surface shall be treated with a light application of water and rolled with pneumatic tired rollers to create a close-knit texture. The finished surface of the recycled layer shall be kept continuously damp by frequent light watering until all required reworking of material has been accomplished. After reworking of material has been accomplished, the recycled material shall be cured for at a minimum of two days prior to placing asphalt concrete over material.

The finished layer shall be free from:

A. Surface laminations

B. Segregation, of fine and coarse aggregate, and;

C. Corrugations or any other defects that may adversely affect the performance of the layer.

TEST STRIP SECTION

The Contractor shall assemble all items of plant equipment for the recycling operations on the first day of recycling work to construct a test section for the project. The test strip section shall be recycled to:

A. Demonstrate that the equipment and processes can produce recycled layers to meet the requirements specified in these special provisions;

B. Determine the effect on the grading of the recycled material by varying the forward speed of the recycling machine and the rotation rate of the milling drum; and

C. Determine the sequence and manner of rolling necessary to obtain the minimum compaction requirements.

The demonstration section shall be at least 330 feet in length for a full lane width or a halt-road width at a location approved by the Engineer. The Contractor shall repeat the test strip process until parameters of the material properties conform to the requirements specified herein and as directed by the Engineer. The repeated process of the test strip shall be done at the Contractor's expense. The corrective method shall be determined by the Contractor and as directed by the Engineer.

PROTECTION AND MAINTENANCE

The Contractor shall protect and maintain the recycled layer until the next layer or surfacing is applied. Frequent light watering shall be performed to prevent the surface from drying out when the material is still being reshaped. Any damage or defects in the layer shall be repaired immediately. An even and uniform surface shall be maintained.

A drop off of more than 0.15 feet will not be allowed at any time adjacent to traveled lanes of asphalt concrete surfacing. Cut-back asphalt material must be placed at place where drop offs exceed 0.15 feet. Cut-back asphalt material must stay intact at all times.

Prior to beginning recycling operations each day, the Contractor shall sweep all segments of stabilized base surface constructed the prior day to remove loose material. All sweeping operations shall be in compliance with Butte County Air Quality Board requirements.

Prior to opening the recycled roadway surface to traffic, the Contractor shall sweep all segments of loose materials. The Engineer will determine whether the quality of material and workmanship provided conforms to the requirements off these special provisions and whether or not the recycled material will support public traffic.

Prior to opening the recycled roadway surface to traffic, C6 "LOOSE GRAVEL" signs and W6 (35) speed advisory signs shall be furnished and placed adjacent to both sides of the traveled way where recycling operations are being performed on a traffic lane. The first C6 sign in each direction shall be placed where traffic first encounters a recycling location, regardless of which lane the recycling is being performed on.

The W6 (35) signs need not be placed in those areas with posted speed limits of less than 40 MPH. The signs shall be placed at maximum 2,000 foot intervals along each side of the traveled way and at public roads or streets entering the recycled pavement surface area as directed by the Engineer.

The C6 and W6 signs shall be maintained in place at each location until the initial layer of asphalt concrete surfacing at that location is completed. The C6 and W6 signs shall conform to the provisions for construction area signs in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications. The signs may be set on temporary portable supports with the W6 below the C6 or on barricades with the W6 sign alternating with the C6 sign.

CONSTRUCTION TOLERANCES

The completed recycled layer shall comply with the construction tolerances set forth in these special provisions.

Surface Levels

The surface levels of the finished recycled layer shall not vary by more than 0.4 inches above or below the surface levels determined from the grade and cross-section information established by the Contractor and Engineer prior to cold-foaming.

Layer Thickness

A lot size shall be at least 0.8 inches thickness measurements. The lot will comply with the requirements specified if it meets the following tolerances:

A. D90 is greater than or equal to 0.8 inches, that is, at least 90 percent of all thickness measurements are equal to or thicker than the specified thickness, minus 0.8 inches;

B. Dmean is greater than or equal to Dspec - (Dspec divided by 20), that is, the mean layer thickness for the lot shall not be less than the specified layer thickness minus the specified layer thickness divided by twenty; and

C. Dmax < 1.2 inches, that is, no individual layer thickness measurement shall be less than the specified thickness minus 1.2 inches.

Cross-Section

When tested with a straightedge laid at right angles to the centerline of the road, the surface shall not deviate from the bottom of the straightedge by more than 0.4 inches.

At any cross section, the finished cross slope shall not vary by more than 0.5 percent from the existing cross slope, as shown on the plans, or as directed by the Engineer.

ROUTINE INSPECTION AND TESTS

Every 1,000 square yards of CFIPR, prior to opening the roadway to traffic at the end of the day's work, or determined necessary by the Engineer, an inspection will be undertaken and routine tests made by the Engineer to determine whether the quality of material and workmanship provided complies with the requirements set forth in "Test Strip Section" and in "Protection and Maintenance" of these special provisions.

A geotechnical report and mix design is attached to this bid for the Contractor's use. The City will be responsible for geotechnical and compaction tests. However, the Contractor will be responsible for the cost of re-testing (for failed tests). It is the intent of this Special Provision to allow recycling, grading, and compaction of the entire project area prior to the placement of final wearing surface. With proper treatment and compaction, traffic is allowed on the recycled material prior to overlay. The Contractor shall furnish the survey control adequate to maintain the present and future grade (horizontal, vertical, super- elevation, crown and cross-slope) on the street. It is anticipated that additional Class 2 AB material is not needed on this project. However, if it is required for any reasons not anticipated here, the compensation shall be based on a per cubic yard basis at bid price, delivered on site, and inclusive of all costs. No other compensation shall be allowed.

c. Measurement: **Cold foam in-place recycling shall be measured by the square foot**. The area to be paid for will be calculated on the basis of the dimensions shown on the plans adjusted by the amount of any change ordered by the Engineer. Cold foam in-place recycling performed outside those dimensions will not be measured or paid for. Test strips conforming to the requirements of these special provisions will be included in the quantity to be paid for. **Bituminous stabilizing agents for the Cold Foam In-Place Recycling (CFIPR) process shall be measured by the ton.**

d. Payment: The **contract price paid per square foot for cold foam in-place recycling** shall include full compensation for furnishing all labor, materials including cementitious material and cold foaming paving asphalt, tools, equipment and incidentals, and for doing all the work involved in cold foam in-place recycling, complete in place, including preparation of the existing roadway surface; referencing the profile and cross slope of existing pavement; furnishing and applying water foaming asphalt for asphalt stabilizing agent, mixing, blending, placing and compacting the recycled material, reworking all material in overlapping adjacent cuts regardless of the number of cuts or width of overlap necessary to cover the full road width; protection and maintenance of the recycled layer; and performing all moisture, gradation and relative compaction tests; re-establishing the profile and cross slope grade for the finished surface of the recycled material; performing coring and obtaining measurements and recording results of all tests and cores; and for furnishing, placing, maintaining, and removing C6 (Loose Gravel) and W6 (35 MPH) signs and temporary supports or barricades for the signs; and removal and referencing of pavement markers and traffic stripes, working around existing utilities, cut back asphalt material, and sweeping, as shown on the plans, as specified in these special provisions, and as directed by the Engineer.

The **contract price paid per ton for Bituminous stabilizing agents** for the Cold Foam In-Place Recycling (CFIPR) process shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. **Section 4-1.03 of Standard Specifications shall not apply to tonnage of Bituminous stabilizing agents. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.**

16. Repair Failed Cold Foam In-Place Recycling (CFIPR) Area

a. Description of Work: Upon completion of cold foam process and prior to AC overlay, the Contractor shall investigate entire cold foam area as shown on the plans for failed areas. If an area is found to have failed, the Contractor shall neat cut the cold foam material to the limits of the failure and shall excavate to 9 inches below existing CFIPR surface. The Contractor shall then place 9” of Type A, PG64-10, 3/4" maximum, coarse grading, asphalt concrete as directed by the Engineer.

b. Payment: Full compensation for Repair Failed Cold Foam In-Place Recycling (CFIPR) Area shall be considered as included in other contract prices paid and no separate payment will be made. Repair Failed Cold Foam In-Place Recycling (CFIPR) Area shall include furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in repair failed cold loam in-place recycling (cfipr) area, including saw-cutting, excavating, Type A, PG64-10, asphalt concrete, replacement of temporary pavement delineation, sweeping, pickup and disposing of failed material as specified in these special provisions and as directed by the engineer.

17. Roadway Excavation

a. Description of Work: All earthwork shall conform to the provisions of Section 19, "Earthwork" of the Standard Specifications and these Special Provisions.

Roadway excavation shall consist of performing all operations necessary to excavate earth, rock, and all other materials upon which the fill, aggregate base, or other material is to be constructed; to build embankment, in the location and to the elevation and form required; to backfill ditches and depressions caused by the removal of obstructions; to furnish all equipment necessary for these operations, and the performances of all incidental work of whatever nature that may be required to build the grade and maintain it in the form specified. Included in the

work shall be all associated sawcutting of pavement, grading areas to drain, and the scarification and recompacting to 95% relative compaction of the top 6 inches of the subgrade.

Surplus Material: Unless otherwise shown on the plans or specified in the Special Provisions, surplus excavated material shall be collected, hauled and deposited away from the project by the Contractor and shall be paid as a part of this item.

b. Measurement: Quantities of roadway excavation shall be measured by the cubic yard.

Quantities of roadway excavation will be computed by means of average end areas and distances between these areas, except as provided in the following paragraph:

Where due to changed conditions or the nature of a particular operation or for any other reason, it is impossible or impractical to measure quantities of roadway excavation by means of average areas, the Engineer will compute the quantities of material excavated by a method which in his opinion is best suited to obtain an accurate determination.

Payment: Quantities of roadway excavation will be paid for at the contract price per cubic yard, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in performing roadway excavation work completely including the sawcutting of pavement and grading areas to drain, excavating, slope rounding tops and ends of excavations, loading, hauling, depositing, spreading and compacting the material complete in place, preparing subgrade at the grading plane, and scarifying and compacting the top 6" of subgrade as shown on the plans and as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

18. Aggregate Base

a. Description of Work: Aggregate Base shall conform to the provisions in Section 26, "Aggregate Bases" of the Standard Specifications and these Special Provisions. The maximum size of aggregate shall be three-quarters (3/4) inch as set forth in Section 26, or as specified by the Engineer. Aggregate Base shall be Class 2.

b. Measurement: The quantity of aggregate base will be measured by the cubic yard from lip of gutter to lip of gutter compacted in place.

c. Payment: The contract price paid per cubic yard for Aggregate Base – Class #2 shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and doing all the work involved in constructing Aggregate Base, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

19. Asphalt Concrete

a. Description of Work: Asphalt concrete shall conform to the provisions in Section 39, "Asphalt Concrete" of the Standard Specifications and these Special Provisions.

The contractor shall furnish a pneumatic tired roller to be used for intermediate rolling.

A paint binder (tack coat) of asphaltic emulsion shall be applied to the areas to be surfaced in accordance with Section 39-4 of the Standard Specifications. Prime coat will not be required on base rock. Asphaltic emulsion shall be type SS1 unless otherwise permitted by the engineer.

Asphalt concrete shall be Type A, PG64-10, 3/4" maximum, coarse grading for pavement lifts greater than 0.15 foot in thickness and ½" maximum coarse grading for lifts 0.15 foot in thickness and under, with an approximate oil content of 6 percent or as designated by the Engineer. Sections of paving to receive greater than 2" of new asphalt concrete shall be paved in two separate lifts. Asphalt concrete shall be spread in the number of layers indicated in Section 39-6, "Spreading and Compacting" of the Standard Specifications and shall be compacted with approved equipment as delineated in the Standard Specifications.

b. Measurement: Asphalt concrete will be measured by the ton.

c. Payment: The contract price paid per ton for asphalt concrete shall include full compensation for furnishing all labor, materials, tools and equipment and incidentals and for doing all the work involved in constructing asphalt concrete, complete in place, including application of prime coat or paint binder, as shown on the plans and as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

20. Pavement Grinding

a. Description of Work: Pavement grinding shall consist of milling the edges along conform lines and over areas of existing asphalt concrete at locations and to widths as shown on the plans and as directed by the Engineer, and removing and disposing of the resulting debris away from the job site.

Pavement adjacent to manholes, valve boxes, or other appurtenances located within the horizontal limits for pavement grinding shall be ground to match the profile of adjacent pavement with only the appurtenance itself protruding above the grinding plane.

Care shall be taken to avoid damage or displacement to adjacent concrete curb, gutter and/or sidewalk. Any such damage or displacement shall be repaired at the Contractor's expense as required by the Engineer.

Milling shall be done using a cold planing (milling) machine.

b. Measurement: Pavement grinding shall be measured by the square foot as designated in the Engineer's Estimate.

c. Payment: The contract price paid for pavement grinding shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for all the work necessary to perform surface grinding, including removal and disposal of debris and repair of damaged or displaced improvements as shown on the plans, as required by the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

21. Shoulder Backing

a. Description of Work: This work shall consist of constructing shoulder backing adjacent to the edge of new pavement surfacing in conformance with the details shown on the plans and these special provisions.

Material for shoulder backing shall be imported material or material processed from reclaimed portland cement concrete, lean concrete base, cement treated base, or a combination of any of these materials, conforming to the following grading and quality requirements:

Grading Requirements		Quality Requirements		
Sieve Sizes	% Passing	Specification	California Test	Requirement
2" (50 mm)	100	Sand Equivalent	217	10 min-30max
1" (25 mm)	75 - 100	Resistance (R-value)	301	50 min
No. 4 (4.75 mm)	40 - 60	Percent Crushed Particles	205	75% min
No. 30 (600 µm)	12 - 35	Durability Index	229	20 min
No. 200 (75 µm)	5 - 20			

At the option of the Contractor, aggregate for shoulder backing may consist of material processed from reclaimed asphalt concrete conforming to the following grading and quality requirements:

Grading Requirements		Quality Requirements		
Sieve Sizes	% Passing	Specification	California Test	Requirement
2" (50 mm)	100	Resistance (R-value)	301	50 min
3/4" (19 mm)	70 - 100	Percent Crushed Particles	205	75% min
No. 4 (4.75 mm)	30 - 80	Durability Index	229	20 min

Coarse aggregate consisting of material retained on the No. 4 (4.75-mm) sieve, shall consist of material of which at least 75 percent by mass shall be crushed particles with a minimum of two fractured faces, as determined in conformance with California Test 205.

Shoulder backing material shall have a minimum unit weight of 135 lb/ft^3 (2160 kg/m3) as determined in conformance with California Test 212.

Shoulder backing material shall not be treated with lime, cement or other chemical mixtures.

Shoulder backing material consisting of reclaimed asphalt concrete, shall not be placed within 100 feet (30 m) measured horizontally of any culvert, watercourse, or bridge within the project limits.

The areas where shoulder backing is to be constructed shall be cleared of weeds, grass, and debris. Removed weeds grass and debris shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Prior to placement of shoulder backing material, basement material shall be scarified to a minimum depth of 3 inches (75 mm). Immediately prior to placement of shoulder backing material, scarified material shall be watered. Shoulder backing material shall be placed, watered, and rolled a minimum of two passes with a steel tired roller weighing not less than 8 ton (7.2 tonne) to form a smooth, compacted surface. Watering shall conform to the provisions in Section 17, "Watering," of the Standard Specifications.
Shoulder backing material shall not be deposited on new pavement surfacing prior to placing the material in the final position, nor shall the material be deposited onto new pavement surfacing during mixing, watering, and blading operations.

Shoulder backing construction shall be completed along the edges of any portion of new pavement surfacing within 5 days after completion of that portion of the new surfacing. Prior to opening a lane adjacent to uncompleted shoulder backing to uncontrolled public traffic, the Contractor shall furnish, place, and maintain portable delineators and W8-9 (LOW SHOULDER) signs off of and adjacent to the new pavement surfacing. Portable delineators shall be placed at the beginning and along the drop-off of the edge of pavement, in the direction of travel, at successive maximum intervals of 500 feet (150 m) on tangents and 200 feet (60 m) on curves. W8-9 (LOW SHOULDER) signs shall be placed at the beginning and along the drop-off at successive

maximum intervals of 2000 feet (600 m). The portable delineators and W8-9 (LOW SHOULDER) signs shall be maintained in place at each location until the shoulder backing is completed at that location. Portable delineators and signs shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, except the signs may be set on temporary portable supports or on barricades.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

b. Measurement: Shoulder backing shall be measured by the Cubic Yard.

c. Payment: The contract price paid per cubic yard for imported material (shoulder backing) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing shoulder backing, complete in place, including furnishing, placing, maintaining, and removing portable delineators, W8-9 (LOW SHOULDER) signs, and temporary supports or barricades for the signs, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

22. Water

a. Water: The Contractor shall furnish for use under these Special Provisions all water required and as set forth under Sections 10, 17, 19, and 25 of the Standard Specifications.

b. Measurement and Payment: The cost for furnishing water shall be considered as being included in the contract unit price paid for other items of work, and no separate payment will be allowed.

23. Roadside Signs

a. Description of Work: Roadside signs shall be installed at the locations shown on the plans or where directed by the Engineer, and shall conform to the provisions in Section 56-2, "Roadside Signs," of the Standard Specifications and these Special Provisions. Material for roadside sign posts shall be metal in accordance with Section 56-2.02A, "Metal Posts" of the Standard Specifications. Sign panels shall be furnished by the Contractor. All fasteners used for roadside signs shall be vandal proof.

All backgrounds, borders, letters, numerals, shields, and arrows on all permanent signs shall be constructed of encapsulated lens reflective sheeting.

All signs shall be manufactured with encapsulated lens sheeting. The reflective sheeting shall conform to the requirements for encapsulated lens sheeting as found in the California Department of Transportation publication, "SPECIFICATIONS FOR REFLECTIVE SHEETING ALUMINUM SIGNS", dated July 1985. The Contractor shall provide certification that the sheeting not only conforms to Caltrans standards but also carries the manufacturer's ten year warranty.

b. Sign Sizes: All signs provided shall be Caltrans standard size unless otherwise noted on the plans.

c. Measurement: Roadside signs shall be measured per each.

d. Payment: The contract price paid for roadside signs shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing roadside signs as shown on the plans, as specified in section 4-1.03 of the Standard Specifications and these Special Provisions, and as directed by the Engineer.

24. Relocate Roadside Signs

a. Description of Work: Existing roadside signs shall be removed and relocated at new locations shown on the plans.

Each roadside sign shall be installed at the new location on the same day said sign is removed from its original location.

b. Measurement: Relocation of roadside signs shall be measured per each.

c. Payment: The contract price per each relocated roadside sign shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in relocating roadside signs as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

25. Reset Roadside Signs

a. Description of Work: Existing roadside signs shall be reset as shown on the plans, or as directed by the Engineer.

b. Measurement: Resetting of roadside signs shall be measured per each.

c. Payment: The contract price per each reset roadside sign shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in resetting roadside signs as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

26. Remove Pavement Markers, Traffic Stripes and Pavement Markings

a. Description of Work: Where shown on the plans, existing pavement markers, traffic stripes and pavement markings when no longer required for traffic lane delineation as directed by the Engineer, shall be removed and disposed of.

b. Measurement and Payment: Full compensation for removing and disposing of pavement markers, traffic stripes and pavement markings shall be considered as included in the contract lump sum price paid for clearing and grubbing and no separate payment will be made.

27. Thermoplastic Traffic Stripes and Pavement Markings

a. Description of Work: Thermoplastic Traffic Stripes (traffic lines) and Pavement Markings shall conform to the provisions in Sections 84-1, "General," and 84-2, "Thermoplastic Traffic Stripes and Pavement Markings," of the Standard Specifications and these Special Provisions.

Section 84-2.02, "Materials," and 84-2.03, "Manufacturing, Packing, and Labeling," of the Standard Specifications are deleted.

All pavement markings shall conform to City of Chico stencils.

The Contractor shall provide thermoplastic with an alkyd binder.

The thermoplastic material shall conform to State Specifications 8010-21C-19. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of State Specification 8010-21C-22 (Type II), or AASHTO Designation: M 247 (Type I).

State Specifications for thermoplastic material and glass beads may be obtained from the Transportation Laboratory, P. O. Box 19128, Sacramento, CA 95819, (916) 739-2400.

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.090 -inch.

Thermoplastic material for traffic marking (crosswalks, arrows, "only", etc.) shall be applied at a minimum thickness of 0.120 inch.

b. Measurement: Thermoplastic Traffic Stripes will be measured per detail by the lineal foot, and Pavement Markings will be measured by square foot of actual area marked.

c. Payment: The contract price paid per lineal foot per detail for Thermoplastic Traffic Stripes and per square foot Pavement Markings shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in pavement marking including layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

28. Object Marker

a. Description of Work: Object markers shall conform to the provisions in Section 82, "Markers and Delineators," of the Standard Specifications and these Special Provisions.

b. Measurement: The quantity of object markers shall be measured per each installed.

c. Payment: The contract price paid for object markers shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing object markers, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

29. Pavement Markers

a. Description: Pavement markers shall conform to the provisions in Section 85, "Pavement Markers," of the Standard Specifications and these Special Provisions.

The Contractor shall use hot melt bituminous adhesive.

Pavement markers shall be placed to the line established by the Contractor per the plans and to the approval of the Engineer. At a minimum control points will be placed every 100 feet on tangents, 40 feet on curves and tapers, and one line of points in each direction of travel.

When bituminous adhesive is used for pavement marker placement, traffic control during placement operations shall conform either to the requirements of "Traffic Control System For Lane Closure" or "Traffic Control For Traffic Striping" of the Special Provisions.

b. Measurement: Pavement markers shall be measured per each in place.

c. Payment: The contract price paid per each pavement marker shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing pavement markers complete in place, including adhesive and establishing alignment as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

30. Modify Drainage Inlets

a. Description of Work: Modify Drainage Inlets shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.

Existing pipe and drainage inlets shall be modified as shown on the plans.

Portland cement concrete shall conform to the provisions in Section 90-10, "Minor Concrete," of the Standard Specifications, or may be produced from commercial quality aggregates and cement containing not less than 564 pounds of cement per cubic yard.

b. Measurement: The quantity of Modify Drainage Inlets shall be measured per each.

c. Payment: The contract price paid per each for Modify Drainage Inlet shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in modifying inlets, including removing portions of inlets, bar reinforcing steel, concrete and structure excavation and structure backfill, as shown on the plans, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

31. Lower and Raise Frames and Covers, Frames and Grates, or other facilities to Grade

a. Description of Work: Frames and covers, frames and grates of existing manholes, inlets, or other facilities shall be lowered for CFIPR process and raised to final grade of finished asphalt in accordance with the provisions in Section 15-2.05, "Reconstruction," of the Standard Specifications.

The use of raising devices will not be permitted.

Concrete collars shall be installed around frames of all flushing holes and manholes in accordance with City Standard Plan No. S-13.

b. Measurement: Lowering and Raising Frames and Covers, Frames and Grates, or other facility boxes shall be measured per facility per each location.

c. Payment: The contract price paid per facility per each location for frame and cover, frame and grate, or other facility, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in lowering and raising frames and covers, frames and grates, or other facility, as shown on the plans, including placement of concrete collar, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

32. Storm Drain Pipe

a. Description of Work: The Contractor shall furnish for use as storm drain pipe any of the following types of pipe materials. Pipe material shall not vary between structures. Existing pipes extending from structures shall be removed if new pipe being installed is of dissimilar material.

Reinforced Concrete Pipe

Reinforced concrete pipe shall conform to the provisions in Section 65, "Reinforced Concrete Pipe," of the Standard Specifications and these Special Provisions. Reinforced concrete pipe shall be Class III, unless otherwise shown on the plans.

Polyvinyl Chloride (PVC) and High Density Polyethylene (HDPE) Pipe

PVC or HDPE pipe shall be in accordance with the requirement of Section 64 of the Standard Specifications, except that Type C corrugated polyethylene pipe shall not be allowed.

Smooth interior wall ribbed polyvinyl chloride drain pipe shall meet the requirements for materials and installation of Section 64, “Plastic Pipe,” of the Standard Specifications for sizes 18-inch to 48-inch.

Polyvinyl Chloride sewer pipe 10-inch to 15-inch having integral bell and spigot joints, and conforming to ASTM Specification D3034 with a maximum dimensional ratio (DR) of 35. Provision must be made for contraction and expansion at each joint with a rubber ring gasket conforming to ASTM 3212. Fittings and accessories shall be manufactured and furnished by the pipe supplier or approved equal and shall be compatible in all respects with the pipe. Installation shall meet the requirements of ribbed polyvinyl chloride drain pipe of Section 64, "Plastic Pipe", of the Standard Specifications.

Smooth interior Type S corrugated polyethylene pipe or ribbed profile wall polyethylene pipe shall meet the requirements for materials and installation of Section 64, Plastic Pipe of the Standard Specifications for sizes 12 inches through 36 inches.

Cast In Place Concrete Pipe

Cast in place concrete pipe shall meet the requirements for materials and methods of installation as set forth in Section 63 of the Standard Specifications. Cast in place concrete pipe shall not be used when the depth of cover from the top of pipe to finished grade is less than 2.5 feet.

Temporary pavement shall be placed on all disturbed paved areas at the end of every work day. Temporary pavement replacement shall be asphalt plant cold mix and shall be placed level with the existing pavement. The Contractor shall maintain all temporary pavement replacement flush with the existing pavement until the permanent pavement replacement is placed.

b. Trench Excavation: Trench excavation shall conform to the provisions in Section 19-3, "Structure Excavation", of the Standard Specifications and these Special Provisions. The excavation for storm drain pipe shall not be made further in advance of laying the pipe than is practical to complete the pipe laying and backfill operation each day.

i. Excavation for Laying Pipe: Pipe shall, unless otherwise directed, be laid in open cut. All trenches shall have vertical sides from the bottom to a point at least six (6) inches above the top of the pipe. Above this point in unstable ground, with the written consent of the Engineer, the trench may be sloped as directed. Trenches shall be six (6) inches minimum, wider on each side, or a total of twelve (12) inches minimum, wider than the exterior diameter of the pipe, exclusive of sockets. In the event that sheeting is required, the width of the trench shall be increased sufficiently to accommodate the sheeting. Sheeting shall not be driven below the invert grade of the pipe unless absolutely necessary due to ground conditions, as sheeting is to be removed in conjunction with the backfilling. If sheeting is driven below the invert grade as required above, it shall remain in place, except that portion two (2) feet above the top of the pipe, which shall be cut off and removed as the backfilling is completed.

When using movable trench support, care shall be exercised not to disturb the pipe locations, jointing or embedment. Any voids left in the embedment material by support removal shall be carefully filled with compacted granular material. Removal of any bracing between sheeting, trench boxes or shields shall only be done where backfilling procedures permit removal without loss of trench support. Any longitudinal movement or disjointing of pipe which results from movement of trench boxes or shields shall be corrected before additional pipe is placed.

ii. Trenches in rock: Every trench in rock shall be fully opened to a final depth at least thirty (30) feet in advance of any place where pipe is being laid. In rock the trench shall be carried six (6) inches below the external diameter of the pipe. Bedding material consisting of clean washed sand, with a maximum particle size of 1/4 inch, and with a minimum of 70 percent passing a No. 20 screen or graded sand and gravel with a maximum particle size of 3/4 inches conforming to the graduation requirements for Class 2 Aggregate Base per Section 26 of the Standard Specifications, shall be placed, spread and compacted to provide a firm uniform bed for supporting the pipe.

iii. Soil Testing: Should soil conditions such as running water or unstable soils be encountered during trench excavation, the director may require testing in advance of excavation to determine the nature and extent of the conditions. After such determination is made, the Engineer may require modified trenching and embedment procedures, as required by soil conditions.

iv. Preparation of Subgrade: The subgrade for pipe shall be so prepared that the entire length of each section of pipe shall have a firm and uniform bearing except for such distance as is necessary for bell holes and the proper sealing of the pipe joints. Bell holes below the elevations of the pipe subgrade shall not be larger than one-fourth (1/4) of the distance between pipe joints.

v. Overcut: Excavations shall be carried to the exact depth indicated on the plans or as specified. Should the Contractor, through his or her negligence or other fault, excavate below the designed lines, he or she shall replace such excavation with approved materials at his own expense.

vi. Approval of Excavations: The contractor shall notify the engineer where excavations for structure or pipes are completed, and no concrete shall be deposited or pipes laid until the excavations are approved.

c. Trench Backfill, Storm Drain: Trench backfill shall conform to the provisions in Section 19-3, "Structure Backfill", of the Standard Specifications and these Special Provisions.

i. Reinforced Concrete Pipe and Cast In Place Concrete Pipe

(1) Public Right of Way (Streets, Easements, Alleys):

(a) Location: Any portion of the street right of way upon which aggregate sub-base, aggregate base, asphalt concrete or PCC curb and gutter will be constructed or which have existing improvements for vehicular traffic.

(i) Backfill material, from the bottom of the trench to the place two (2) feet below subgrade or bottom of Standard S-17, “Pavement Replacement” may consist of trench excavation free from stones and lumps exceeding three (3) inches in greatest dimension, vegetable matter, or other unsatisfactory material. The material shall be compacted to a relative compaction with the requirements of Section 19-3.06 of the Standard Specifications.

(ii) Backfill material from two (2) feet below subgrade or bottom of Standard S-17, “Pavement Replacement” to subgrade shall conform to, and be constructed in conformance with all the requirements of Section 19-3.06 of the Standard Specifications.

(b) Location: Remaining portions of new street right of way.

Backfill material and installation, from the bottom of the trench to finished grade, shall conform to the requirements of Paragraph (1)(a), as noted above.

(c) County Streets:

(i) Trench backfill in County Streets shall be done in accordance with the details shown on the plans.

(2) State Highways

(a) Location: Any existing State Highway and future State Highways or Freeways.

Backfill material shall conform to and be placed in accordance with details shown on the plans and the requirements of Section 19-3.06 of the Standard Specifications.

ii. Polyvinyl Chloride and Polyethylene Pipe: Pipe bedding and shading material from the bottom of the trench to a plane one foot above the top of the plastic pipe shall be clean sand with a maximum particle size 1/4-inch and minimum of 70% passing a No. 20 screen, Class 2 aggregate base, 3/4" maximum grading, compacted to a relative compaction of not less than 95% or Slurry

Cement Backfill as specified in Section 19-3.06 Slurry Cement Backfill of the Standard Specifications. Backfill material from a plane one foot above the top of the plastic pipe to subgrade shall meet the above requirements for reinforced concrete pipe.

iii. Slurry Cement Backfill: Slurry cement backfill as specified in Section 19-3.062 Slurry Cement Backfill may be used as backfill from the bottom of the trench to 2 inches below the finished pavement surface. Asphalt concrete, Type B shall be placed over the slurry cement backfill to finished grade. When slurry cement is used as backfill in this manner Type 17 pavement replacement shall not be required.

iv. Disposal of Excess Material: Excess materials which have been excavated from trenches, and which cannot be utilized for backfill, shall be removed in accordance with the Special Conditions.

v. Compaction: Compaction of backfilled material by ponding or jetting will not be allowed unless specifically authorized by the Engineer.

d. Measurement: Quantities of storm drain pipe shall be measured by the lineal foot along the centerline of pipe to the inside face of the structure. When pipes are cut to fit a structure or slope, the quantity to be paid for will be the length of pipe necessary to be placed.

e. Payment: The contract price paid per lineal foot of storm drain pipe shall include full compensation for furnishing all labor, material, tools, equipment and doing all the work involved in installing pipe, complete in place, including structure excavation and structure backfill, including sawcutting and removal of existing pavement surfacing, and connecting new pipe to existing or new facilities, including concrete collars or concrete tees and reinforcement as shown on the plans, as required by the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

33. Portland Cement Concrete Drop Inlets

a. Description of Work: Portland cement concrete drop inlets shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these Special Provisions.

Concrete drop inlets shall be Class "A" concrete as specified in Section 90, "Portland Cement Concrete," of the Standard Specifications.

Portland cement concrete drop inlets, frames, grates and coverplates shall be of the dimensions as shown on the City of Chico, Department of Public Works Standards S-7, S-7A or S-26, and modifications to existing drop inlets as called for on the plans.

b. Measurement: The quantity of portland cement concrete drop inlets will be measured per each, complete in place.

c. Payment: The contract price paid for each portland cement concrete drop inlet (S-7, S-7A, or S-26) shall include full compensation for furnishing all labor, materials, tools, equipment, frame, grating and coverplate and doing all the work involved in constructing concrete drop inlets, including structure excavation and structure backfill, formwork, reinforcing steel, and concrete placement, complete in place, as shown on the plans, as required by the Standard Specifications and these Special Provisions and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

34. Remove Concrete

a. Description of Work: Removing concrete shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.

Concrete removed shall be disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Concrete shall be removed at expansion joints or by sawcutting at locations approved by the Engineer.

All excavated areas which remain after existing concrete is removed and new improvements are installed shall be filled with compacted topsoil to the grade of the adjacent ground and/or improvements. Said topsoil shall be free of any refuse, heavy or silt clay, hard dirt, clods, stones larger than one and one-half (1-1/2) inches in size, roots larger than three-quarters (3/4) of an inch in diameter, noxious weeds or other deleterious materials.

b. Measurement: Removal of existing concrete curb and/or gutter, shall be measured by the linear foot. Removal of existing concrete sidewalk and driveway shall be measured by the square foot.

c. Payment: The contract price paid per linear foot for removal of existing concrete curb and/or gutter and the contract price paid per square foot for removal of existing concrete sidewalk and driveways shall include full compensation for furnishing all labor, tools, materials and equipment, and for doing all the work involved, including sawcutting, backfill with topsoil, and disposal away from the job site, as shown on the plans and as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.

35. Miscellaneous Concrete Construction

a. Description of Work: Curbs, gutters, sidewalks, handicap ramps, driveways, and bus shelter pads shall conform to the provisions in Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications and these Special Provisions.,

Subgrade preparation shall conform to the provisions of Section 73-1.02 of the Standard Specifications. The Contractor shall be responsible for performing grading, including furnishing fill material and excavating, as necessary to establish finish grade for placement of concrete sidewalk, driveway, handicap ramp and bus shelter construction. Subgrade shall be compacted to a relative density of 95 percent in conformance with California Test Method No. 216.

Where concrete curb or curb and gutter is to be constructed in or adjacent to existing pavement the Contractor shall sawcut the existing pavement, remove existing structural section as required to complete the concrete installation, and upon completion of the concrete construction, place asphalt concrete and aggregate base between the new concrete and existing pavement.

No concrete shall be placed until the subgrade and forms have been reviewed for satisfactory compaction, alignment, and grade, and approved by the Engineer.

Premolded Expansion Joints, 1/4-inch-wide, shall be installed in all curbs, gutters, driveways, handicap ramps, and sidewalks as follows:

i. As shown on City of Chico Standards S-1, S-2, S-5, and S-27.

ii. At maximum 48-foot intervals in all new curb and gutter construction.

Control Joints, 1/8-inch-wide, scored at least 1/10 the depth of concrete being placed, shall be constructed at maximum 24-foot intervals in all new curbs, gutters, and sidewalks. Weakened plane joints shall be constructed in the ramps in accordance with the applicable provisions of Section 40-1.08(B) of the Standard Specifications.

Extruded curb, gutter and sidewalk construction shall not be used without prior approval by the Engineer.

Portland Cement concrete curbs and gutters, driveways, sidewalks, handicap ramps, and bus shelter pads shall be constructed at the location shown on the plans, or as directed by the Engineer, and shall conform to the details and dimensions as shown on the following City of Chico, Department of Public Works Standard Plans:

(a) Standard S-1, "Standard Portland Cement Concrete Sidewalk."

(b) Standard S-2, "Standard Vertical Curb and Gutter."

(c) Standard S-3, "Existing Curb and Gutter Replacement Details."

(d) Standard S-5, "Standard Driveway Approach" except driveway approaches across alleys and into municipal parking lots shall be a minimum of six inches (6") thick.

(e) Standard S-5A, "Standard Commercials Driveway Approach" except driveway approaches across alleys and into municipal parking lots shall be a minimum of six inches (6") thick.

(f) Standard S-5B, "Curb, Gutter and Driveway Details."

(g) Standard S-5C, "Curbed Driveway Entrance."

(h) Standard S-27, "Standard PCC handicapped ramp."

(i) Standard S-27A, "Standard PCC handicapped ramp."

b. Materials:

i. Concrete: Construction of all sidewalks, handicap ramps, curbs, gutters and driveways shall be of Class "A" Portland Cement concrete as specified in Section 90, "Portland Cement Concrete" of the Standard Specifications, and shall conform to the provisions of Section 90-10, "Minor Concrete," of the Standard Specifications.

ii. Adhesives: Adhesives or bonding agents used to join new concrete to existing concrete shall be approved by the Engineer prior to use in the work.

iii. Lampblack: Lampblack of approved quality shall be mixed with all concrete used in the work at the rate of one pound per cubic yard of concrete.

iv. Joint Filler: Premolded expansion joint filler shall conform to the provisions of Section 51-1.12C of the Standard Specifications.

v. Dowels: Steel dowels, where specified, shall conform to the provisions of Section 51.1.13 and 52.1.02A of the Standard Specifications.

vi. Curing: The curing method of Portland Cement concrete shall conform to Section 90-7.01B of the Standard Specifications. The curing compound shall consist of the compound specified in Section 90-7.01B(4) of the Standard Specifications.

c. Measurement: Concrete curb and/or gutter will be measured by the lineal foot in place. Concrete sidewalks and driveways and bus shelter pads shall be measured by the square foot in place. Handicap ramps shall be measured per each.

d. Payment: The unit price paid per linear foot for installation of concrete curb and/or gutter and the unit price paid per square foot for installation of concrete sidewalk and driveways and bus shelter pads and for each handicap ramp shall include full compensation for furnishing all labor, tools, materials and equipment, and for

doing all the work involved in installing curbs, gutters, sidewalks, driveways, bus shelter pads, and handicap ramps, including sawcutting existing pavement, removal of structural section material, providing fill material, placement of asphalt concrete adjacent to new concrete construction, grading and sand cushion under sidewalk, handicap ramp, bus shelter pad, and driveways, or aggregate base under curb and gutter, as shown on the plans as required by the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Section 4-1.03 of Standard Specifications shall not apply to Miscellaneous Concrete Construction. The City reserves the right to increase or decrease the quantities in excess of 25% without adjustment to the contract unit price.