



City of
Los Banos
At the Crossroads of California

Contract Documents
for
Construction of

THREE CITY-OWNED
PARKING LOT IMPROVEMENTS

SEPTEMBER 2024

Bid Proposals must be received no later than 2:00 p.m. September 23, 2024

**City of Los Banos City Clerk
520 J Street
Los Banos, CA 93635**

City of Los Banos
Public Works Department

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Advertisement for Bids

CITY OF LOS BANOS
520 J Street
Los Banos, California 93635

Notice is hereby given that separate sealed bids for the award of contract for the **Construction of Three City Owned Parking Lot Improvements** will be received by the City of Los Banos at the office of the City Clerk until 2:00 p.m. Pacific Standard Time, September 23, 2024 and then at said office publicly opened and read aloud.

The major work consists of rehabilitation of the following parking lots:

J Street & 7th Street Parking Lot
Ranchwood Park Parking Lot (515 Stonewood Drive)
Vineyard Basin B Park Parking Lot (640 Vineyard Drive)

The time for completion shall be sixty (60) calendar days.

The Contract Documents, in their entirety, can be viewed and/or obtained from the City of Los Banos website at www.losbanos.org or at the following locations:

Central California Builders Exchange (www.cencalbx.com)

Builders Exchange of Stockton (www.besonline.com)

Valley Builders Exchange, Inc. (www.valleybx.com)

Builders Exchange of Santa Clara County (www.bxscco.com)

Dodge Data & Analytics (www.construction.com/plans/)

A payment bond prepared and executed in accordance with California Civil Code Section 9550 and a bond for faithful performance of the contract will be required of the successful bidder who is awarded the contract.

The successful bidder must comply with the latest general prevailing rate of per diem wages as determined by the Director of Industrial Relations, State of California, Department of Industrial Relations and is to be paid to the various craftsmen and laborers required to construct said improvements and is made a part of the specifications and contract for said work to which reference is hereby made for further particulars.

No contractor or subcontractor may be listed on a bid proposal or awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractor registration information can be found at:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Each bid shall be accompanied by cashier's or certified check or by a bidder's bond, made payable to the City of Los Banos and executed by a corporate surety licensed to issue surety bonds in the State of California, for an amount equal to at least ten percent (10%) of the amount of said bid and no bid shall be considered unless such cashier's or certified check or bidder's bond is enclosed therewith.

The successful bidder of this project shall have the following current and active California State Contractor's License at the time of the submission of the bid and throughout the duration of the contract: **Class A – General Engineering Contractor, C-8 – Concrete Contractor, or C12 – Earthwork and Paving Contractor.**

The Contractor is responsible to inspect the site and observe actual working conditions prior to bidding the project.

Bidders shall refer to the Contract Document's Information for Bidders for complete instructions.

Bidders are solely responsible for the cost of preparing their bids.

The City specifically reserves the right, in its sole discretion, to reject any or all bids, to re-bid, or to waive inconsequential defects, in bidding not involving time, or quality of the work. The City may reject any and all bids and waive any minor irregularities in the bids.

Information for Bidders

Sealed bids will be received by the City of Los Banos (herein called the "Owner"), at the office of the City Clerk until 2:00 p.m. Pacific Standard Time (PST), on September 23, 2024 then at said office, publicly opened and read aloud. Owner shall reject all bids received after the specified time and will return such bids to bidder, unopened. Bidders must submit bids in accordance with these instructions. No emailed or faxed bids will be accepted.

The major work consists of constructing approximately 51,991 square feet of pavement, 73 linear feet of various types of concrete curbing and 320 square feet of concrete pedestrian walkway at three Parking lot locations located throughout the City of Los Banos. The time for completion is sixty (60) working days.

Each bid must be submitted in a sealed envelope and addressed to the City of Los Banos at 520 J Street, Los Banos, CA 93635. Each sealed envelope containing a bid must be plainly marked on the outside as **"THREE CITY-OWNED PARKING LOT IMPROVEMENTS: Attention City Clerk"**, and the envelope shall also bear on the outside, the name of the bidder, and their address. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the City of Los Banos at 520 J Street, Los Banos, CA, 93635, and also clearly state, **"THREE CITY-OWNED PARKING LOT IMPROVEMENTS: Attention City Clerk"**.

A complete bid includes the Bid Form, List of Subcontractors, Equal Employment Opportunity, Non-Collusion Affidavit, Debarment and Suspension Certification, Bid Schedule, Experience, Bid Bond with surety, and a copy of a current California State Contractor's License. A signed Addendum, if issued, must also be submitted with the sealed bid. The Total Bid Amount must be filled in, in ink or typewritten, and the bid must be fully completed and executed when submitted. Only one set of original bid forms are required to be submitted. Mistakes must be corrected and the correction inserted; correction must be initialed in ink by person or persons signing the bid. No conditional bids will be accepted.

The bid shall be signed by a person or persons legally authorized to bind bidder to the contract. The individual or individuals signing each document shall warrant that they are authorized to bind the bidder.

The Owner may waive any informalities or minor defects or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 30 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the bidder.

Each bid must be accompanied by a bid bond payable to the Owner for ten percent (10%) of the total amount of the bid. As soon as the bid amounts have been compared, the Owner will return the bid security of all except the three lowest responsive and responsible bidders. Once a bid has been awarded, and the payment bond and performance bond of the successful bidder has been received by the Owner, the bid security of the three remaining lowest responsive and responsible bidders will be returned.

All bonds must be acknowledged before a Notary Public by both the bidder and the surety. Attorneys-in-fact who sign bid bonds or payment bonds and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

Award and Execution of Contract

The party to whom the contract is awarded will be required to execute the Agreement, and obtain the performance bond and payment bond along with satisfactory evidence of insurance within ten (10) calendar days from the date when the Notice of Award is delivered to the successful bidder. The Notice of Award shall be accompanied by the necessary agreement and bond forms. In case of failure of the bidder to execute the Agreement, the Owner may, at his option, consider the bidder in default, in which

case the bid bond accompanying the bid shall become the property of the Owner.

A performance bond and a payment bond, each in the amount of 100 percent of the Contract Price, with a corporate surety named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570, will be required for the faithful performance of the contract. The payment bond must be issued by an admitted surety insurer holding a certificate of authority to transact surety insurance in California issued by the Insurance Commissioner.

All bonds must be acknowledged before a Notary Public by both the bidder and the surety. Attorneys-in-fact who sign bid bonds or payment bonds and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

The Owner, within 15 days of receipt of the performance bond, payment bond and agreement signed by the party to whom the contract was awarded, shall sign the Agreement and return to such party an executed duplicate of the agreement. Should the Owner not execute the Agreement within such period, the bidder may, by written notice, withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

The Notice to Proceed shall be issued within 10 days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed has not been issued within such period, the time may be extended by mutually agreed upon, and the bidder may terminate the Agreement without further liability on the part of either party.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

Subcontractors

The subcontractors listed by bidder in the bid shall list therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of one-half of one percent of the total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of the Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

Registration with California Department of Industrial Relations (DIR)

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. Labor Code Section 1771.1(a) requires contractors and their subcontractors to possess and maintain such registration with DIR in order to be awarded and to perform on public works projects (regardless of funding source).

Pursuant to Section 1771.4, each contractor and subcontractor shall furnish certified payroll records to the Labor Commissioner at least monthly and in a format prescribed by the Labor Commissioner of the DIR. Until such time that the DIR gives awarding agencies direct access to all certified payrolls submitted by contractors and subcontractors, contractor and his subcontractors are also required to submit copies of payroll records to Owner on a monthly basis. Information on the above can be found at:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Prevailing Wage

This work is subject to prevailing wage requirements. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the prevailing wage rates determined

by the Director of the Department of Industrial Relations of the State of California for similar classification of labor, the contractor and his subcontractor shall not pay less than the higher wage rate. In accordance with the provisions of Section 1773 of the Labor Code of the State of California, the Owner has obtained from the Director of the Department of Industrial Relations, the general prevailing rate for each craft, classification, or type of workman required for execution of the Agreement. A copy of said prevailing rate of per diem wages is on file in the office of the Owner, and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>.

The Federal minimum wage rates for this work as predetermined by the United States Secretary of Labor may be examined at the offices described above where the Contract Documents may be seen. Addenda to modify the Federal minimum wage rates, if necessary, will be posted on the internet at www.losbanos.org. Future effective general prevailing wage rates, which have been predetermined are on file with the California Department of Industrial Relations and are referenced but not printed in the general prevailing wage rates.

The Contractor is responsible to inspect the site and observe actual working conditions prior to bidding the project.

Bidders must satisfy themselves as to the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the drawings and specifications including addenda. After bids have been submitted, the bidder shall not assert that there was misunderstanding concerning the quantities of work or the nature of the work to be done. The failure or omission of any bidder to do any of the foregoing shall not relieve any bidder from any obligation with respect to his bid.

The Contract Documents contain the provisions required for the construction of the project. The Owner will not be responsible for, nor be bound by, any oral instructions, interpretations, or explanations issued by the Owner or its representatives. Any request for clarifications or questions of the Contract Documents shall be made in writing or email and deliverable to:

City of Los Banos Public Works Department
Attn: Charles Bergson, P.E.
charles.bergson@losbanos.org
411 Madison Avenue
Los Banos, CA 93635

Requests for clarification or questions shall be delivered to the Owner before 5:00 p.m. PST on September 17, 2024. Any Owner response to a request for clarification, questions and answers will be posted to the City's website at www.losbanos.org no later than 5:00 p.m. PST on September 19, 2024 and if necessary, shall become a part of the bid as an addendum.

Proposed timeline of events associated with the awarding of bid:

Release of Advertisement for Bid		September 9, 2024
Deadline to Submit Questions/Clarifications	5:00 p.m.	September 17, 2024
Addendum/Questions/Clarifications posted	5:00 p.m.	September 19, 2024
Bid Opening	2:00 p.m.	September 23, 2024
City Council Considers Bid	6:00 p.m.	October 2, 2024 (tentative)
Issuance of a Notice to Proceed	On or before:	October 15, 2024 (tentative)
Construction to Begin	On or before:	October 21, 2024 (tentative)

Qualification of Bidder

The Owner may make such investigation as it deems necessary to determine the ability of the bidder to provide the services requested, and the bidder shall furnish to the Owner all information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid should the evidence submitted by, or investigation of, the bidder fail to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the bid and to complete the requirements contemplated therein.

Governing Law and Venue

This bid, or any contract that may result from the award of this bid, shall be deemed to be made under, and shall be governed by and construed in accordance with, the laws of the State of California. Any action brought to enforce the terms, or provision of this bid or any contract that may result from the award of this bid, shall have venue in the County of Merced, State of California.

Mandatory Bid Protest Procedure

The lack of prompt procedure to resolve disputes regarding the bidding process would impair the Owner's ability to carry out its purpose of contracting this project in a timely manner. Therefore, to the maximum extent authorized by law and notwithstanding any other procedures specified in these Contract Documents, all disputes and/or protests regarding the bidding process shall be subject to the following procedure. In submitting a bid to the Owner for this work, the bidder agrees to comply with and to be bound by this procedure.

Any bid protest must be submitted in writing to the Owner before 5:00 p.m. on the fifth (5th) business day following bid opening.

1. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation. A non-refundable fee of One Thousand Dollars (\$1,000.00) made payable to the "City of Los Banos" shall accompany the protest documents and will be used by the Owner to recover costs in evaluating the bid protest. A bid protest submitted without the requisite fee shall not be considered by the Owner.
2. The party filing the protest must have actually submitted a bid for the work. A subcontractor of a party submitting a bid for the work may not submit a bid protest. Only bidders who the Owner otherwise determines are responsive and responsible are eligible to protest a bid.
3. A party may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
4. The protest must refer to the specific portion of the Contract Documents which forms the basis for the protest.
5. The protest must include the name, address and telephone number of the person representing the protesting party.
6. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
7. The Owner will give the protested bidder five (5) business days after the receipt of the protest to submit a written response. The responding bidder shall transmit the response to the protesting bidder concurrent with the delivery to the Owner.
8. The procedure and time limits set forth in this paragraph are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.

If the Owner determines that a protest is frivolous, the protesting bidder may be determined to be non-responsive and/or non-responsible and that bidder may be determined to be ineligible for future contract awards.

Cancellation of Contract

The Owner may terminate any contract derived from this bid as follows:

- WITHOUT CAUSE at any time by giving thirty (30) calendar days written notice to the

successful bidder;

- WITH CAUSE (Default) at any time by giving ten (10) calendar days written notice to the successful bidder. Cancellation for cause shall be at the discretion of the Owner and shall be, but is not limited to, failure to supply the items, materials, equipment or services specified within the time allowed or within the terms, conditions or provisions of this bid. The successful bidder may not cancel any contract derived from this bid, without prior written consent of the Owner.

Bid Form

TO: City of Los Banos
520 J Street
Los Banos, CA 93635

In compliance with the Advertisement for Bids the undersigned, as bidder, hereby offers to provide to the Owner, in accordance with the terms and conditions in the provisions set forth in the Contract Documents the stated total bid amount quoted on this Bid Form for the work of

THREE CITY-OWNED PARKING LOT IMPROVEMENTS

Total Bid Amount: \$_____

(Total Bid Amount in Written Form)

The undersigned certifies under penalty of perjury under the laws of the State of California and the United States of America, that the above quotation constitutes a bona-fide offer for the work, that undersigned is a duly authorized representative of the company listed, that the quotation is in no way sham or collusive, and that the executed Agreement between the bidder and Owner constitutes acceptance of bidder's total bid for the work stated in the Contract Documents. The undersigned has read the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents. The undersigned further certifies, under penalty of perjury that the Non-Collusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

The undersigned acknowledges receipt of the following addenda: _____

Signature: _____ Date: _____

Print Name: _____ Title: _____

Name of Business: _____

Doing business as: (*Circle One*): An Individual A Partnership A Corporation

Business Address: _____

Telephone No.: _____ Fax No.: _____

E-Mail Address: _____

License Number: _____ Class & Expiration Date: _____

List of Subcontractors

As of March 1, 2015, Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at: <https://www.dir.ca.gov/Public-Works/Contractor-Registration.html>

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid of \$10,000 (whichever is greater). **Photocopy this form for additional firms.**

Project: **THREE CITY-OWNED PARKING LOT IMPROVEMENTS**

The following work will be performed (or provided) by the following subcontractors, and coordinated by bidder:

Bid Item No.	Description of Work to be Performed	Percent of Total Contract	Subcontractor's License No.	DIR Registration No.	Subcontractor's Name and Address

Equal Employment Opportunity

Contractor hereby certifies that bidder and subcontractors

- ☐ Have
☐ Have Not

participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, have filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is part of the bid. Signing this bid on the signature portion thereof shall also constitute signature of these certifications.

Non-Collusion Affidavit
PUBLIC CONTRACT CODE 7106

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Debarment and Suspension Certification

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, and manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions to an additional sheet of paper and include with the bid.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate on an additional sheet of paper to whom it applies, initiating agency, and dates of action.

NPDES/MS4 Compliance Certification

All construction projects within the City limits must comply with the National Pollutant Discharge Elimination System (NPDES) storm water regulation adopted by the EPA and the Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit requirements, regardless of size.

The City is required under these permits to provide information to Contractors performing work within City limits about training opportunities to assist in managing potential pollutants from construction –related activities, selection, installation, implementation, and maintenance of Best Management Practices (BMPs), as well as overall program compliance. The City has provided such information and helpful links on their website at <http://www.losbanos.org/city-government/departments/public-works/>, under the Storm Water Management Plan tab.

The Bidder acknowledges that they are aware of the necessity to be in compliance with the NPDES and MS4 permits while working within City limits, and that information regarding such is available on the City's website.

Note: The above certifications are part of the bid. Signing this bid on the signature portion thereof shall also constitute signature of these certifications.

Experience

Bidder shall identify three (3) most recently completed projects similar to work described in these Contract Documents.

	1	2	3
Project Title			
Public Agency			
Address			
Telephone No.			
Engineer in Charge			
Project Value (\$)			
Date Accepted			
Claims Filed?*			

* If yes, please explain below:

**Bid Schedule
For
THREE CITY-OWNED PARKING LOT IMPROVEMENTS**

Bidder agrees to perform all the work described in the Contract Documents for the following unit and lump sum prices and understands that the quantity of work shown is approximate only. The schedule shall be completed by the bidder with the unit and lump sum prices entered in numerals. The extensions shall be made by the bidder. In case of discrepancy between the unit prices and the extension thereof, the unit price shall be considered as correct when evaluating bids.

ITEM NO.	ITEM	QUANTITY AND UNIT		UNIT PRICE		AMOUNT
1	Asphalt Pavement & Concrete Sawcut & Removal for J and 7th Parking Lot	14,221	SF	\$	\$	
2	Asphalt Pavement & Concrete Sawcut & Removal for Ranchwood Park Parking Lot	27,130	SF	\$	\$	
3	Asphalt Pavement & Concrete Sawcut & Removal for Vineyard Basin B Parking Lot	10,640	SF	\$	\$	
4	Concrete Curb Sawcut & Removal for J and 7th Parking Lot	73	LF	\$	\$	
5	Concrete Sidewalk Sawcut & Removal for J and 7th Parking Lot	320	SF	\$	\$	
6	3" Asphalt Pavement for J and 7th Parking Lot	184	TON	\$	\$	
7	3" Asphalt Pavement for Ranchwood Park Parking Lot	509	TON	\$	\$	
8	3" Asphalt Pavement for Vineyard Basin B Parking Lot	184	TON	\$	\$	
9	6" CL. II Aggregate Base for J and 7th Parking Lot	369	TON	\$	\$	
10	6" CL. II Aggregate Base for Ranchwood Park Parking Lot	1017	TON	\$	\$	
11	6" CL. II Aggregate Base for Vineyard Basin Parking Lot	369	TON	\$	\$	
12	Pavement Striping and Markings for J and 7th Parking Lot	1	LS	\$	\$	
13	Pavement Striping and Markings for Ranchwood Park Parking Lot	1	LS	\$	\$	
14	Pavement Striping and Markings for Vineyard Basin B Parking Lot	1	LS	\$	\$	
15	ADA Parking Concrete Pad & Ramp Concrete for Ranchwood Park Parking Lot	700	SF	\$	\$	

16	ADA Parking Concrete Pad for Vineyard Basin B Parking Lot	810	SF	\$		\$
17	ADA Ramp for Ranchwood Park Parking Lot	1	EA	\$		\$
18	Concrete Valley Gutter for J and 7th Parking Lot	960	SF	\$		\$
19	Concrete Curb for J and 7th Parking Lot	73	LF	\$		\$
20	Concrete Sidewalk for J and 7th Parking Lot	320	SF	\$		\$
21	Mobilization for All 3 Parking Lots, NTE 3%	1	LS	\$		\$
TOTAL:				\$		

Note: The representations made herein are made under penalty of perjury. Any information contained in the bid which is proven false shall be considered nonresponsive and this bid shall be rejected.

Bid Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and

assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment

of the penal sum of _____

_____, Dollars (\$_____),

lawful money of the United States. Contractor has submitted the accompanying bid proposal

for the construction of: **THREE CITY-OWNED PARKING LOT IMPROVEMENTS**

If the Contractor is awarded the contract and enters into a written agreement, in the form prescribed by the Owner, at the price designated by Bid Schedule, and files a payment bond and performance bond with the Owner, or substitute security in lieu thereof, in the time and manner specified by the Owner, and carries all insurance in type and amount which conforms to the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Contractor's failure to do any of the foregoing.

Contractor and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees incurred with or without suit.

Executed on _____, 20

(Seal if Corporation)

Contractor

By: _____

Title _____

[SIGNATURE SHEET CONTINUES ONTO NEXT PAGE]

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for
service of process in California, if different from
above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____

(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Agreement

SAMPLE

Note: Particulars left blank in this sample will be filled with project specific information as outlined in these bid documents.

THIS Agreement is dated as of the _____ day of _____ in the year 20__ by and between the **City of Los Banos, a California municipal corporation** ("Owner") and [ENTER NAME AND TYPE OF ENTITY] ("Contractor").

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

1. WORK. Contractor shall complete the work indicated in Owner's Contract Documents entitled "THREE CITY-OWNED PARKING LOTS."

- The work is generally described as follows: Construction of approximately 51,991 square feet of pavement, 73 linear feet of various types of concrete curbing and 320 square feet of concrete pedestrian walkway at three Parking lot locations located throughout the City of Los Banos. The time for completion is sixty (60) working days.
- Contractor shall furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the work described herein.

2. CONTRACT TIME. Contractor shall commence the work required by the Contract Documents within 10 calendar days after the date of the Notice to Proceed and will complete the same within the time period set forth in the bid, unless the period for completion is extended otherwise by the Contract Documents.

3. LIQUIDATED DAMAGES. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the work is not completed within the time specified in Paragraph 2 herein, plus any extensions thereof allowed in accordance with Paragraph 21, Time for Completion and Liquidated Damages, of the General Provisions. The parties also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner Twelve Hundred Dollars (\$ 1,200.00) for each day that passes after the time specified in Paragraph 2 herein.

4. CONTRACT PRICE. Owner shall pay Contractor for completion of the work in accordance with the Contract Documents in current funds the amount set forth in the Bid Schedule(s). The Contractor agrees to perform all of the work described in the Contract Documents for the unit and lump sum prices set forth in the Bid Schedule(s).

5. PAYMENT PROCEDURES. Contractor shall submit applications for payment in accordance with Paragraph 24, Progress Estimates, of the General Provisions. Applications for payment will be processed by Owner as provided in the General Provisions.

6. CONTRACT DOCUMENTS. The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the work consists of this Agreement and the following attachments to this Agreement:

- (A) Advertisement for Bids

- (B) Information for Bidders
- (C) Bid
- (D) Bid Bond
- (E) Agreement
- (F) Payment Bond
- (G) Performance Bond
- (H) Notice of Award
- (I) Notice to Proceed
- (J) Change Order
- (K) General Provisions
- (L) Special Provisions
- (M) Technical Specifications prepared by Precision Civil Engineering, Inc. entitled "THREE CITY-OWNED PARKING LOT IMPROVEMENTS", dated September, 2024.
- (N) Drawings prepared by Precision Civil Engineering, Inc. numbered 1 through 6.
- (O) Addenda No. _____, dated _____ 20__

There are no Contract Documents other than those listed in this Paragraph 6. The Contract Documents may only be amended by change order as provided in Paragraph 19, Changes in the Work, of the General Provisions.

7. MISCELLANEOUS.

A. Terms used in this Agreement which are defined in Paragraph 1 of the General Provisions will have the meanings indicated in the General Provisions.

B. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

C. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

D. The Laws of the State of California shall govern this Agreement. Venue is Merced County. The provisions of this paragraph shall survive expiration or other termination of this Agreement regardless of the cause of such termination.

E. All bids become property of the Owner. All bids, including the accepted bid and any subsequent contract become public records per the requirements of the California Government Code, Sections 6250-6270, "California Public Records Act". Proprietary material must be clearly marked as such. Pricing and service elements of the successful bid are not consider proprietary information. The Owner will treat all information submitted in a bid as available for public inspection once the Owner has selected a contractor. If you believe that you have a legally justifiable basis under the California Public Records Act (Government Section 6250 et. seq.) for protecting the confidentiality of any information contained within your bid, you must identify any such information, together with the legal basis of your claim in your bid. In order for the Owner to assess confidentiality of any such information on your behalf, you must request, execute and submit an Owner-prepared written agreement to

defend and indemnify the Owner for any liability, costs, and expenses incurred in asserting such confidentiality as part of your bid. The final determination as to whether the Owner will assert your claim of confidentiality on your behalf shall be sole discretion of the Owner.

F. This Agreement shall not be interpreted in favor of any Party by virtue of said Party not having prepared this Agreement.

G. If any time period provided for in this Agreement ends on the day other than a Business Day, the time period shall be extended to the next Business Day.

IN WITNESS WHEREOF, Owner and Contractor have caused this Agreement to be executed the day and year first above written.

_____ Date	By: _____ Authorized Representative of Owner
	Title: _____

ATTEST:

Lucille L. Mallonee
City Clerk

APPROVED AS TO FORM:

William A. Vaughn
City Attorney

_____ Date	By: _____ Authorized Representative of Contractor
(Seal if Corporation)	Title: _____

(Attach Acknowledgement for Authorized Representative of Contractor)

Certificate of Contractor

I, _____
(Name)

certify that I am a/the _____
(Title)

designate sole proprietor, partner in partnership, or corporate officer with Contractor License

Number _____ in the entity named as Contractor in the foregoing Agreement. I

hereby expressly certify that the name of the entity to which I am associated is

(Company Name)

that this entity is in good standing and has complied with all applicable laws and regulations, and

that I have been expressly authorized by the proper parties in this entity to execute the Agreement
on behalf of the above-named entity.

ATTEST:

Signature: _____

This form must be acknowledged before a Notary Public. The acknowledgement must be attached.

Payment Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and

assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment

of the penal sum of _____

_____ Dollars (\$ _____),

lawful money of the United States. Owner has awarded the contract and entered into an

Agreement with the Contractor for the construction of:

THREE CITY-OWNED PARKING LOT IMPROVEMENTS

If Contractor or any of his subcontractors fails to pay any of the persons named in Section 9100 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract or during the one-year guarantee period, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, then Surety will pay the same in an amount not exceeding the sum specified above, and also will pay, in case suit is brought upon this bond, such reasonable attorney's fees as shall be fixed by the court.

This bond shall insure to the benefit of any of the persons named in Section 9100 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the work to be performed, or the Provisions shall in any way affect its obligation on this bond, and it does hereby waive notice thereof.

Contractor and Surety agree that should Owner become a party to any action on this bond that each will also pay Owner's reasonable attorney's fees incurred therein in addition to the above sum.

[SIGNATURE SHEET BEGINS ON NEXT PAGE]

Executed in four original counterparts on: _____, 20____

Contractor

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Contractor)

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for
service of process in California, if different from
above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____
(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Performance Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and

assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment

of the penal sum of _____

_____ Dollars (\$ _____),

lawful money of the United States. Owner has awarded the contract and entered into an

Agreement with the Contractor for the construction of:

THREE CITY-OWNED PARKING LOT IMPROVEMENTS

The condition of this obligation is such that if the Contractor shall in all things abide by and well and truly keep and perform the covenants, and agreements in the said Contract Agreement, and any alteration thereof made as therein provided, on his part to be kept and performed at the time and in the manner therein specified, and shall faithfully fulfill the one-year guarantee of all materials and workmanship, and shall indemnify and save harmless the Owner and the Owner's Representative, and their consultants, and each of their directors, officers, employees and agents, as therein stipulated, this obligation shall become null and void, otherwise, it shall be and remain in full force and effect.

This Performance Bond shall remain in full effect during the one-year guaranty period following the completion of the work.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents shall in anyway affect its obligation in the bond, and it does hereby waive notice thereof.

Contractor and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees incurred with or without suit, in addition to the above sum.

[SIGNATURE SHEET BEGINS ON NEXT PAGE]

Executed in four original counterparts on : _____, 20____

Contractor

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Contractor)

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for
service of process in California, if different from
above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____
(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Notice of Award

To: _____

Date: _____
Project: _____

The Owner has considered the bid submitted by you for the above described work dated _____, 20____.

You are hereby notified that your bid has been accepted for the unit and lump sum prices set forth in the Bid Schedule totaling \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's performance bond and payment bond within ten (10) calendar days for the date of this Notice to you.

Before the Notice to Proceed can be issued, all required certificates of insurance, as stated in Section 29 of the General Provisions, and a copy of your Los Banos Business License must be submitted.

If you fail to execute said Agreement and to furnish said bonds within ten days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby
acknowledged by

(Name of Contractor)

this _____ day of _____, 20____

By _____

Title _____

Notice to Proceed

To: _____

Date: _____
Project: _____

You are hereby notified to commence work in accordance with the Agreement dated _____, 20_____, on or before _____, 20_____, and you are to complete the work by _____, 20_____.

You are required to return an acknowledged copy of this Notice to Proceed to the Owner.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is
hereby

acknowledged by

(Name of Contractor)

this _____ day of _____, 20_____

By _____

Title _____

Change Order

Order No. _____

Date: _____

Agreement Date: _____

Project: _____

Owner: _____

Contractor: _____

The following changes are hereby made to the Contract Documents:

Justification:

Change to Contract Price:

Original Contract Price: \$ _____

Current Contract Price adjusted by previous
Change Order: \$ _____

The Contract Price due to this Change Order
will be (increased) (decreased) by: \$ _____

The new Contract Price including this
Change Order will be: \$ _____

Change to Contract Time:

The Contract Time will be (increased) (decreased)
by calendar days. _____

The date for completion of all work will be: _____

The undersigned hereby agrees to the above-described amendment of the Agreement.

Contractor

Owner

This Change Order shall become a part of the Contract Documents only upon signature of both parties.

General Provisions

1. Terms and Definitions

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, by additions, deletions, clarifications or corrections.

ANSI – American National Standards Institute, current designation as of the Bid date unless otherwise indicated.

ASME – American Society of Mechanical Engineers, current designation as of the Bid date unless otherwise indicated.

ASTM – American Society for Testing Materials, current designation as of the Bid date unless otherwise indicated.

AWWA – American Water Works Association, current designation as of the Bid date unless otherwise indicated.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

Bidder - Any person, firm or corporation submitting a bid for the work.

Bonds - Bid, Performance and Payment Bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

Change Order - A written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the Contract Documents, or authorizing an adjustment in the contract price or contract time.

Completion - That date as certified by the Engineer when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the project or specified part can be utilized for the purposes for which it is intended.

Contract Documents - the contract, including Advertisement for Bids, Information for Bidders, Bid, including Bid Representations and Certifications, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, General Provisions, Special Provisions, Technical Specifications, Drawings, and Addenda.

Contract Price – The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

Contract Time – The number of calendar or working days as stated in the Contract Documents for the completion of the work.

Contractor – The person, firm or corporation with whom the Owner has executed the Agreement.

Drawings – The part of the Contract Documents which shows the characteristics and scope of the work to be performed and which have been prepared or approved by the Engineer.

Engineer – City Engineer of the City of Los Banos, acting either directly or through properly authorized agents, such agents, acting within the scope of the particular duties entrusted to them.

Field Order – A written order effecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Engineer to the Contractor during construction.

IEEE – Institute of Electrical and Electronics Engineers, current designation as of the bid date unless otherwise indicated.

NEMA – National Electrical Manufacturers Association, current designation as of the bid date unless otherwise indicated.

Notice of Award – The written notice of the acceptance of the Bid from the Owner to the successful bidder.

Notice to Proceed – Written communication issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.

Owner – City of Los Banos.

Production Data – All illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the work.

Project – The undertaking to be performed as provided in the Contract Documents.

REA – Rural Electrification Association, current designation as of the bid date unless otherwise indicated.

Samples – Physical examples which illustrate materials, equipment or workmanship, and establish standards by which the work will be judged.

Shop Drawings – All drawings, diagrams, schedules and other data which are specifically prepared for the work by the Contractor, a subcontractor, manufacturer, supplier or distributor, to illustrate some portion of the work.

Specifications – A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

Standards - City of Los Banos Standard Specifications, The Standard Specifications of the Department of Transportation of the State of California (Caltrans) dated 2010 and subsequent updates to that 2010 edition, and The Standard Plans of the Department of Transportation of the State of California (Caltrans) dated 2010 and subsequent updates to this 2010 edition.

Subcontractor – An individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the work at the site.

Supplier – Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design, but who does not perform labor at the site.

Work – All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the project.

Written Notice – Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the work.

2. Order of Precedence of Contract Documents

In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Permits from other agencies as may be required by law
2. Change orders
3. Agreement
4. Addenda
5. Contractor's Bid (Bid Form)
6. Advertisement for Bids
7. Information for Bidders
8. Supplementary General Conditions
9. General Provisions
10. Special Provisions
11. Technical Specifications
12. Drawings
13. Referenced Standard Specifications

If the conflicts cannot be resolved by the precedence prescribed above, the most stringent requirements shall prevail.

3. Venue

Contractor, and any subcontractor, supplier and any other person or organization performing any part of work, agree that each of them will waive jurisdiction and venue and shall submit to the jurisdiction of the courts of the State of California in the County of Merced, regardless of residence or domicile, with respect to any actions or suits at law or in equity arising under or related to the bidding, award or performance of the work or with regard to any matter whatsoever arising out of or relating to the validity, construction, interpretation or reinforcement of the Agreement as against Owner or any of their consultants, and/or any of their respective directors, officers, employees, representatives or agents.

4. Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

5. Cumulative Remedies

The duties and obligations imposed by these General Provisions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by the General Provisions and all of the rights and remedies available to Owner thereunder are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

6. Non-discrimination

During the performance of the project, Contractor and subcontractors shall not unlawfully discriminate

against any employee or applicant for employment because of race, color, ancestry, religion, sex, national origin, marital status, age, medical condition (cancer related), physical handicap (including AIDS), or sexual orientation. Equal employment extends, but is not limited to recruitment, compensation, benefits, layoff, termination, and all other conditions of employment. Contractor and subcontractors shall ensure that the evaluation/treatment of their employees and applicants for employment are free of such discrimination. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.) and the applicable regulations promulgated there under (California Administrative Code, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900, set forth in Chapter 5 of Division 4 of Title 2 of the California Administrative Code and incorporated into this agreement by reference and made a part hereof as if set forth in full.

Contractor and any subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

Contractor shall include the nondiscrimination and compliance provisions of the clause in all subcontracts to perform work under the contract.

Contractor shall grant access by representative of the Department of Fair Employment and Housing and the Owner upon reasonable notice at any time during normal business hours, but in no case less than twenty-four (24) hours notice, to such of its books, records, accounts, other sources of information and its facilities as said Owner shall require to ascertain compliance with this clause.

7. Non-discrimination of the Disabled

The Owner will not aid or perpetuate discrimination against a qualified disabled individual by funding as an agency, organization, or person that discriminates on the basis of handicap in providing aid, benefit, or service to beneficiaries of the program or activity. The Owner is committed to provide access to all Owner services, programs, and meetings open to the public for people with disabilities. In this regard the Owner and all of its vendors and Contractor will take all reasonable steps to ensure that disabled individuals have the maximum opportunity for the same level of aid, benefit, or service as any other individual.

8. Additional Instructions and Detail Drawings

The Contractor may be furnished additional instructions and detail drawings by the Engineer, as necessary to carry out the work required by the Contract Documents. The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions.

9. Schedules, Reports and Records

The Contractor shall submit to the Owner such schedules, reports, records and other data as the Owner may request concerning work performed or to be performed.

Prior to the first partial payment estimate, the Contractor shall submit schedules showing the order in which he proposed to carry on the work, including dates at which he will start the various parts of the work, estimated date of completion of each part and, as applicable:

- A. A detailed cost breakdown of the work under each bid item awarded. The breakdown, after receiving favorable review by the Engineer, will become the basis for partial payment determination. Elements of work shall be grouped by building, structure, pipeline, system, etc. Within each grouping, work shall be itemized by readily measurable quantities of work completed in place. For example, concrete should be in units of cubic yard including form work and reinforcing steel. Mobilization costs, bond and insurance costs, and overhead costs shall not be prorated over items of work. In the event the cost breakdown is not favorably reviewed by the Engineer, another cost breakdown shall be submitted that is mutually acceptable to the Contractor and the Engineer.
- B. The dates at which special detail drawings will be required; and respective dates for

submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment. The Contractor shall also submit a schedule of payments that he anticipates he will earn during the course of the work.

10. Drawings and Specifications

The intent of the drawings and specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the Owner.

In case of conflict between the drawings and specifications, the specifications shall govern. Figure dimensions on drawings shall govern over scale dimensions and detailed drawings shall govern over general drawings.

Any discrepancies found between the drawings and specifications and site condition or any inconsistencies or ambiguities in the drawings or specifications shall be immediately reported to the Engineer, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

The Owner will furnish to the Contractor, free of charge, six copies of drawings and specifications for the work. The Contractor shall keep one copy of all current drawings and specifications on the job site, in good order, available to the Engineer and his representatives.

All drawings, specifications, and copies thereof furnished by the Owner are the property of the Owner. They are not to be used on other work, and, with the exception of the signed contract set, are to be returned to the Owner on request, at the completion of the work.

11. Shop Drawings, Production Data and Samples

The Contractor shall review, approve and submit to the Engineer all Shop Drawings, Production Data and Samples as may be necessary for prosecution of the Work and as required by the Contract Documents. The Contractor shall review and approve all Shop Drawings, Production Data and Samples prior to submitting them to the Engineer. By approving and submitting Shop Drawings, Production Data and Samples, the Contractor represents that he has determined and verified all materials, measurements and criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Contract Documents. Any Shop Drawing, Production Data or Sample submitted to the Engineer without having been approved by the Contractor will be returned unreviewed to the Contractor.

For each item where shop drawings, production data or samples are required, the Contractor shall submit a minimum of six approved sets, hard copies, or one set, electronically. The Engineer shall review all shop drawings, production data and samples and retain three sets after his review. The remaining sets shall be returned to the Contractor with actions defined as follows:

- A. NO EXCEPTIONS TAKEN – Accepted subject to its compatibility with future submissions and additional partial submissions for portions of the work not covered in this submission.
- B. MAKE CORRECTIONS NOTED – Same as NO EXCEPTIONS TAKEN except that minor corrections as noted shall be made by the Contractor.
- C. REVISE AND RESUBMIT – Rejected because of major inconsistencies or errors which shall be resolved by the Contractor prior to subsequent review by the Engineer.
- D. REJECTED – Submitted material does not conform to Contract Documents in major respect.

The Engineer's review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. It shall not include review of quantities, dimensions, weights or gauges, fabrications processes, construction methods, coordination with other trades, or construction safety precautions, all of which are the responsibility of the Contractor.

The Engineer shall not be responsible for any deviations from the Contract Documents not brought to the attention of the Engineer in writing by the Contractor and acknowledged in writing by the Engineer.

Portions of the work requiring shop drawings, production data and samples shall not begin until the submission has been favorably reviewed by the Engineer. A copy of each favorably reviewed shop drawing, product data and sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.

12. Materials, Services and Facilities

It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the work shall be located so as to facilitate prompt inspection.

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

Materials, supplies and equipment shall be in accordance with samples submitted by the Contractor and reviewed by the Engineer.

Materials, supplies or equipment to be incorporated into the work shall not be purchased by the Contractor or any subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

13. Inspection and Testing

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

The Contractor shall provide, at his expense, the necessary testing and inspection services required by the Contract Documents, unless otherwise provided. (See Section 6 of the Special Provisions)

The Owner shall provide all other inspections and testing services not required by the Contract Documents. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction specifically require any work to be inspected, tested, approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer the required certificates of inspection, testing or approval.

Neither observations by the Engineer nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

The Engineer and his representatives will at all times have access to the Work. In addition, authorized representatives and agents of the Owner and appropriate Federal or State agencies shall be permitted to inspect all work, material, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

If any work is covered contrary to the written request of the Engineer, it must, if requested by the Engineer be uncovered of his observation and replaced at the Contractor's expense.

If any work has been covered which the Engineer has not specifically requested to observe prior to it being covered, or if the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is

not found to be defective, the Contractor will be allowed an increase in the contract price of an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate change order shall be issued.

14. Substitutions

Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance of other salient requirements and that other products of equal capacities, quality and function shall be considered. The Contractor may recommend the substitution of a material, article or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the Engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer may approve its substitution and use by the Contractor. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the contract price or contract time.

15. Patents

The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Engineer.

16. Surveys, Permits and Regulations

The Engineer will furnish lines and grades as required for the construction of the work. The Contractor shall make a general check of all lines, dimensions and elevations and shall make all necessary rechecks during the progress of the work to avoid errors in construction. The Contractor shall be responsible for proper dimensions and fittings of all items of work being performed by him. Should any discrepancy be found in lines, dimensions or elevations, they shall be reported to the Engineer immediately.

The Contractor shall protect all existing property and survey monuments, including survey control monuments for this work. The Contractor is responsible for protecting and preserving survey monuments and other survey markers. Any survey monuments damaged as a direct or indirect result of construction activities shall be re-established by a duly licensed land surveyor at the Contractor's sole expense. A corner record shall be filed in accordance with State law for any reset monuments at the Contractor's sole expense.

The Contractor shall carefully preserve benchmarks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in Paragraph 19 of these General Provisions, Changes in the Work.

17. Protection of Work, Property and Persons

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He will take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the work and

other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. He shall notify owners of adjacent utilities when prosecution of the work may affect them. The Contractor shall remedy all damages, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except damage or loss attributable to the fault of the Contract Documents or to the acts or omissions of the Owner or the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or Owner, shall act to prevent threatened damage, injury or loss. He will give the Engineer prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby, and a change order shall thereupon be issued covering the changes and deviations involved.

18. Supervision by Contractor

The Contractor shall supervise and direct the work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the work, a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work.

19. Changes in the Work

The Owner may at any time, as the need arises, order changes within the scope of the work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the work, an equitable adjustment shall be authorized by written change order.

The Engineer may also, at any time, by issuing a field order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered by the Engineer unless the Contractor believes that such field order entitles him to a change in contract price or contract time, or both, in which event he shall give the Engineer written notice thereof within seven (7) days after the receipt of the ordered change, and the Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the Owner.

20. Changes in Contract Price

The contract price may be changed only by a written change order. The value of any work covered by a change order or of any claim for increase or decrease in the contract price shall be determined by one or more of the following methods in the order of precedence listed below:

- A. Unit prices previously approved.
- B. An agreed lump sum.
- C. If a lump sum or unit price cannot be mutually agreed upon, the Contractor shall be entitled to the sum of the following costs of doing the extra work:
 1. Direct Labor Costs. Charges for cost of all the labor furnished and used by the Contractor shall be made for manual classifications up to and including general foreman. It will not include charges for assistant superintendents, superintendents, office personnel,

timekeepers, and maintenance and mechanics. The time charged to extra work shall be subject to the daily approval of the Engineer and evidence of such daily approval shall be submitted with the billing. Labor rates used to calculate the costs shall be those so designated in the Advertisement for Bids. No time or charges will be allowed, except when the men are actually engaged in the proper, efficient, and diligent performance or completion of the extra work as authorized. Overtime shall not be worked without prior approval by the Engineer.

2. Equipment Costs. Charges for the rental and operation of the equipment furnished and used by the Contractor shall be made for all prime construction and automotive equipment. It will not include charges for equipment or tools with a new cost of \$1,000.00 or less. Equipment time charges must be subject to the daily approval submitted with the billing. The equipment rental and operation rates used shall be those agreed upon by the Engineer and the Contractor prior to commencement of the extra work. No time or charges will be allowed except when equipment is actually being used for the proper and efficient performance or completion of the extra work as authorized.

3. Material Costs. Charges for the cost of materials furnished by the Contractor shall be made providing such furnishing was specifically authorized in the extra work order and the actual use verified by the Engineer. Charges must be net cost to the Contractor delivered at the job, and vendor's invoice must accompany the billing along with verification of use of such materials by the Engineer.

4. Tools, Supplies, Overhead, Supervision and Profit. A charge for tools, supplies, overhead, supervision and profit will be allowed in the amount of 15% of the Total Direct Labor Costs, and Material Costs, as defined above.

Any extra work performed hereunder shall be subject to all of the provisions of the contract and the Contractor's sureties shall be bound with reference thereto as under the Contract.

21. Time for Completion and Liquidated Damages

The date of beginning and the time for completion of the work are essential conditions of the Contract Documents and the work embraced shall be commenced on a date specified in the Notice to Proceed.

Time is of the essence in this Agreement. The Contractor shall proceed with the work at such a rate of progress to ensure full completion within the contract time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the contract time for the completion of the work described herein is a reasonable time.

The parties hereto agree that it is extremely difficult and impractical in this case to determine the actual damages the Owner will suffer if the Contractor fails to complete the work within the contract time and for said reason, if the Contractor shall fail to complete the work within the contract time, or extension of time granted by the Owner, then the Contractor will pay to the Owner the amount for liquidated damages as specified in the Agreement for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents. The time for completion of the work shall be extended, and the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to the following, and the Contractor has promptly given written notice of such delay to the Engineer:

- A. To any preference, priority or allocation order duly issued by the Owner.
- B. To unforeseeable caused beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics quarantine restrictions, strikes, freight embargoes, and climatic conditions which, in the opinion of the Engineer, make prosecution of the work unreasonably difficult.
- C. To any delays of subcontractors occasioned by any of the causes specified in the above

paragraphs.

22. Correction of Work

The Contractor shall promptly remove from the premises all work rejected by the Engineer for failure to comply with the Contract Documents, whether incorporated in the construction or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

23. Suspension of Work, Termination and Delay

The Owner may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety days, or such further time as agreed upon by the Contractor, by written notice to the Contractor and the Engineer, which notice shall fix the date on which work shall be resumed. The Contractor will resume that work on the date so fixed. The Contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any such suspension.

If the Contractor is adjudged as bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he fails to make prompt payments to subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction over the work or if he disregards the authority of the Engineer, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor, and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance, the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Engineer and incorporated in a change order.

Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractors then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the Contract Documents.

After ten (10) days from delivery of a written notice to the Contractor and the Engineer, the Owner may without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case, the Contractor shall be paid for all work executed and any expense sustained plus reasonable profit.

If, through an act or fault of the Contractor, the work is suspended for a period of more than ninety (90) days by the Owner or under an order of court or other public authority, or the Engineer fails to act on any request for payment within thirty (30) days after it is submitted, or the Owner fails to pay the Contractor substantially the sum approved by the Engineer or awarded by arbitrators within thirty (30) days of its approval and presentation, then the Contractor may, after the (10) days from delivery of a written notice to the Owner and the Engineer stop the work until he has been paid all amounts then due, in which event and upon resumption of the work, change orders shall be issued for adjusting the contract price or extending the contract time or both to compensate for the costs and delays attributable to the stoppage of the work.

24. Progress Estimates

On or about the last day of the calendar month, the Contractor will, except as hereinafter provided, make in writing and certify to the Owner an estimate which, in his opinion, is just and fair of the amount and value of the work completed by the Contractor up to that time in the performance of the contract. In case of work for which unit prices are named in the contract, the estimate shall be computed on the basis of said unit prices. In the case of work for which a lump sum is named in the contract, the Engineer may

use a breakdown of the lump sum price submitted by the Contractor, provided that such breakdown is submitted within 10 calendar days after the execution of the Agreement in a form acceptable to the Engineer. No payment will be made to the Contractor until such schedule has been submitted to and reviewed by the Engineer. To the figure thus arrived at shall be added any amounts due the Contractor for extra work and the amount of any approved claims for extra costs to the date of the progress estimate the retained percentage hereinafter provided for shall be deducted from the total thus computed; and from the remainder, there shall be further deducted any amounts due the Owner from the Contractor for supplies or materials furnished or services rendered and any other amounts that may be due the Owner under the terms of the contract. In preparing estimates for partial payment, consideration shall be given to delivery on the site of pipe, and fittings which will become a part of the finished construction work and for which payment in full has been made by the Contractor, but no consideration will be given to preparatory work done or other materials on hand. From the balance thus determined shall be deducted the amount of all previous payments and the remainder shall constitute the partial estimate for that month. Such partial estimates shall not be required to be made by strict measurement, but may be made by measurement or by estimation or partly by one method and partly by the other and it shall be sufficient if they are approximate only. Partial estimates may be withheld or reduced if, in the opinion of the Engineer, the Contractor is not diligently and efficiently endeavoring to comply with the intent of the Agreement.

25. Progress Payments

The Owner will make payments on account of the contract as follows: Not later than the 30th day of the month following the month in which the contract is awarded, and the 30th day of each calendar month thereafter, the Owner will pay to the Contractor 95% of the amount earned by the Contractor during the preceding month at the rate of prices set forth in the contract, based on the estimate of the Engineer.

The retention will be held by the Owner until 35 days following filing of the Notice of Completion.

26. Prompt Payment

The Contractor shall promptly pay all subcontractors and suppliers within ten (10) days of receipt of any progress payment, final payment or retention paid by the Owner to the Contractor. Contractor shall advise all subcontractors and suppliers that all second-tier subcontractors and suppliers must be paid within then (10) days of their receipt of payment from the Contractor.

27. Acceptance and Final Payment

Upon receipt of written notice from the Contractor that the work is ready for final inspection and acceptance, the Engineer will promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he will promptly issue a final certificate, over his own signature, stating that the work required by this contract has been completed. The Owner then shall issue a formal Notice of Completion, and the entire balance found to be due shall be paid to the Contractor by the Owner 35 days from the date of recording by the Owner of the Notice of Completion of all work covered by this contract.

Before issuance of the Notice of Completion, the Contractor shall submit evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid, or if not paid, then the Contractor shall submit evidence of the status of any unpaid indebtedness.

The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner except the following:

- A. those arising from unsettled liens;
- B. those arising from faulty work appearing within 12 months after the date of filing of the Notice of Completion;
- C. those arising from failure to meet the requirements of the Contract Documents or the specifications; or,

- D. those arising from manufacturers' guarantees.

The acceptance by Contractor of the final payment referred to in this paragraph 27 herein, shall be a release of Owner from all claims of liability to Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of Owner or of any person relating to or affecting the work, except demands against Owner for the remainder, if any, of the amounts kept or retained under the provisions of Paragraph 25, Progress Payments, herein; and excepting pending, unresolved claims.

28. Quantities and Unit Prices

The quantities noted in the schedule are approximation for comparing bids, and no claim shall be made against the Owner for excess or deficiency therein. Payment at the unit prices set forth in the schedule will constitute payment in full for the completed work and will include materials, supplies, labor, tools, machinery, and all other expenditures incident to satisfactory compliance with the contract, unless otherwise specifically provided.

The quantities of work performed will be computed for payment by the Engineer on the basis of measurements taken by the Engineer, and these measurements shall be final and binding.

29. Insurance

The Contractor shall not commence work under this Agreement until he has obtained all the insurance required under this section and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until the insurance required of the subcontractor has been so obtained and approved. All insurance required under this section shall be maintained at the expense of the Contractor continuously during the life of the contract up to the date of acceptance of the work by the Owner.

Commercial General Liability and Automobile Liability Insurance – The Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:

- A. Coverage – Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:
 - 1. Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 0001)
 - 2. Insurance Service Office Form Number CA 0001 (ed. 1/87) covering Automobile Liability, Code 1 (any auto)
- B. Limits – The Contractor shall maintain limits no less than the following:
 - 1. General Liability – Two million dollars (\$2,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the Owner) or the general aggregate limit shall be twice the required occurrence limit.
 - 2. Automobile Liability – One million dollars (\$1,000,000) per accident for bodily injury and property damage combine single limit.
- C. Required provisions – The general liability and automobile liability policies are to contain, to be endorsed to contain the following provisions:
 - 1. The Owner and its directors, officers, employees, agents and volunteers are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special

limitations on the scope of protection afforded to the Owner and its directors, officers, employees, agents, and volunteers.

2. For any claims related to this work, the Contractor's insurance shall be the primary insurance as respects the Owner and its directors, officers, employees, agents and volunteers. Any insurance, pooled coverage or self-insurance maintained by the Owner and its directors, officers, employees, agents and volunteers shall not contribute to it.
 3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the Owner and their directors, officers, employees, agents and volunteers.
 4. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Owner.
- D. Deductibles and Self-Insured Retentions – Any deductible or self-insured retention must be declared to and approved by the Owner. At the option of the Owner, either the insurer shall reduce or eliminate such deductibles or self-insured retentions.
- E. Acceptability of Insurers – Insurance is to be placed with insurers having a current A.M. Best's rating of no less than A-: VII or equivalent.

Workers' Compensation and Employer's Liability Insurance – The Contractor and all subcontractors shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their employees working on or about the construction site, regardless of whether such coverage or insurance is mandatory or merely elective under law, and the Contractor shall defend, protect and save harmless the Owner and its directors, officers, employees, agents and volunteers from and against all claims, suits, and actions arising from any failure of the Contractor or any subcontractor to maintain such insurance. Before beginning work, Contractor shall furnish to the Owner satisfactory proof that Contractor has taken out for the period covered by the work under this Contract, full compensation insurance for all persons employed directly by Contractor or through subcontractors in carrying out the work contemplated under this Contract, all in accordance with the "Workers' Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any Acts amendatory thereof.

The Contractor shall provide employer's liability insurance in the amount of, at least, \$1,000,000 per accident for bodily injury and disease.

The Contractor shall provide the Owner with a certificate of Workers' Compensation and Employers liability insurance coverage.

In signing the Agreement, Contractor makes the following certification required by Section 1861 of the Labor Code:

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

Evidences and Cancellation of Insurance – Prior to execution of the Agreement, the Contractor shall file with the Owner evidence of insurance from an insurer or insurers certifying to the coverage of all insurance required herein. Such evidence shall include original copies of the ISO CG 2010 (or insurer's

equivalent) signed by the insurer's representative and certificate of insurance (Accord Form 25-S or equivalent). All evidence of shall be certified by a properly authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, any additional primary insurers, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, the expiration date, and that the insurer will give by certified mail, written notice to the Owner at least thirty (30) days prior to the effective date of any cancellation, lapse or material change in the policy.

The Contractor shall, upon demand of the Owner, deliver to the Owner all such policy or policies of insurance and the receipts for payment of premiums thereon; and should the Contractor neglect to obtain and maintain in force any such insurance or deliver such policy or policies and receipts to the Owner, then it shall be lawful for the Owner to obtain and maintain such insurance, and the Contractor hereby appoints the Owner the true and lawful attorney-in-fact to do all things necessary for this purpose. All money paid by the Owner for insurance premiums under the provisions of this article shall be charged to the Contractor.

30. Contract Security

The Contractor shall, within ten (10) days after the receipt of the Notice of Award, furnish the Owner with a performance bond and a payment bond in penal sums equal to 100% of the contract price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreements of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor and materials in the prosecution of the work provided by the Contract Documents. Such bonds shall be executed by the Contractor and corporate bonding company licensed to transact such business in the state in which the Work is to be performed and named on the current list of "Surety Companies Acceptable Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such bond is declared a bankrupt or loses its right to do business in the state in which the work is to be performed or is removed from the list of surety companies accepted on Federal bonds, Contractor shall within ten (10) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond (s) shall be paid by Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the Owner.

Attached to the bonds shall be the original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws or other instrument which entitles and authorizes the person to execute the bond to do so, a certified copy of the certificate of authority or the insurer issued by the Insurance Commissioner of the county in which the Owner is located which would state that the certificate of authority of the insurer (the bonding company) has not been surrendered, revoked, cancelled, annulled, or suspended.

The performance bond shall remain in full force and effect during the warranty period of 12 months from the date of acceptance of the work by the Owner.

If requested by the Owner or Engineer, copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code, shall be provided to the Owner or Engineer within 10 calendar days of the insurer's receipt of the request to submit the statements.

31. Assignments

Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, or his obligation thereunder, without written consent of the other party.

32. Indemnification

Contractor shall indemnify and hold harmless and defend the Owner and the Engineer and their directors, officers, employees, agents or volunteers, and each of them from and against:

- A. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind and nature whatsoever for, but not limited to, injury to or death of any person including Owner and/or Engineer and/or Contractor, or any directors, officers, employees, agents volunteers of the Owner, Engineer or Contractor, and damages to or destruction of property of any person, including but not limited to, Owner, Engineer and/or Contractor and their directors, officers, employees, agents or volunteers arising out of or in any manner directly or indirectly connected with the work to be performed under this Agreement, however caused regardless of any negligence of the Owner or the Engineer or their directors, officers, employees, agents, or volunteers, except the sole negligence of willful misconduct or active negligence of the Owner or the Engineer or their directors, officers, employees, agents or volunteers:
- B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities in law or equity, of every kind or nature whatsoever, arising out of , resulting from or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.

Contractor shall defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the Owner and the Engineer or their directors, officers, employees, agents or volunteers.

Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the Owner and their directors, officers, employees, agents, or volunteers in any such suit, action or other legal proceedings.

Contractor shall reimburse the Owner and their directors, officers, employees, agents and/or volunteers, for any and all legal expenses and costs incurred by them in connection therewith or in enforcing the indemnity herein provided.

Contractor agrees to carry insurance for this purpose as set out in the specifications. See Paragraph 29 of these General Provisions for insurance specifications and coverage. Contractor's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the Owner and the Engineer or their directors, officers, employees, agents and/or volunteers.

33. Separate Contracts

The Owner reserves the right to let other contracts in connection with this project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs. If the proper execution or results of any part of the Contractor's work depend upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results.

The Owner may perform additional work related to the project by himself, or he may let other contracts containing provisions similar to these. The Contractor will afford the Contractors who are parties to such contracts (or the Owner, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his work with theirs.

In the performance of additional work by other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Agreement, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such requires additional expense or entitles him to an extension of the contract time, he may make a claim therefore as provided in Items 19 and 20 of these General Provisions.

34. Subcontracting

The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is of the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all contracts relative to the work to bind subcontractors to the Contractor by the terms of the Contract Documents in so far as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

35. Employment of Apprentices

The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 of the Labor Code in the employment of apprentices. The responsibility for compliance with the provisions of said Section 1777.5 for all apprenticeship occupations shall rest with the Contractor. Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California, or from its branch offices.

36. Payment of Prevailing Wages

The Contractor and all subcontractors under him shall pay all laborers, workmen and mechanics on all work included in this contract no less than the general prevailing rate of per diem wages for work performed, (to-wit, within the limits of the City), and no less than the general prevailing rate of per diem wages for legal holiday and overtime work in said locality, which per diem wages shall not be less than the stipulated rate contained in a schedule thereof which has been ascertained and determined by the Council to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this contract, and which is now on file with the City Clerk, as set forth in the Information for Bidders, and by reference it is incorporated herein and made a part hereof.

The Contractor shall forfeit, as a penalty to the Owner, two hundred dollars (\$200.00) for each laborer, workman or mechanic employed for each calendar day or portion thereof such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under this contract by him or by any subcontractor under him in violation of Articles 1 and 2 of Chapter 1 Part 7 of Division 11 of the Labor Code of the State of California, and said sums and amounts which shall have been so forfeited pursuant to the herein paragraph and the said terms of said Labor Code shall be withheld and retained from payments due to the Contractor under said contract, pursuant to this contract and the said terms of said Labor Code; but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the Division of Labor law Enforcement of the State Department of Industrial Relations or by said Council.

The difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day, or a portion thereof, for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor. The Contractor shall comply with the provisions of Section 1775 of the Labor Code of the State of California.

The Contractor and his subcontractors shall submit certified payroll information electronically to the Department of Industrial Relations as well as a hard copy of said certified payrolls to the Owner on a monthly basis.

37. Registration to Train Apprentices

Pursuant to Labor Code Section 1777.5, all contractors shall file with the appropriate Joint Apprenticeship Training Committee, a DAS-140 form registering to train apprentices. This requirement to register to train apprentices is mandated by Section 1777.5 whether or not you are signatory to or a party of any approved training program. Only those programs approved by the California Apprenticeship Council are applicable to accept DAS-140 registration forms.

If the contractor is approved to train apprentices, then apprentices must be called in a ratio not less than one apprentice hour for each five journeyman hours.

However, if the entire contract may be completed within 20 working days or the entire contract (nor subcontracts) is less than thirty thousand (\$30,000), then the Contractor is exempt from requesting apprentices under Labor Code Section 1777.5.

In addition, all contractors are required to make appropriate training contributions as set forth in the prevailing wage determination to each appropriate JATC, or in the alternative, to the California Apprenticeship Council. Payments shall be made not less than monthly, calculated and paid by the fifteenth of each month, for work performed that prior month.

The address for the applicable Joint Apprenticeship Training Committee and for the California Apprenticeship Council can be obtained by calling the Division of Apprenticeship Standards.

38. Penalties

Failure to pay the appropriate prevailing wage can result in penalties being assessed as follows:

- A. Up to \$50.00 per day per worker for each and every violation; and,
- B. debarment from future public works for a period not to exceed three years.
- C. \$50.00 per day per worker for each failure to comply with the payment of overtime for all hours worked in excess of 8 in one day or 40 in one week.

Failure to register to train apprentices or failure to pay the appropriate training contribution can result in penalties being assessed as follows:

- A. \$100.00 per day for each day of violation; and,
- B. debarment from future public works for a period not to exceed three years.

39. Engineer's Authority

The Engineer shall act as the Owner's representative. He shall decide questions which may arise as to quality and acceptability of materials furnished and work performed. He shall interpret the intent of the Contract Documents in a fair and unbiased manner. The Engineer will make visits to the site and determine if the work is proceeding in accordance with the Contract Documents.

The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the work. Inspections may be made at the factory or fabrication plant of the source of material supply.

The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

40. Land and Rights-of-Way

Prior to issuance of the Notice to Proceed, the Owner shall obtain all land and rights-of-way necessary for carrying out and for the completion of the work to be performed pursuant to the Contract Documents, unless otherwise mutually agreed.

The Owner shall provide to the Contractor information which delineates and describes the lands owned and rights-of-way acquired.

The Contractor shall provide, at his own expense and without liability to the Owner, any additional land

and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

41. Warranty and Guarantee

Contractor warrants and guarantees to Owner that all work will be in accordance with the Contract Documents and will not be defective. Prompt notice of defects known to Owner shall be given to Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in Paragraph 19, Changes in the Work, of these General Provisions. Defective work may be rejected even if approved by prior inspection.

42. One (1) Year Warranty Period

The warranty period shall commence when the Notice of Completion is issued, at notice of beneficial occupancy or at notice of partial utilization of the work to be warranted has been issued, or a later date if so specified in the Agreement, or mutually agreed to, and extend until one (1) year after that date or whatever longer period may be prescribed by laws or regulations or by the terms of any applicable special guarantee or specific provision of the Contract Documents.

43. Correction of Defective Work

If within the designated warranty period, or such longer period as may be required by Laws or Regulations, the work, or any part of the work, is discovered to be defective, Contractor shall promptly, without an adjustment in contract price and in accordance with Owner's written instructions, either correct that defective work, or if it has been rejected by Owner, remove it from the site and replace it with non-defective work. If circumstances warrant it, including but not limited to, in an emergency, Owner may have the defective work corrected or the rejected work removed and replaced. In that event, Contractor shall not be allowed to recover any associated costs, and he shall reimburse Owner for all direct, indirect and consequential costs of Owner, and Owner shall be entitled to an appropriate decrease in contract price, to withhold a set-off against amount recommended for payment, or make a claim on Contractor's bond if Contractor has been paid in full. Where defective work (and damage to other work resulting therefrom) has been corrected, removed or replaced during the warranty period, the one (1) year warranty period with respect to such work will be extended for an additional period of one (1) year after such correction or removal and replacement has been satisfactorily completed.

44. Early Completion

The one (1) year warranty period will not begin until the Notice of Completion is filed. If Contractor completes the work or portions thereof prior to this time, he shall preserve the equipment and/or facilities by developing and implementing a preventive maintenance program in compliance with manufacturer's recommendations to maintain the equipment and/or facilities unless Owner has issued a notice of beneficial occupancy or notice of partial utilization for the warranted work. At start up, Contractor will be required to get his equipment and/or facilities ready to put into service.

45. Extended Warranties and Guarantees

Owner may at its sole discretion extend the one (1) year warranty period up to twenty-four (24) months, in which case Contractor shall maintain the warranties and guarantees. If such extension of the one (1) year warranty period causes an increase in the cost of the warranties and guarantees provided by Contractor, an adjustment in contract price shall be made as provided by the Contract Documents.

46. Arbitration

With the prior approval of the Owner and the Contractor, all claims, disputes and other matters in question arising out of, or relation to, the Contract Documents or the breach thereof, except for claims which have been waived by the making and acceptance of final payment as provided by Item 27 of these General Provisions, may be decided by arbitration in accordance with the Arbitration Rules of the American Arbitration Association. If entered into, the agreement to arbitrate shall be specifically

enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

Notice of the request for arbitration shall be filed in writing with the other party to the Contract Documents and with the American Arbitration Association, and a copy shall be filed with the Engineer. The request for arbitration shall set forth specifically the dispute to be arbitrated. Acceptance by the other party of the request to arbitrate shall constitute the agreement to arbitrate and arbitration shall proceed forthwith. No legal proceedings other than to enforce arbitration shall be commenced on any issue covered by the arbitration agreement.

The Contractor shall carry on the work and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

47. Taxes

The Contractor shall pay all sales, consumer, use and other similar taxes required by the law of the place where the work is performed.

48. Contractor's Understanding

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and extent of the work, the character, quality, and quantity of the materials to be encountered, the character of the equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with any officer, agent or employee of the Engineer or the Owner, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations herein contained.

49. Accidents

The Contractor shall provide, at the site, such equipment and medical facilities as are necessary to supply first-aid service to anyone who may be injured in connection with the work. The Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with the performance of the work, whether on or adjacent to the site which causes death, personal injury, or property damages, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the Owner. If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

50. Safety and Sanitation

The Contractor shall provide adequate safety and sanitation facilities according to State laws and local ordinances.

The Contractor will assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and equipment. This responsibility shall apply continuously and not be limited to normal working hours.

51. Climatic Conditions

The Engineer may order the Contractor to suspend any work that may be subject to damage by climatic conditions. The Contractor may suspend work if climatic conditions are such that the Contractor is unable to work. In such case, the Contractor, within seven days, shall request in writing a change order to extend the contract time.

52. Officials Not To Benefit

No official of the Owner shall receive any benefit that may arise by reason of this contract.

53. Clean-Up

During the progress of the work, the Contractor shall maintain the site and related structures and equipment in a clean, orderly condition and free from unsightly accumulations of rubbish. Upon completion of the work, the Contractor shall remove from the vicinity of the work all plants, buildings, rubbish, unused materials, concrete forms, temporary bridging, and other like material, belonging to him or used under his direction during construction, and in the event of his failure to do so, the same may be removed by the Owner after 10 calendar days notice to the Contractor at the expense of the Contractor, and his surety or sureties shall be liable therefore.

As part of the final clean-up, the Contractor shall dress up and grade the right-of-way to match existing ground surfaces, and shall remove therefrom all weeds and other growth. Where the construction has crossed yards or driveways, they shall be restored to a condition equivalent to the condition existing prior to the construction as determined by the Engineer.

No direct payment will be made to the Contractor for any clean-up work, but all compensation therefore shall be included in the prices bid in the schedule for the various items of work.

54. Notice to Owner

In the event this contract involves digging trenches or excavations that extend deeper than four feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify Owner, in writing, of any:

- A. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
- B. Subsurface or latent physical conditions at the site differing from those indicated;
- C. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

Owner shall promptly investigate the conditions. If Owner finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, Owner shall issue a change order under the procedures described in the contract.

In the event a dispute arises between Owner and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor, shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between Contractor and Owner.

55. Payment of Withheld Funds

The Owner shall retain 5% of each payment from Contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Owner, of the agreed upon work, and pay retention to the Contractor based on these acceptances. The Contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract agreement work by the Owner. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the Owner's prior written approval. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor, deficient subcontract performance, or noncompliance. When the work is

complete, the Owner will issue a Notice of Completion to the County. The Owner will pay all retention funds to the Contractor thirty-five (35) Days after Notice of Completion has been recorded.

56. Storm Water Pollution Prevention Measures

Storm Water Pollution Prevention Measures shall be performed in accordance with the provisions in Section 13-3, "Storm Water Pollution Prevention Plan," of the Standard Specifications.

A. GENERAL

In compliance with the State and Federal regulations regarding storm water management during construction, the Contractor shall not allow any debris, waste materials or pollutants, originating from the Contractor's operations, to enter the storm drainage system, which leads to contamination of local creeks and ponding basins.

The Contractor shall properly dispose of all wastes and excess materials in a legal manner to the satisfaction of the Owner.

B. SELECTIVE BMPS FOR STORM WATER POLLUTION PREVENTION

As applicable to the project or directed by the Engineer, the Contractor shall implement any or all of the following Best Management Practices (BMPs):

1. Material Handling and Storage

a. Nonhazardous Materials

i. Designated Delivery and Storage Area

The Contractor shall propose areas in the vicinity of or within the project site or within the Contractor's staging site, which are suitable for material delivery and storage. To the maximum extent practicable, these areas shall be away from gutters, catch basins, drainage courses or creeks. The Contractor shall submit the proposed areas to and shall obtain the approval from the Engineer in writing prior to bringing in materials.

ii. Storage of Granular Materials

The Contractor shall store granular materials at least ten feet (10') away from any inlet or curb return and shall prevent the granular materials from entering the storm drain system, drainage courses or creeks. During wet weather or when rain is forecast within 24 hours, the Contractor shall cover granular materials with a tarpaulin and surround the material with sandbags or other approved heavy objects.

b. Hazardous Materials

i. Hazardous materials include, but are not limited to, petroleum products, antifreeze, paints, thinners, solvents, pesticides, herbicides and various other toxic chemicals.

ii. The Contractor shall propose, within the project site or the Contractor's staging site, an area that is suitable for hazardous material delivery and storage. To the maximum extent practicable, the area shall be away from inlets, gutters, drainage courses or creeks. The Contractor shall submit the proposed area to and shall obtain approval from the Engineer in writing prior to bringing in hazardous materials.

iii. The Contractor shall label and store all hazardous materials and hazardous wastes in accordance with secondary containment regulations, the City of Los Banos Hazardous Materials Storage Ordinance and all applicable Merced County, State and Federal laws and

regulations.

iv. The Contractor shall keep all hazardous materials or waste in containers and fully covered to avoid contamination of storm runoff.

v. The Contractor shall keep an accurate, up-to-date inventory, including Materials Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on-site to assist emergency response personnel in the event of a hazardous material incident.

2. Hazardous Material Usage

a. The Contractor shall follow all local, State and Federal policies, laws and regulations governing the use of hazardous materials.

b. The Contractor shall use only Category III pesticides for pest control. If Category III pesticides are unavailable, have been tried but proven ineffective, or when it is necessary to prevent a pest outbreak that poses an immediate threat to public health or significant economic loss, the City may consider allowing the use of Category II pesticides with a dose of up to LD50 (a dose that kills 50 percent of the targeted pest population in the laboratory) provided that the risk to the applicator and impact to the environment can be justified. Use of Category I pesticides is prohibited.

c. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging non-degraded pesticides into storm water system, drainage courses and creeks.

d. Mix only as much material as is necessary for treatment. Calibrate application equipment prior to and during use to ensure desired application rate. Do not mix or load pesticides adjacent to storm drain system, drainage courses or creeks.

e. The Contractor shall not overapply herbicides, pesticides or fertilizers and shall follow the manufacturer's instructions regarding uses, protective equipment, ventilation, flammability and mixing of chemicals. Over-application of a pesticide is a "label violation" subject to an enforcement action by the Merced County Agriculture Department.

f. When rain is forecast within 24 hours or during wet weather, the Contractor shall not apply chemicals in outside areas unless otherwise allowed by the Engineer in writing.

3. Integrated Pest Management Methods

The Contractor shall employ, in place of pesticides, integrated pest management methods including:

a. No control

b. Physical or mechanical methods

c. Least toxic chemicals (insecticidal soaps and oil, etc.)

4. Vehicle and Equipment Cleaning, Maintenance and Fueling

a. Cleaning

The Contractor shall not clean or wash vehicles or equipment on-site or in the streets. If allowed by the Engineer in writing, cleaning and washing shall be performed in a designated and bermed area approved by the Engineer using water only. No soaps, solvents, degreasers, steam cleaning equipment or similar methods are permitted. The Contractor shall not allow wash water to flow into streets, gutters, storm drain system, drainage courses or creeks.

b. Maintenance and Fueling

- i. The Contractor shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will prevent waste, leaks or spills from entering streets, gutters, storm drain system, drainage courses or creeks.
- ii. The Contractor shall inspect all vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs can be made. Shut-off valves on equipment must be working properly.

5. Spill Prevention and Control

- a. If hazardous materials are used on the project, the Contractor shall keep a stockpile of spill clean-up materials, such as rags or absorbents, readily accessible on-site.
- b. Above-ground storage tanks and their installations shall comply with City, State and Federal requirements.
- c. The Contractor shall immediately contain and prevent spills or leaks from entering storm drain system, drainage courses or creeks and shall properly clean up and dispose of the spills or leaks. The Contractor shall not wash the spills or leaks into streets, gutters, storm drain system, drainage courses or creeks and shall not bury the spills or leaks.
- d. In case of a hazardous material spillage, the Contractor shall immediately call 911 and shall handle the spilled material in accordance with the requirements of 6, "Disposal of Hazardous Waste," below.

6. Disposal of Hazardous Waste

- a. Unless the Contractor is a licensed hazardous waste handler, the Contractor shall contract with a licensed hazardous waste handler to remove and dispose of hazardous waste materials unless the waste quantities to be transported are below threshold limits for transportation as specified in the State and Federal regulations.
- b. The Contractor shall arrange for regular hazardous waste collection to comply with limits for storage of hazardous waste.
- c. The Contractor may dispose of dry, empty paint cans, buckets, paintbrushes, rollers, rags and drop cloths in the trash.
- d. The Contractor shall dispose of hazardous waste at facilities authorized for treatment, storage and disposal of hazardous waste only.

7. Street Sweeping

At the end of each day or as directed by the Engineer, the Contractor shall sweep roadways of all debris and excess materials attributed to the Contractor's operations.

8. Water Usage

- a. The Contractor shall use the least amount of water necessary for dust control and street sweeping operations.
- b. The Contractor shall not use water to flush dust and debris down the street in place of street sweeping.

9. Dumpsters and Portable Sanitary Facilities

- a. If dumpsters or portable sanitary facilities are used, they shall be

stationed at least ten feet (10') away from storm drain facilities.

b. The Contractor shall arrange for regular waste collection to keep dumpsters and portable sanitary facilities from overflowing and shall regularly inspect these facilities for leaks. If a leak is discovered, the Contractor shall arrange for the repair or replacement of facilities that leak. The Contractor shall not wash the dumpsters or portable sanitary facilities on-site.

10. Earthwork

The Contractor shall maximize the control of erosion and sediment by using the Best Management Practices for erosion and sedimentation control described in the California Storm Water Best Management Practice Handbook—Construction Activity or ABAG Manual of Standards for Erosion and Sediment Control Measures.

11. Dewatering

a. The Contractor shall route water through a control device, such as a sediment trap, sediment basin or Baker tank, to remove settleable solids prior to discharging the water into the storm drain system. Refer to the California Storm Water Management Practice Handbook for these sediment control measures.

b. Approval of the control device shall be obtained in advance from the Engineer.

c. Filtration of the water following the control device may be required on a case-by-case basis.

d. If the Engineer determines that the dewatering operation would not generate an appreciable amount of settleable solids, the control device may be waived.

12. Saw Cutting

a. During saw cutting or grinding operation, use as little water as possible.

b. During saw cutting, the Contractor shall cover or barricade catch basins using filter fabric, straw bales, sandbags or fine gravel dams to keep slurry out of the storm drain system. When protecting a catch basin, the Contractor shall ensure that the entire opening of the catch basin is covered. Refer to California Storm Water Best Management Practice Handbook for these control measures.

c. The Contractor shall shovel, absorb or vacuum saw cut slurry and pick up the waste as the work progresses prior to moving to the next location, as specified elsewhere in these specifications or as directed by the Engineer.

d. If saw cut slurry enters catch basins, the Contractor shall, at the Contractor's cost, clean up the storm drain system immediately.

13. Concrete, Grout and Mortar Related Work

a. Material Handling

i. The Contractor shall avoid mixing excess amounts of fresh concrete or cement mortar on-site.

ii. The Contractor shall store concrete, grout and mortar away from storm drain facilities or drainage courses and shall ensure that these materials do not enter the storm drain system.

b. Washing of Concrete Truck and Tools

- i. The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drain system, drainage courses or creeks.
- ii. The Contractor shall perform washing of concrete trucks and tools off-site or in a designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. The Contractor shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, the Contractor shall collect the wash water and dispose of it off-site.

14. Asphalt Concrete Paving

a. Project Site Management

- i. When rain is forecast within 24 hours or during wet weather, the Engineer may prevent the Contractor from paving.
- ii. The Engineer may direct the Contractor to protect drainage courses by using earth dike, straw wattle or sandbag to trap and filter sediment. Refer to California Storm Water Best Management Practice Handbook for these control measures.
- iii. The Contractor shall place drip pans or absorbent material under paving equipment when not in use.
- iv. The Contractor shall cover catch basins and manholes when paving or applying prime coat, tack coat, seal coat, fog seal or slurry seal.
- v. If the paving operation includes an on-site mixing plant, the Contractor shall comply with Merced County NPDES General Industrial Activities Storm Water Permit requirements.
- vi. The Contractor shall preheat, transfer or load hot bituminous material away from storm drain system, drainage courses or creeks.

b. Paving Waste Management

The Contractor shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into streets, gutters, storm drain system or creeks but shall collect the sand and dispose of it off-site. The Contractor shall not wash fresh asphalt concrete pavement.

15. Painting

a. General

- i. The Contractor shall remove as much excess paint as possible from brushes, rollers and other tools before starting cleanup.
- ii. The Contractor shall conduct cleaning of painting equipment and tools in a designated area approved by the Engineer.
- iii. The Contractor shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drain system, drainage courses or creeks.

b. Water-Based Paint

To the maximum extent practicable, the Contractor shall dispose of wash water from water cleaning of brushes, rollers and other tools used in water-based painting work to the sanitary sewer or direct wash water onto dirt area and spade in.

c. Oil-Based Paint

The Contractor shall dispose of waste thinner and solvent and sludge from cleaning of brushes, rollers and other tools used in oil-based painting work as hazardous waste and the Contractor shall handle the waste as described in Section 6, "Disposal of Hazardous Waste," above. To the maximum extent practicable, the Contractor shall filter paint thinner and solvents for reuse.

16. Thermoplastic

- a. The Contractor shall transfer and load hot thermoplastic away from drainage systems or drainage courses or creeks.
- b. The Contractor shall sweep thermoplastic grindings into plastic bags. Yellow thermoplastic grindings may require special handling as they may contain paint.

C. CONTRACTOR TRAINING AND AWARENESS

1. The Contractor shall train all employees and subcontractors on the storm water pollution prevention requirements contained in these specifications.
2. The Contractor shall inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
3. The Contractor shall post warning signs in areas treated with chemicals.

D. BMP IMPLEMENTATION

The Contractor shall be responsible throughout the duration of the construction period for installing and maintaining the applicable BMPs and for removing and legally disposing of temporary control measures. Unless otherwise directed by the Engineer or specified elsewhere in these specifications, the Contractor's responsibility for BMP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.06, "Suspensions," of the Standard Specifications.

Throughout the rainy season, all soil-disturbed areas of the site shall be fully protected with soil stabilization and sediment control device approved by the Engineer at the end of the same day the soil is disturbed unless fair weather is predicted the next day and the protective measures are exempt by the Engineer. The Contractor shall monitor the weather forecast on a daily basis and inform the Engineer of the forecast. The National Weather Service forecast shall be used for this purpose. If precipitation is predicted for the following day, construction schedule shall be altered as required to install appropriate BMPs or to ensure that the already installed BMPs are in good operating condition prior to the onset of rain.

E. BMP MAINTENANCE

To ensure proper implementation and effectiveness of the BMPs, the Contractor shall regularly inspect and maintain the deployed BMPs throughout the construction site. The Contractor shall identify corrective actions and the time needed to address any deficient BMPs or reinstate any BMPs that have been discontinued. The Contractor shall keep written records of all BMP inspections, maintenance and corrective actions.

The frequency of the BMP inspection shall be as follows:

1. Prior to a forecast storm;
2. After any precipitation that causes runoff;
3. At 24-hour intervals during extended rain events; and
4. Routinely, at a minimum of once every week.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of a BMP, the deficiency shall be corrected immediately. If requested by the Contractor and

approved by the Engineer in writing, the deficiency may be corrected at a later time or date but the corrective action shall not be later than the onset of the subsequent rain event. The correction of deficient BMPs shall be at no additional cost to the City.

F. RESPONSIBILITIES, CONSEQUENCES, AND REMEDIES

1. Conformance with the provisions of this section or other requirements in various other sections of these specifications shall not relieve the Contractor from the Contractor's responsibilities as provided in various relevant articles of Section 7, "Legal Relations and Responsibilities to the Public," of the Standard Specifications, and as specified herein.
2. For purposes of this section, costs and liabilities include, but are not limited to, fines, penalties and damages, whether assessed against the City or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Act.
3. If solid or liquid materials or waste, hazardous or otherwise, or pollutants originating from the Contractor's operation enter the storm drain system or water courses, the Contractor will be required to thoroughly clean up the affected storm drain facilities and water courses to the satisfaction of the Engineer. If the Contractor fails to clean up the affected facilities as required, the City will issue a stop-work order and take necessary actions to effect the cleanup of the affected facilities.
4. The Contractor shall be responsible for all costs, including fines, the City's cost of defense, the cost of cleanup by others ordered by the City, and liabilities imposed by law as a result of the Contractor's failure or negligence in complying with the requirements specified herein.
5. In accordance with the provisions of Section 7-1.05, "Indemnification," of the standard Specifications if the Contractor fails to accept or reject a tender of defense and indemnity within fifteen (15) calendar days, the City may, in addition to the remedies authorized by law, retain any sum due the Contractor until disposition has been made of all claims or suits for damages or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

G. PAYMENT

Full compensation for storm water pollution control shall be considered as included in the payment for various other items of work and no additional compensation will be made therefore.

Special Provisions

1. Requirements

It is required that there be constructed and completed in accordance with the Contract Documents for "Construction of Three City Owned Parking Lot Improvements" for the City of Los Banos, all work as described in these Contract Documents.

2. Description of Work

The principal components of the work to be performed under these Contract Documents include the following:

Constructing approximately 51,991 square feet of pavement, 73 linear feet of various types of concrete curbing and 320 square feet of concrete pedestrian walkway at three Parking lot locations located throughout the City of Los Banos. The time for completion is sixty (60) working days.

Any incidental work not described in the Contract Documents which is necessary to complete the Work shall be furnished and installed as part of this contract at no additional cost to the Owner. The work shall be complete and ready for service to the satisfaction of the Owner.

The Contractor is responsible to inspect the site and observe actual working conditions prior to bidding the project.

3. Commencement, Prosecution and Completion of Work

The Contractor shall commence work and shall complete all of the work in accordance with the schedule and within the time stated in the bid. The capacity of the Contractor's construction plant, sequence of operations, method of operations, and the forces employed shall at all times during the continuance of the contract, be subject to the approval of the Engineer and shall be such as to ensure the completion of the work within the time specified.

4. Hours of Work

Construction work shall be completed between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday using normal construction practices. No work shall be performed on Saturday or Sunday. The Contractor may request to the Owner to perform construction outside of these specified hours.

5. Permits and Business Licenses

The Contractor will an Encroachment Permit from the Public Works Department prior to start of construction. The Contractor and all subcontractors working within the city limits of Los Banos shall apply for and have issued a business license from the City of Los Banos (209-827-7000) prior to commencement of work.

6. Testing

Field density tests shall be made of each compacted layer (subbase and aggregate base) as directed by the Engineer. When these tests indicate that the density of any layer of fill or portion thereof is less than the specified density, that layer shall be reworked until the required density has been obtained.

Field density tests (compaction testing) shall be performed by a geotechnical laboratory retained by the Owner and under the supervision of a registered geotechnical engineer.

Initial compaction testing will be paid by the Owner. Retesting of areas that failed the initial testing will be paid for by the Contractor.

7. Responsibility Regarding Existing Utilities and Private Property

The existence and location of public and private utilities indicated on the drawings are not guaranteed and any additional utilities and facilities not shown on the drawings shall be investigated and protected by the

Contractor. The Contractor shall be held responsible for damage to and for maintenance and protection of existing pipelines, public utilities, drives, curbs and gutters, sidewalks, and fences. Excavation in the vicinity of existing public utility structures, underground electrical or telephone cable, oil or gas pipelines, and waterlines shall be carefully done by hand. The Contractor shall adequately protect all adjoining property and structures from damage, whether within or without of the Owner furnished rights-of-way, and shall be fully responsible for any damage to adjoining property and structures which may result from work done under this contract. The Contractor shall use extreme care during construction to prevent damage from dust to crops and adjacent property. The Contractor shall sprinkle the areas where the passage of operation of vehicles and equipment creates a dust problem, or take other preventive measures as directed by the Engineer. The Contractor shall furnish all labor, equipment, materials and means required to control dust which is in any way a result of the Contractor's operations.

The Contractor shall be responsible for all damage or injury which may result to any property, outside of the construction right-of-way or within the right-of-way where so noted, from the Contractor's operations hereunder, or otherwise, from the performance of the Agreement by said Contractor or any of his subcontractors or employees.

The Contractor shall attempt to maintain access to the residential and commercial driveways within the construction area at all times during working hours and shall provide access during non-working hours, weekends and holidays.

Payment for all work specified above shall be included in the unit or lump sum prices bid in the schedule for the various items of work.

8. Obstructions

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installation at least 3 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Failure to contact the notification center prohibits excavation. Regional notification centers include but are not limited to the following:

NOTIFICATION CENTER	TELEPHONE
Underground Service Alert Northern California (USA) www.usanorth811.org	811 or 1-800-227-2600

9. Materials Furnished By Owner

No labor, material, or other facilities shall be provided by the Owner unless otherwise indicated on the drawings or in the Contract Documents.

10. Materials Furnished By Contractor

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary for the execution and completion of the work.

11. Schedule of Values, Material List and Substitutions

Prior to the commencement of work, and within 10 days following the signing of the contract by the Owner and the Contractor, the Contractor shall submit 2 copies of a Schedule of Values for all lump sum bid items in the Bid Schedule and a *complete* list of equipment and materials to be furnished, including all substitutions proposed to the Engineer for approval. Partial or incomplete material lists will not be considered. No substitutions will be considered thereafter. Only one request for substitution will be considered on each item of material or equipment.

12. Request for Extension of Time

All extension of time requests shall be made in writing to the Engineer within seven (7) calendar days from the delay occurrence date. In the case of continuing cause of delay, only one claim is necessary.

13. Rights-of-Way

The Contractor shall not be entitled to extra compensation for hardships and increased cost caused by the work being adjacent to telephone-telegraph lines and guy wires, power lines and guy wires, buildings, fences, pipelines, ditches, roadways, and other obstacles which may physically restrict or limit the use of construction equipment. In some cases, such physical confinement may necessitate special methods of construction of the work. If the Contractor desires to utilize additional area, he shall obtain the necessary approvals from the landowner. No additional compensation shall be paid to the Contractor for the cost of obtaining additional right-of-way or for the inability to obtain such.

14. Coordination with Other Work

Other work including but not necessarily restricted to relocation of power and telephone poles, installation of a gas line and relocation of water meters may be in progress near or at the construction site at the time the Contractor is in performance of the work specified herein. The Contractor shall coordinate his work with that of others so that prosecution of all work will proceed smoothly.

15. Closure of Streets

The Contractor will be allowed to temporarily close the streets being paved to vehicular traffic between the hours 7:00 a.m. and 5:00 p.m. on the day the streets are being paved. All street closure dates shall be coordinated with and approved by the Engineer for approval no later than 10 working days prior to the earliest proposed closures and detours.

16. Construction Signs, Barricades, Lights and Flagmen

The Contractor shall furnish, erect and maintain adequate barricades, lights, signs and other devices and take other protective measures to prevent damage to the public. The Contractor shall also furnish adequate warning to the public of dangerous conditions to be encountered. Where one lane of a public road is closed, the Contractor shall furnish flagmen at each end of the closed lane to control traffic in the open lane. The Contractor shall also furnish adequate warning to the public of dangerous conditions to be encountered.

Payment for traffic control and other safety measures shall be included in the Traffic Control Plan lump sum price bid in the Bid Schedule.

17. Traffic Control Plan

It is the Contractor's sole responsibility to establish and implement a Traffic Control Plan conforming to Sections 7-1.08, "Public Convenience" 7-1.09, "Public Safety", and Section 12, "Construction Area Traffic Control Devices", of the Caltrans Standard Specifications. Nothing in these Contract Documents shall be construed as relieving the Contractor from his responsibility.

The Traffic Control Plan shall be prepared, stamped and signed by a professional engineer registered in California, and three copies provided to the Engineer before the Contractor is issued a Notice to Proceed.

Payment for the preparation and implementation of the Traffic Control Plan shall be made at the applicable lump sum price bid in the Bid Schedule.

18. Disposal of Waste Materials

Waste material shall be disposed of in accordance with local regulatory requirements. Provide watertight conveyance for liquid, semi-liquid or saturated solids which tend to bleed during transport. Liquid loss from transported materials is not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.

19. Noise Control

Conduct operations to cause least annoyance to residents in vicinity of work, and comply with applicable local ordinances. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.

20. Water Supply

Water will be available to the Contractor in performance of the work without charge from all Owner fire hydrants. Prior to the use of any hydrant the Contractor shall notify the Owner and obtain and install a meter furnished by the Public Works Department on the fire hydrant. It will be the Contractor's responsibility to convey the water to the work site. Regardless of the method of conveyance chosen, it shall not be cause for closure of any streets nor shall it create a nuisance to nearby residents. An air gap shall be maintained between the hose or pipe discharge to prevent possible backflow in the event of distribution system pressure loss. The Contractor shall pay a One Thousand Dollar (\$1,000) deposit per meter for the use of the fire hydrant meter. The deposit may be refunded in full if the fire hydrant meter is returned undamaged.

21. Notifications

The Owner will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements shall notify the Contractor in writing, through the Owner, of any non-compliance with State or local requirements. The Contractor shall, after receipt of such notice from the Owner or from the regulatory agency through the Owner, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

22. Work Not Listed in Proposal

It is the intent of the plans, specifications and contract documents to provide for the construction of completed and finished facilities and works of improvement unless otherwise specifically provided. Except for authorized changes in the work, payment for said complete and finished facilities and works of improvement will be made only on the basis of the contract items of work listed in the proposal. All other work, including the furnishing of plants, labor, materials, tools, equipment, and incidentals, provided for in the plans, specifications and contract documents, or required for the proper completion of the work as a whole, for which no separate payment has been provided shall be a supplementary obligation of the Contractor and payment therefore shall be considered included in the prices paid for the various contract items of work listed in the proposal.

23. Submittals

The Contractor shall submit to the Engineer, a minimum of six sets, hard copies, or one electronic copy of the following submittals for review and approval:

1. Storm Drain Pipeline and Appurtenances
2. Manholes
3. Frames and Covers
4. Aggregate Base
5. Concrete Mix Design
6. Asphalt Concrete Mix Design
7. Truncated Domes
8. Electrical Materials and Appurtenances
9. Site Lights

10. Landscape and Irrigation Materials
11. Bollards
12. Wheel Stops
13. Reinforcing Steel
14. Root Barrier
15. Signs and Posts
16. Thermoplastic
17. Storm Drain Stamp
18. Stormwater Management Plan (BMPs)
19. Quality Control Program/Plan

Within 10 days after the effective date of the Agreement and before starting to perform any work, the Contractor shall submit to the Engineer for review and approval:

1. A work schedule indicating the times for starting and completing the various stages of the work. No progress payment shall be made to Contractor until an acceptable schedule has been submitted to the Engineer.
2. Traffic Control Plan
3. Notice to Residents in English and Spanish
4. A Schedule of Values - a breakdown of each lump sum price to be used to determine deductive change orders, if necessary.
5. A complete list of equipment and materials to be furnished
6. City of Los Banos Business License for Contractor and all subcontractors

If more than TWO submittals for a single item are required because of incorrect or insufficient data, or the submittal is unacceptable, or because the Contractor wishes to change previously approved material, then all costs incurred by the Owner for the additional review shall be deducted from monies due the Contractor.

A revised work schedule shall be submitted within 5 days of request by the Engineer. No future progress payments shall be made to Contractor until an acceptable schedule has been submitted to Engineer.

24. Bid Item Descriptions

BID ITEM NO. 1 THRU 5 – ASPHALT PAVEMENT & CONCRETE SAWCUT AND REMOVAL

This is a lump sum item for the demolition of existing asphalt concrete and concrete, sawcutting, and removal of excess materials, and other objects noted on the plans from the project site. Bid price shall include all labor, materials, equipment, and incidentals required to complete this work as described, according to these Specifications and Plans. This item includes the removal of any asphalt concrete, curb, gutter, etc.

BID ITEM NO. 6 THRU 8 – 3” AC PAVEMENT

This item is bid per ton, delivered, in place and compacted per the plans and conforming to the provisions in Section 14 of these Specifications and the City of Los Banos Specifications Part II Section 7-2.5 “Parking Lots - Pavement”. This line item shall also include furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in grinding existing pavement, grading and recompacting base as shown on the Plans, and as specified by the engineer.

BID ITEM NO. 9 THRU 11 – 6” CL. II AGGREGATE BASE

This item is bid per ton, delivered, in place and compacted per the plans and conforming to the provisions in Section 13 of these Specifications. This line item shall also include furnishing all labor, materials, tools,

equipment and incidentals and for doing all the work involved in grinding existing pavement, grading and recompacting base as shown on the Plans, and as specified by the engineer.

BID ITEM NO. 12 – 14 PAVEMENT STRIPING AND MARKINGS

This item is a lump sum item per the plans and conforming to the provisions in the City of Los Banos Specifications Part II Section 7-2 "Parking Lots". This line item shall also include furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in striping the parking lot pavement, as shown on the Plans, and as specified by the engineer.

BID ITEM NO. 15 – 17 ADA PARKING CONCRETE PAD (AND RAMP)

This item is bid per square foot, complete and in place including all necessary excavation, grading and disposal of excavated materials offsite, and shall be constructed per the plans and conform to the provisions in Section 15 of these Specifications. This line item shall also include furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in the construction of drive approaches as shown on the Plans, and as specified by the engineer.

BID ITEM NO. 18 CONCRETE VALLEY GUTTER

This item is bid per square foot, complete and in place including all necessary excavation, grading and disposal of excavated materials offsite, and shall be constructed per the plans and conform to the provisions in Section 15 of these Specifications.

BID ITEM NO. 19 CONCRETE CURB

This item is bid per lineal foot, complete and in place, and shall be constructed per the plans and conform to the provisions in Section 15 of these Specifications.

BID ITEM NO. 20 CONCRETE SIDEWALK

This item is bid per square foot, complete and in place including all necessary excavation, grading and disposal of excavated materials offsite, and shall be constructed per the plans and conform to the provisions in Section 15 of these Specifications. This line item shall also include furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in the construction of drive approaches as shown on the Plans, and as specified by the engineer.

BID ITEM NO. 21 MOBILIZATION

This item is bid on a lump sum basis and shall consist of compensation for the movement of personnel, equipment, supplies and incidentals to the project site.

The total lump sum bid for mobilization shall not exceed Three Percent (3%) of total bid cost.

The lump sum paid for mobilization shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in mobilization as specified herein. Any anticipated mobilization costs in excess of the maximum allowed herein shall be included in the amount bid for the other various items of work.

Technical Provisions

Section 11 – Clearing and Grubbing

GENERAL

Clearing and grubbing shall consist of the removal and disposal of all objectionable materials, roots, existing concrete and other obstructions as indicated, within the limits of the project, as required by the Plans and Special Provisions and as directed by the Engineer.

PRESERVATION OF PROPERTY

Whether shown on the Plans or not, existing improvements, adjacent property, utility and other facilities, and trees and plants that are not to be removed shall be protected from injury or damage resulting from the Contractor's operations. Only trees and plants that are designated or marked for removal by the Engineer shall be removed.

Reference is made to Subsections 6.03 and 7.06 of these Specifications.

The Contractor shall make such investigations and examinations as are required to determine the existence and locations of all pipes, conduits, and other underground improvements and shall consult with and advise the owners of the utilities before undertaking any work that might endanger them.

The Contractor shall assume full responsibility for any damage to pipes, conduits, poles, or any other structures or utilities. He shall not make any claim for inconvenience, delay or added cost of performing the work which may be attributed in any degree to inaccuracy of information furnished by the City of Los Banos relative to the locations, sizes, dimensions, depths, and character of any pipes, conduits, poles or other structures and utilities.

Existing survey monuments and stakes shall be fully protected from damage or displacement, and they shall not be disturbed unless directed by the Engineer.

OPERATIONS

Unless otherwise specified, the entire area within the project limits shall be cleared and grubbed by the Contractor. No payment will be made to the Contractor for clearing and grubbing outside these limits, unless such work is authorized by the Engineer.

All of the work shown on the Plans and included in the Special Provisions and these Specifications that is located in public streets and alleys of the City of Los Banos shall be done in accordance with City ordinances regulating the use of public streets and alleys within the City, except as otherwise provided herein.

The Contractor shall inform himself as to all regulations and requirements of the City of Los Banos and shall conduct his operations in compliance therewith.

Within the limits of clearing, all stumps, large roots, buried logs, and all other organic material shall be removed 3 feet below the existing ground surface or 6 feet below finished grade, whichever is deeper.

Trees designated for removal shall be removed in such a manner as not to injure standing trees, plants, and improvements which are to be preserved. Tree branches extending over the roadway which interfere with the work shall be trimmed in a workmanlike manner by the Contractor at the direction of the City Engineer.

All concrete, asphalt-concrete and oil dirt within the right of way shall be removed by the Contractor unless designated to remain on the Plans.

Where a portion of an existing concrete facility is to be removed, it shall be cut to a minimum depth of 1 ½ inches with an abrasive type saw at the first scoring line at or outside the planned joint and removed without damage to any portion that is to remain in place. If curbs and gutters cannot be cut off square and neat, the entire curb and gutter shall be removed to the nearest weakened plane or expansion joint. No patching at expansion joints will be permitted.

Where existing house foundations and floor slabs overlap into the project area, the whole foundation shall be removed. The portion beyond and outside the project area will be considered within the project area and included in the bid price of clearing and grubbing.

Existing manholes, drain wells, drainage structures, structures and headwalls to be abandoned shall be removed to at least 3 feet below finish grade, their bottom (if any remain) broken to prevent entrapment of water and the resulting void backfilled with soil and compacted. When existing pipes (or structures with pipes) are to be abandoned, the ends of all pipes shall be plugged with a wall of concrete not less than 0.5 foot thick.

All traffic signs and street signs within the limits of the improvement, if required, shall be removed, salvaged and stockpiled at locations designated by the Engineer. The Contractor shall install (and ultimately remove) temporary traffic control devices, if required, at locations designated by the Engineer. Traffic control signs and street signs previously removed and salvaged shall be replaced upon completion of the work, and the cost of removal, replacement and temporary devices shall be included in the clearing and grubbing work.

REMOVAL AND DISPOSAL OF MATERIALS

All materials removed shall be lawfully disposed of by the Contractor at disposal sites outside the right-of-way. Reference is made to Subsection 7.08 of these Specifications.

All existing materials that are designated to be salvaged shall be removed, cleaned and hauled to the City Corporation Yard, Los Banos, by the Contractor.

The roadway and adjacent areas shall be left with a neat and finished appearance. No accumulation of flammable material shall remain on, or adjacent to, the right-of-way.

MEASUREMENT

Quantities of clearing and grubbing will be measured on a lump sum basis.

PAYMENT

The lumps sum price bid 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 set forth in the Special Provisions, and as directed by

the Engineer, including the removal and disposal of all the resulting materials. Unless otherwise provided, all concrete removal shall be included in clearing and grubbing.

When the contract does not include a pay item for clearing and grubbing as above specified, and unless otherwise provided in the Special Provisions, full compensation for any necessary clearing and grubbing required to perform the construction operations specified shall be considered as included in the price bid for other various items of work and no additional compensation will be allowed, therefore.

Section 12 – Excavation and Subgrade Preparation for Roadways and Other Surface Improvements

GENERAL

This work shall consist of all excavation, grading, removal and replacement of material, placement of embankment, subgrade preparation and compaction and all other operations required in the construction of the finished earth surface for roadways and other surface improvements, including performing all operations necessary to excavate all materials, regardless of character and subsurface conditions, from the roadway prism or adjacent thereto; to excavate drainage and irrigation ditches; to excavate drainage channels; to excavate selected material from the roadway and borrow material for use as specified; to construct embankments, including the placing of selected material in connection therewith as specified; to backfill holes, pits and other depressions within the roadway area; to apply water; to remove and replace unsuitable material; to excavate and grade road approaches, driveways, and connections; to remove unstable material outside the roadway prism; to prepare basement material for the placing of other material thereon; all as shown on the Plans and as specified in these Specifications and the Special Provisions, and as directed by the Engineer; and furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work that may be required to construct and maintain the roadway facilities.

Whenever reference to finished grade is made, it shall be considered to be the finished surface of the completed facility.

Quantities of all types of existing subbase, base, surfacing, or pavement removed will be included in the quantities of the type of excavation in which they are located, and no separate payment will be made, therefore.

Roadway, as used in this section, shall include alleys, easements or the sites of other surface improvement work.

TEST METHODS

Tests in connection with the work shall be made in conformance with the following.

<u>Tests</u>	<u>California Test</u>
Relative Compaction	216
Sand Equivalent	217
Resistance (R Value)	301
Sieve Analysis	302

Reference is made to Subsections 5.03 and 5.07 of these Specifications.

GRADE TOLERANCE

The finished grading plane shall conform to the following:

1. Where no subsequent layers of materials are to be placed thereon, the grading plane at any point shall not vary more than 0.10 foot above or below the grade established by the Engineer.
2. Where subsequent layers of materials are to be placed thereon, immediately prior to placing said materials the grading plane at any point shall not vary more than 0.05 foot above or below the grade established by the Engineer.

All cut slopes shall be rounded.

IMPORTED BORROW

The Contractor, at his expense, shall make his own arrangements for obtaining imported borrow and he shall pay all costs involved.

Imported borrow shall be of a quality suitable for the purpose intended, free of vegetable matter or other unsatisfactory material. All imported borrow shall be subject to the approval of the Engineer. The Contractor shall supply to the City, at the Contractor's expense, test results required by the Engineer to determine the suitability of any borrow proposed for import. These tests will be required at the original site of the proposed borrow material and also at the delivery site. The Contractor shall remove, at the Contractor's expense, any borrow placed which fails to meet the approval of the Engineer.

SELECT FILL

Select fill shall be defined as material which is excavated from a location within the right of way as designated by the Engineer and placed at the locations indicated on the Plan.

Select fill shall be placed in conformance with this Section 12.

CONSTRUCTION

The Contractor shall provide excavation, placement and compaction of embankment, grading, and preparation of subgrade to construct the roadway or other surface improvement to conform to the line, grade and cross-section shown on the Plans, or as directed by the Engineer. Unless otherwise indicated, unsuitable or surplus excavated material shall be disposed of by the Contractor in accordance with Subsection 7.08 of these Specifications. If the quantity of acceptable material from the excavation is not sufficient to construct the embankments required by the work, the quantity of material needed to complete the embankments shall consist of imported borrow in conformance with Subsection 12.04 of these Specifications.

Embankments shall be constructed in layers. The loose thickness of each layer of embankment material before compaction shall not exceed 0.67 foot. Except as herein provided otherwise for the top 0.50 foot of pavement subgrade, all embankment shall have a relative compaction of no less than 90 percent. Areas to receive embankment construction shall first be cleared of all debris, bushes, weeds, stumps, or other deleterious material, in accordance with Section 11 of these Specifications. If embankment material is to be placed on existing slope areas, the existing surface shall be plowed or scarified to produce a bond with the material to be placed.

Reference is made to Subsections 6.03 and 7.06 of these Specifications, relative to protection of utilities and preservation of property.

The subgrade to receive aggregate base or subbase, or asphalt-concrete, shall be prepared as follows:

The soil material shall be bladed or disked to a depth of 0.5 foot and all rocks, hardpan chunks or otherwise unsuitable material over 2 ½ inches in size, shall be removed and disposed of off the project site.

The material thus disked or bladed shall be thoroughly mixed, watered and rolled to a relative compaction of not less than 95 percent.

Any soft, spongy or otherwise unstable areas shall be repaired by completely removing the material and replacing it with acceptable materials in accordance with these Specifications, at the Contractor's expense. Before aggregate base or asphalt-concrete paving is placed, the Engineer may require, at the Contractor's expense, a test roller of size and weight as approved by the Engineer to pass over the finished subgrade to ascertain that there are no such soft or spongy areas.

No aggregate base or asphalt-concrete paving shall be placed until the finished subgrade is in a stable condition satisfactory to the Engineer, regardless if said subgrade passed any prior compaction test.

Compacting shall extend to and include all areas where concrete improvements are to be constructed. The relative compaction of the top 0.50 foot of soil material under curb and/or gutter, under driveway approaches and under valley gutters shall be no less than 95 percent. The top 0.50 foot of subgrade under sidewalks shall have a relative compaction of no less than 90 percent. The cost of subgrade preparation and compaction under concrete improvements will be included in the respective bid items for concrete improvements.

No compaction test of subgrade shall be made until such time as the subgrade is finished to within 0.10 foot of finished subgrade. The Contractor shall notify the Engineer when the subgrade is ready for compaction testing, and the City Engineer will notify the appropriate testing laboratory designated to perform such tests. The Engineer shall specify the locations where compaction tests are to be made.

No excavation shall be made below the plane of the bottom of the curb and gutter subsequent to installing curb and gutter until backfill has been placed behind the curb.

Reference is made to Subsection 16.04 of these Specifications relative to adjusting existing facilities to finish grade.

LIME TREATMENT

Lime treatment of subgrade, including furnishing lime, mixing, spreading and compacting, and furnishing and placing curing seal, shall be provided by the Contractor at the locations indicated on the Plans or directed by the Engineer. Lime treatment of subgrade shall conform to Section 24 of the State Standard Specifications, except for the following:

1. Lime shall be high-calcium hydrated lime.
2. Removing and disposing of rocks or solids larger than 2 ½ inches will not be paid

for as extra work.

3. No reduction in 95 percent relative compaction requirement will be allowed for increase in lime content.
4. The curing seal shall be applied at the rate of 0.10 gallons per square yard of surface.
5. Subsection 24-2.04, Measurement, and Payment, of the State Standard Specifications are hereby deleted.

MEASUREMENT

Measurement of excavation and subgrade preparation for roadways and other surface improvements will be by the cubic yard. The quantity will be the estimated "cut" required to excavate to the grading plane, including the volume of any existing surfacing or base materials but not including the volume of existing concrete work.

Measurement of imported borrow will be by the cubic yard, in place in the work and compacted.

Measurement of select fill will be by the cubic yard, in place in the work and compacted.

Measurement of lime treatment will be the square yard of surface treated.

PAYMENT

The cubic yard price bid for excavation and subgrade preparation for roadways and other surfaces (or roadway excavation) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved therein as shown on the Plans, as

set forth in the Special Provisions, and as directed by the Engineer. Placement of embankment and the preparation therefore is also included in this bid item.

The unit price bid per cubic yard for imported borrow shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

The unit price bid per cubic yard for select fill shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in special handling and placement thereof, as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

The unit price bid per square yard for lime treatment shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. Included in this item will be furnishing lime, mixing, spreading and compacting; and furnishing and placing curing seal.

Section 13 – Aggregate Subbases and Bases

GENERAL

This work shall consist of furnishing, spreading and compacting aggregate subbase and/or aggregate bases on a prepared subgrade or subbase, in conformance with the lines, grades, cross-sections and dimensions shown on the Plans, Standard Drawings and as hereinafter specified.

MATERIALS

Aggregate for subbases and bases, at the time they are deposited on the roadbed, shall be as follows:

1. Aggregate subbases shall be Class 2 conforming to Subsection 25-1.02A of the State Standard Specifications.
2. Aggregate bases shall be Class 2 with grading for $\frac{3}{4}$ inch maximum aggregate, conforming to Subsection 26-1.02B of the State Standards Specifications.

SUBGRADE

The subgrade to receive aggregate subbase or aggregate base, immediately prior to spreading, shall conform to the compaction and elevation tolerance specified for the material involved and shall be free of loose or extraneous material. No aggregate subbase or aggregate base shall be placed until the subgrade has been tested, inspected and approved by the Engineer.

SPREADING AND COMPACTING

Aggregate subbases or aggregate bases shall be delivered to the roadbed as uniform mixtures, in separate operations. Each mixture shall be deposited and spread to the required compacted thickness by means which will maintain the uniformity of the mixture. Each layer shall be free from pockets of coarse or fine material.

Where the required thickness is 0.50 foot or less, the subbase or base material may be spread and compacted in one layer. Where the required thickness is more than 0.50 foot, the subbase or base material shall be spread and compacted in 2 or more layers of approximately equal thickness and the maximum compacted thickness of any one layer shall not exceed 0.50 foot.

Aggregate subbases or aggregate bases, placed on road approaches and connections, street intersection areas, median strip areas, shoulder areas, and at locations which are inaccessible to the spreading equipment, may be spread in one or more layers by any means to obtain the specified results.

When the subgrade for aggregate subbase or aggregate base consists of cohesionless sand, and written permission is granted by the Engineer, a portion of the aggregate base may be dumped in piles upon the subgrade and spread ahead from the dumped material in sufficient quantity to stabilize the subgrade. Segregation of aggregate shall be avoided, and each layer shall be free from pockets of coarse or fine materials.

At the time aggregate material is spread, it shall have a moisture content sufficient to obtain the required compaction. Such moisture shall be uniformly distributed throughout the material.

The relative compaction of each layer of compacted aggregate material shall be not less than 95 percent.

The surface of the finished aggregate subbase or aggregate base at any point shall not vary more than 0.05 foot above or below the grade established by the Engineer.

ADDITIONAL THICKNESS

In the event that soil conditions are encountered such that a satisfactory subgrade, subbase or base for pavement may not be obtained, the material lying below the subgrade shall be removed and the additional aggregate subbase or aggregate base material, as directed by the Engineer, shall be placed in accordance with the provisions of this section.

Measurement and payment for such additional roadway excavation, additional aggregate subbase or additional aggregate base shall be at the units of measure and unit prices bid for roadway excavation, aggregate subbase and/or aggregate base.

MEASUREMENT

Measurement of aggregate subbases and aggregate bases will be by the ton.

In conformance with Subsection 9.01 of these Specifications, the Contractor shall be responsible for furnishing the Engineer with a certified daily record of the weight of all said material which has been delivered to the project has been delivered to the project site. Said record shall become the basis of measurement for the materials itemized therein. In addition, each delivery truck shall carry to the project site a load slip for the material transported in said truck. The load slip shall be delivered to the Engineer by the driver at the time and site of delivery of the truck load of material covered by the load slip.

PAYMENT

The unit price bid per ton for aggregate subbase shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

The unit price bid per ton for aggregate base shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

Section 14 – Hot Mix Asphalt

GENERAL

This work shall consist of furnishing and mixing aggregate and asphalt binder at a central mixing plant and spreading and compacting the mixture in accordance with Section 39 and all of the updates of the State Standard Specifications and as modified herein, as shown on the Plans and as indicated by the Engineer. The work shall also include furnishing and placing tack coat and seal coat, and furnishing and constructing hot mix asphalt dikes where shown on the Plans. HMA shall be established, maintained, and controlled to ensure materials and work complies with these specifications as specified herein.

HOT MIX ASPHALT MATERIALS

HMA shall be Type B, furnished, mixed and proportioned in accordance with Subsections 39-1.02 and 39-1.03 of the State Standard Specifications.

Asphalt binder in HMA must comply with Section 92, "Asphalts," or Section 39-1.02D, "Asphalt Rubber Binder." Asphalt binder for geosynthetic pavement interlayer must comply with Section 92, "Asphalts." The asphalt binder shall be steam-refined asphalt conforming to Grade PG 64-10, or as directed by the Engineer.

Aggregate material shall conform to the specifications and grading requirements of Subsection 39 1.02E of the State Standard Specifications for $\frac{3}{4}$ inch maximum aggregate or $\frac{1}{2}$ inch maximum aggregate. Where a thickness of more than 2 inches of HMA is required, the first course shall be $\frac{3}{4}$ inch maximum aggregate and the final course shall be $\frac{1}{2}$ inch maximum aggregate. Where a thickness of 2 inches or less of HMA is required, the gradation shall conform to $\frac{1}{2}$ inch maximum aggregate.

Reclaimed Asphalt Pavement (RAP) for use in producing HMA shall conform to the specification requirement of Subsection 39-1.02F.

TACK COAT

Tack coat must comply with the specifications for asphalt binder in Section 92, "Asphalts." The asphalt binder shall conform to Grade PG 64-10, or as directed by the Engineer. Tack Coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints in the surfacing against which additional material is to be placed, to a pavement to be surfaced, and to other surfaces designated by the Engineer. Tack Coat shall be applied in one application at a rate of 0.02 to 0.07 gallon per square yard of surface covered, in conformance with Subsection 39-1.09C.

HOT MIX ASPHALT PRODUCTION

HMA shall be produced and evaluated in conformance with Subsections 39-1.07 and 39-1.08. HMA is to be produced in a batch mixing plant or a continuous mixing plant. Before production, HMA plants must have a current qualification under the Department's Materials Plant Quality Program.

The Engineer must evaluate HMA production and placement at production start-up. The sampling method must be requested in writing and approved by the Engineer prior to production.

SPREADING AND LAYING HOT MIX ASPHALT

Prior to placement of HMA, the base shall be inspected for any unsuitable areas. All unsuitable areas shall be removed and replaced as determined by the Engineer.

HMA shall be placed, spread and compacted in conformance with Subsections 39-1.10, 39-1.11 and 39-1.12 of the State Standard Specifications, and as specified herein. Subgrade to receive HMA must comply with the compaction and elevation tolerance specifications in the section for the material involved. Subgrade must be free of loose and extraneous material. If HMA is placed on existing base or pavement, remove loose paving particle, dirt, and other extraneous material by any means including flushing and sweeping.

Determine HMA smoothness in conformance with Subsections 39-1.12B and 39-1.12D, unless otherwise directed by Engineer.

HOT MIX ASPHALT DIKES

HMA for dikes shall be as specified in Subsections 14.02 of these Specifications and 39-1.14 of the State Standard Specifications. HMA dikes shall be constructed as shown on the Plans and directed by the Engineer. Dikes shall be shaped and compacted with an extrusion machine or other equipment capable of shaping and compacting the material to the required cross-section. HMA for dikes may be spread in one layer.

SEAL COAT

A fog seal coat of asphaltic emulsion shall be applied to all newly paved street surfaces in accordance with Subsections 37-1.01 through 37-2.02C, 37-2.03D and 37-2.03F(R) of the State Standard Specifications. The seal coat shall be applied within 7 to 14 days after paving, weather permitting.

CONSTRUCTION PROCESS

HMA shall be constructed in conformance to the Method Process as specified in Section 39-3 of the State Standard Specifications, unless otherwise directed by the Engineer or set forth in the Special Provisions.

Contractor Quality Control shall be maintained in conformance to Subsection 39-1.04 of the State Standard Specifications. A pre-paving conference meeting shall be held to discuss methods of performing the production and paving work at a mutually agreed time and place.

MEASUREMENT

Measurement of Hot Mix Asphalt will be by the TON.

In conformance with Subsection 9.01 of these Specifications, the Contractor shall be responsible for furnishing the Engineer with a certified daily record of the weight of all hot mix asphalt material which has been delivered to the project site. Said record shall become the basis of measurement for hot mix asphalt pavement, or hot mix asphalt surfacing. In addition, each delivery truck shall carry to the project site a load slip for the material transported in said truck. The load slip shall be

delivered to the Engineer by the driver at the time and site of delivery of the truck load of material covered by the load slip.

Measurement of hot mix asphalt dikes will be by the lineal foot along the completed dike.

PAYMENT

The unit price bid per TON for hot mix asphalt surfacing shall include full compensation for furnishing all labor, materials, tools, equipment, meetings, submittals and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. Full compensation for all costs involved in furnishing and applying tack coat shall also be included in the amount bid for hot mix asphalt surfacing. Full compensation for all costs involved in, and no separate measurement and payment will be made for furnishing and applying tack coat.

The unit price bid per lineal foot for hot mix asphalt dike shall include full compensation for furnishing all labor, materials, tools equipment, meetings, submittals and incidentals and for doing all the work involved in furnishing and installing hot mix asphalt dike as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. Full compensation for any necessary excavation and backfill involved in undercutting cut slopes for constructing dikes will be considered as included in the Contract price paid per lineal foot for hot mix asphalt dike and no additional compensation will be allowed, therefore.

The unit price bid per square yard for fog seal shall include full compensation for furnishing all labor, materials, tools, equipment, meetings, submittals, and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

The provisions of Subsection 39-6 of the State Standard Specifications shall not apply.

Section 15 – Concrete Surface Improvements

GENERAL

This work shall consist of constructing concrete curbs, gutters, curb depressions, sidewalks, wheelchair ramps, driveway approaches, alley approaches, valley gutters, mowstrips and median caps of the form and dimensions shown on the Plans and Standard Drawings, as set forth in the Special Provisions and as directed by the Engineer.

All the aforementioned concrete improvements shall be constructed by using fixed forms, except that curbs, gutters, curb depressions and valley gutters may be constructed by using an extrusion or slip-form machine.

PORTLAND CEMENT CONCRETE

Concrete shall meet the requirements of Section 90 of the State Standard Specifications. Concrete

for surface improvements, shall be constructed of minor concrete conforming to the provisions of Subsection 90-2 of the State Standard Specifications except as follows:

1. For extruded or slip-formed concrete improvements, the maximum size of aggregate used shall be at the option of the Contractor, but in no case shall the maximum size be larger than 1 inch nor smaller than 3/8 inch.
- 1.
2. The cement content of the minor concrete shall be not less than 470 pounds per cubic yard, except that when extruded or slip-formed concrete improvements are constructed using a 3/8 inch maximum size aggregate, the cement content shall be not less than 564 pounds per cubic yard.
- 2.
3. Concrete for valley gutters shall have a cement content not less than 564 pounds per cubic yard.

REINFORCEMENT

Where the use of steel reinforcement is indicated on the Plans or Standard Drawings, it shall be furnished and installed in accordance with Section 52 of the State Standard Specifications, except that Subsection 52-1.04 is hereby deleted.

SUBGRADE PREPARATION

Reference is made to Subsection 12.06 of these Specifications.

The subgrade shall be constructed true to grade and cross-section, as shown on the Plans or directed by the Engineer. It shall be thoroughly watered and rolled or hand tamped to obtain a relative compaction of no less than 95 percent under curbs and/or gutters, under driveway approaches and under valley gutters, and a relative compaction of no less than 90 percent under sidewalks, mow strips and concrete median caps prior to placing the concrete.

All soft or spongy material shall be removed to a depth of not less than 0.5 foot below subgrade elevation for curbs, gutters, valley gutters and driveways and 0.25 foot below for caps, mowstrips, sidewalks and wheelchair ramps, and the resulting space filled with earth, sand or gravel of a quality that when moistened and compacted will form a stable foundation.

The subgrade and forms shall be wet immediately in advance of placing concrete.

CONSTRUCTION

Concrete shall not be placed on frozen or ice-coated ground or subgrade nor on ice-coated forms, reinforcing steel, structural steel, conduits, precast members, or construction joints. Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to damage surface mortar or cause a flow or wash of the concrete surface, unless the Contractor provides adequate protection against damage. All concrete that has been frozen, or damaged by other causes, as determined by the Engineer, shall be removed and replaced by the contractor at his expense.

Fixed form construction shall conform to Subsections 73-1.03C, 73-2.03B and 73-3.03 of the State Standard Specifications, and as set forth herein. Extruded or slip-formed construction shall conform to Section 73-2.03C of the State Standard Specifications, and as set forth herein. The extrusion machine shall go no faster than the curb and/or gutter or valley gutter can be finished using good workmanlike practices. Construction joints shall be as shown on the Standard Drawings, or as herein specified for both fixed form and extruded or slip-formed constructions, as follows:

1. Expansion joints for curbs and gutters, sidewalks, mowstrips, valley gutters and median caps shall be constructed at no greater than 45 foot intervals, and at the ends of curb returns. Expansion joints for curbs and gutters shall also be constructed on each side of curb depressions for driveway approaches. Expansion joints for sidewalks shall also be constructed on each side of driveway approaches. Expansion joints for fence mowstrips shall occur at post locations. All expansion joints shall be tooled with a $\frac{1}{4}$ inch maximum radius edger, and filled with $\frac{1}{4}$ inch thick premolded joint filler conforming to ASTM Specification Designation D1751.
2. Weakened plane joints shall be placed at 15 foot intervals, except that for mowstrips they shall be placed at each post location not having an expansion joint. Weakened plane joints may be made by the use of plastic materials. Plastic weakened plane joint material shall be at least 1 inch deep, T-shaped $\frac{1}{16}$ inch thick plastic strip, with a minimum $\frac{3}{4}$ inch wide pull-tip stiffener. This plastic strip shall have a suitable anchor to prevent vertical movement. After preliminary troweling, the concrete shall be parted to a depth of approximately 2 inches with a joint knife or a thin metal straight edge. The plastic strip shall then be inserted in the impression so that the upper surface of the pull-top stiffener is flush with the concrete, and the pull-top stiffener shall be immediately peeled off. After the pull-top is removed, the concrete shall be floated to fill all voids adjacent to the strip. During final troweling, the edges at plastic control joints shall be finished to a radius not to exceed $\frac{1}{8}$ inch using a slit jointer tool. The finished joint opening shall not be wider than $\frac{1}{8}$ inch exclusive of radii.

The above spacing for construction joints shall be required in lieu of the spacing indicated in Section 73 of the State Standard Specifications.

Mowstrips may not be poured monolithically with sidewalks or other concrete improvements. The surface of sidewalks, wheelchair ramps and driveway approaches shall be scored as shown on the Standard Drawings or as directed by the Engineer, utilizing a scoring tool which will leave the edges rounded.

Where steel dowels are set forth on the Plans to anchor proposed concrete curbs to existing pavement, adhesives may not be substituted therefore.

FINISH

Immediately upon stripping curb forms and prior to backfill, all rock pockets or honeycombs shall be repaired to the satisfaction of the Engineer.

Finish of concrete surface improvements shall be free from blemishes and shall be as follows:

<u>Curbs</u> -	Trowel smooth and finish with a light brush
<u>Sidewalks and Mowstrips</u> -	Medium sweat finish
<u>Gutters, Valley Gutters and Median Caps</u> –	Finish with medium broom
<u>Driveway Approaches</u> –	Finish with a medium broom, except wings shall be finished with a light broom and sidewalk area to receive a medium sweat finish.
<u>Handicap Ramps</u> -	Finish as indicated on the Standard Drawings. Broomed surfaces to be used by pedestrian traffic shall be broomed transverse to the line of traffic.

TOLERANCES

The top and face of finished curbs shall be true and straight, and the top surface of curbs shall be of uniform width, free from humps, sags, or other irregularities. When a straightedge 10 feet long is laid on the top of face of the curb or on the surface of gutters, or valley gutters, the surface shall not vary more than 0.01 foot from the edge of the straightedge, except at grade changes or curves.

The surface of sidewalks, wheelchair ramps, driveway and alley approaches, mowstrips and median caps shall not vary more than 0.02 foot from a 10 foot straightedge, except at grade changes.

CURING

All surface concrete improvements shall be cured by application of an approved curing compound in conformance with the requirements of Subsection 90-1.03B(B) of the State Standard Specification.

BACKFILLING

After removal of forms, the area adjacent to the newly constructed concrete improvement shall be cleaned of all surplus concrete and other debris and the area filled with clean earth suitable for planting (except in front of the gutter). Backfill shall be placed behind the curb prior to any excavation in the street area below the plane of the bottom curb and gutter.

Where there is a planter strip between the curb and the sidewalk, the planter strip shall be filled to within 1 ½ inches of the top of curb and sidewalk with clean earth suitable for planting. The area of traffic divided (median) islands not to be capped with concrete shall be backfilled with

clean earth suitable for planting to within 2 inches of a line extending between adjacent tops of curb.

MEASUREMENT

Quantities of concrete curb, concrete gutter, concrete curb and gutter, and concrete mowstrip shall be measured by the lineal foot. Curb depressions will be included in the measurement of length of concrete curb, or concrete curb and gutter as the case may be.

Quantities of concrete sidewalks, concrete driveway approaches, concrete alley approaches, concrete valley gutters and concrete median caps shall be measured by the square foot. Measurement of concrete driveway approaches and concrete alley approaches shall be made from the back of the curb to the back of the approach.

Quantities of ADA curb ramps and modified curb ramps shall be measured by per each.

PAYMENT

The unit price per lineal foot for concrete curb, concrete gutter, concrete curb and gutter, and concrete mowstrip shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer, including subgrade preparation.

The unit prices bid per square foot for concrete sidewalks, concrete driveway approaches, concrete alley approaches, concrete valley gutters and concrete median caps shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer, including subgrade preparation. Compensation for reinforcement required for concrete valley gutters shall be included in the amount bid for concrete valley gutters.

The unit prices bid per each for ADA curb ramps and modified curb ramps shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer, including subgrade preparation

Section 16 – Striping and Marking Pavement

GENERAL

This work shall consist of furnishing and applying painted or thermoplastic traffic stripes (traffic lines) and pavement markings, including glass beads, and furnishing and placing raised pavement markers at the locations and in accordance with the details shown on the Plans or designated by the Engineer, and as specified in these Specifications and the Special Provisions.

For the purposes of these Specifications, traffic stripes (traffic lines) are defined as longitudinal centerlines and lane lines which separate traffic lanes in the same or opposing direction of travel, and longitudinal edge lines which mark the edge of the traveled way or the edge of lanes. Pavement markings are defined as transverse markings which include, but are not limited to, word and symbol markings, limit lanes (stop lines), crosswalk lines, shoulder markings, parking stall markings, and railroad grade crossing markings. Pavement markers are raised pavement markers, reflectorized or non-reflectorized, of the type and color shown on the Plans and/or set forth in the Special Provisions.

MATERIALS

Thermoplastic materials and glass beads shall conform to Subsection 84-2 of the State Standard Specifications.

Paints shall conform to Subsection 84-3 of the State Standard Specifications and to the latest revisions of the San Joaquin Valley Air Pollution Control District, Control Architectural Coatings Rule 4601 which requires that traffic paints shall not exceed the limit of 1.25 pounds per gallon (250 grams/liter) of volatile organic compounds (VOC's) of coating as applied, excluding water.

Raised pavement markers shall conform to Subsection 85-1 of the State Standard Specifications. Adhesive for raised pavement markers shall conform to Subsection 95-2.04 of the State Standard Specifications, for rapid set epoxy, or Subsection 95-2.05 of the State Standard Specifications, for standard set epoxy, as directed by the Engineer.

REMOVAL OF EXISTING MARKINGS

Where called for on the Plans and/or Special Provisions, existing pavement striping, symbols, legend, and markings proposed for removal shall be removed by wet sandblasting or other approved methods which will cause the least possible damage to the pavement. Dry sandblasting may be used in selected areas only with the permission of the Engineer and with approval of the air pollution control authority having jurisdiction over the area in which the work will be performed. Alternate methods of removal require prior approval of the Engineer.

Where their removal is called for on the Plans and/or Special Provisions, raised markers shall be removed by an approved method which will result in the least possible damage to the pavement. Where raised pavement markers are to remain, the Contractor shall take special care to protect existing reflective pavement markers and shall, at his expense, replace all coated markers.

PLACEMENT OF TRAFFIC STRIPES AND PAVEMENT MARKINGS

Preparation of surfaces and application of traffic stripe and pavement marking material shall conform to all requirements of Subsection 84-2.04 and 84-1.03D of the State Standard

Specifications, and these Specifications. Tolerances and appearance shall conform to the requirements of Subsection 84-1.03C of the State Standard Specifications.

Word markings, letters, numerals, legends and symbols shall be applied utilizing suitable approved equipment together with approved stencils and templates. All markings shall be standard, and shall be identical with those used by the City of Los Banos.

When no previously applied figures, markings, or traffic striping are available to serve as a guide, suitable layouts shall be spotted in advance of the permanent application.

Where necessary, the Engineer will furnish the necessary control points for all required pavement striping and markings. Alignment and layout of the work by the Contractor shall conform to Subsection 84-1.03A of the State Standard Specifications. The Contractor shall provide an experienced technician to supervise the location, alignment, layout, dimensions, and application of the pavement striping and marking.

In areas of high traffic volume, the Contractor shall schedule work to apply traffic lines and markings in off-peak traffic hours, or on weekends.

The Contractor shall mark or otherwise delineate the traffic lanes in the new roadway or portion of roadway, or detour before opening it to traffic.

All markings and striping shall be protected from injury and damage of any kind while the material is drying. All adjacent surfaces shall be protected from disfiguration by spatter, splashes, spillage, and dripping of material.

The Contractor shall use proper and sufficient directional signs, warning devices, barricades, pedestals, lights, traffic cones, flag persons, or such other devices to protect the work, workers and the public.

PLACEMENT OF RAISED PAVEMENT MARKERS

Preparation of surfaces and placement of raised pavement markers shall conform to the requirements of Subsection 85-1.03A of the State Standard Specifications, and these Specifications.

The Contractor shall provide an experienced technician to supervise the application of the raised pavement markers.

In areas of high traffic volume, the Contractor shall schedule work to apply traffic markers in off-peak traffic hours, or on weekends.

MEASUREMENT

Quantities of striping and marking pavement shall be measured on a lump sum basis, and shall also include any required removal of existing pavement striping or markings.

PAYMENT

The lump sum price bid for striping and marking pavement shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved

therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This work will also include furnishing and installing raised pavement markers where called for and removing existing markings, where called for.

Section 17 – Miscellaneous Street Improvements

GENERAL

This work shall consist of constructing miscellaneous street improvements, including redwood header boards, survey monument wells, and adjusting existing facilities to finish grade, all as shown on the Plans and/or Standard Drawings, as set forth in the Special Provisions and as directed by the Engineer.

REDWOOD HEADER BOARDS

Redwood header boards shall be 2 inches wide by 6 inches deep (nominal measurement), furnished and installed by the Contractor at all locations indicated on the Plans and Standard Drawings.

Header boards and stakes shall be construction heart redwood, rough graded in accordance with the current Standard Specifications for structural grades of California redwood approved by the Board of Review, American Lumber Standards Committee and published by the Redwood Inspection Service. All material shall be well manufactured. Only pieces consisting of sound wood, free from decay will be accepted in the work.

Header boards shall be set to line and grade and securely stacked to prevent movement with 1 inch by 4 inch redwood stakes, 18 inches in length, at a maximum of 5 foot spacing. Stakes shall be nailed to the header with a minimum of 4 each 8 penny galvanized nails per stake.

Measurement for 2 inch by 6 inch redwood header board will be the lineal foot, as measured along the length of the header board. The unit price bid per lineal foot for 2 inch by 6 inch redwood header board shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

SURVEY MONUMENT WELLS

Survey monument wells shall be furnished and installed at the locations indicated on the Plans, and as directed by the Engineer. The survey monument well shall be furnished and constructed in conformance with Standard Type D, Alternate 2 of the State of California, Department of Transportation Standard Plans, dated May, 2010 (Plan A74, Page 28). It shall not be the Contractor's responsibility to survey and reset said monument, but it shall be the Contractor's responsibility to furnish and install the well and appurtenances.

Measurement for survey monument wells will be per each. The unit price bid per each for survey monument wells shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

ADJUSTING EXISTING FACILITIES TO FINISH GRADE

Existing facilities shall be adjusted to finish grade at the time of construction or reconstruction of street improvements. Such existing facilities shall include manhole frames and

covers, water valve boxes and covers, water meter boxes and covers, and other similar existing facilities which must fit or match final street improvement grade.

Sewer and storm drain manhole frames and covers, and water valve boxes and covers shall be temporarily lowered below the grading plane and marked until paving has been accomplished. The manhole frames and covers, and valve boxes and covers shall then be raised to finish grade, concrete collars poured and asphalt-concrete patch placed, in accordance with the Standard Drawings and as directed by the Engineer.

Other existing facilities shall be adjusted to finish grade in accordance with the utility or facility authority involved, and as directed by the Engineer. Where the utility or facility authority involved desires to do the work with their own forces and/or materials, the Contractor shall pay all the costs associated therewith.

Quantities for adjusting existing facilities to finish grade will be measured on a lump sum basis. The Contractor shall make his own determination of the number and type of facilities to be adjusted to finish grade.

The lump sum price bid for adjusting existing facilities to finish grade shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer.

When the Contract does not include a pay item for adjusting existing facilities to finish grade as above specified, and unless otherwise provided in the Special Provisions, full compensation for any necessary adjustment of existing facilities to finish grade required shall be considered as included in the price bid for the other various items of work and no separate payment will be made therefore.

Section 18 – Trench and Structure Excavation, Backfill and Restoration of Surfaces

GENERAL

This work shall consist of all excavation and backfill necessary for the construction of pipelines, structures and other facilities, and the restoration of surfaces disturbed by such work, all as set forth in the Plans and Special Provisions, and as directed by the Engineer.

TRENCH AND STRUCTURE EXCAVATION

Excavations shall be made to the depths and widths required to accommodate construction of conduits and structures to specified dimensions, and to the lines and grades indicated on the Plans. Unless otherwise indicated on the Plans, excavations for pipe construction may be open cut.

Reference is made to Subsections 7.11, 7.12, and 7.13 of these Specifications relative to the Contractor's responsibility to comply with all Safety Orders issued by the State Division of Industrial Safety, including in particular those pertaining to the hazard of caving ground in excavations.

The Contractor shall be responsible for locating and protecting subsurface obstructions in the field, and shall notify the Engineer immediately if conflicts occur. Reference is made to Section 6 of these Specifications relative to existing utilities, and the protection thereof. The location of subsurface obstructions found in the field may necessitate a variance in the depth or alignment of proposed facilities.

When a trench or structure site is to be located in an existing oiled earth or pavement area, the existing surfacing to be removed shall be cut by methods approved by the Engineer along neat lines on each side of the trench or around the structure site. Existing surfacing, when removed, shall be kept separated from the material which is to be returned to the excavation. Failure to comply with this requirement shall be grounds for rejection of the contaminated material for use as backfill.

Material excavated from the trench shall be placed so as to offer the minimum obstruction to traffic. Reference is made to Subsections 7.06 and 7.15 of these Specifications relative to preservation of property and public convenience and safety.

Trenches shall be uniformly graded and prepared to provide a firm and uniform bearing for the entire length of the barrel of the pipe to be placed therein. Any portion of the trench excavated below the approved grade shall be corrected and brought up to grade with approved material thoroughly compacted.

Trenches bottoming in hardpan shall be excavated a minimum of 6 inches below the grade established for the bottom of the pipe and for any couplings, and then backfilled to the pipe grade with select material, thoroughly compacted. No additional payment will be made for such over-excavation and refill.

In all trenches or structure sites where a firm foundation is not encountered, such as soft, spongy, or otherwise unsuitable material, the material shall be removed to a minimum of 12 inches, or to a depth determined by the Engineer, below the bottom of the pipe or structure, and

for a width equal to at least $\frac{1}{2}$ diameter on each side of the pipe, and the space backfilled with suitable material containing sufficient moisture to produce maximum compaction. The backfill material shall be free from lumps or other unsuitable material, and when compacted to the satisfaction of the Engineer, shall be finished graded as provided herein, or as required by the Engineer for structures. No additional payment will be made for such additional excavation or backfill.

The width of the trench at the top of the pipe shall not be greater than 16 inches more than the outside diameter of the barrel of the pipe to be laid therein.

Coupling or bell holes are required for all pipes with couplings or bells, and shall be excavated at each location where pipes are to be joined. Coupling or bell holes shall be of sufficient and adequate size to permit ease in making the joint and so the coupling or bell does not rest on the bottom of the hole excavated therefore.

Trenches for cast-in-place concrete pipe shall be graded and prepared to provide full, firm and uniform support by undisturbed earth or compacted full throughout the bottom 220° of the pipe periphery.

The Contractor shall be responsible for drainage of trenches and other excavation areas, and such areas shall be kept as dry as practicable throughout the construction period. Any accumulation of water shall be removed by pumping or other approved method. Trenches damaged because of failure to provide temporary drainage control shall be repaired or reconstructed at the Contractor's expense. No drainage water may be pumped or otherwise deposited in any sanitary sewer system, unless otherwise approved by the Engineer. Reference is made to Subsection 7.14 of these Specifications relative to maintaining drainage in the construction area.

Reference is made to Subsection 18.04 for special requirements for progress of work of excavating and backfilling.

TRENCH AND STRUCTURE BACKFILL AND COMPACTION

Unless otherwise specified, material used for trench or structure backfill shall be granular native material free from debris, lumps, hardpan chunks, paving material, organic matter or other deleterious or unsuitable substances. Material shall be approved by the Engineer before use in the work.

Backfill of trenches shall conform to the standard drawings pertaining thereto, these Specifications, and the directions of the Engineer. Backfill for trenches in which precast pipe has been installed shall be placed in two phases, classified as Initial Backfill and Final Backfill.

Initial Backfill shall consist of placing and firmly compacting selected granular backfill material under the haunches of the pipe and up to the spring line of the pipe, and then filling to a level one foot above the top of the pipe, as directed by the Engineer, so as to form a firm bedding and protection for the pipe. After the pipe has been laid to line and grade, the trench shall be backfilled to the spring line of the pipe with selected native material placed by hand, jetted around the pipe, and compacted. Selected native material shall then be placed by hand to a level one foot above the top of the pipe. Selected excavated material shall be granular native material, free of all rocks, hardpan, paving material, organic matter or other deleterious substances, and any lumps over 2 inches in diameter.

Final Backfill for trenches in which pre-cast pipe has been placed shall consist of placing and compacting backfill material into the remaining trench cavity following completion of initial backfill. Backfill material shall be returned to the trench in lifts not to exceed 8 feet in depth. Each lift shall be jetted to the bottom of the lift prior to placement of the next lift of backfill material.

Backfill for trenches in which cast-in-place concrete pipe has been constructed shall consist of placing backfill material into the remaining trench cavity. Backfill material shall be returned to the trench in lifts not to exceed 8 feet in depth. Each lift shall be jetted prior to placement of the next lift of backfill material. In no case shall backfill material be allowed to free-fall directly onto the pipe. Jetting may proceed no sooner than 48 hours after construction of the pipe, and follow-up compaction using equipment which imparts load on the pipe or structures shall not proceed for a minimum of seven (7) calendar days following placement of the pipe unless this requirement is specifically waived by the Engineer, or as otherwise specified.

Structure backfill shall consist of placing and compacting backfill material around structures to the lines designated on the Plans or directed by the Engineer. Timing of jetting and compacting of structural backfill for poured-in-place structures shall be as specified above for cast-in-place concrete pipe.

The method of compacting and obtaining density requirements for all pipe trenches shall be such that the backfill material shall be completely compacted around the lower haunches of the pipe not damaged.

Where the City's water system is utilized for construction water, the Contractor shall obtain a water meter from the City of Los Banos (fire hydrant meters are required for all users). The Contractor shall obtain the permission of the Engineer as to which fire hydrants are to be utilized. Jetting may not be done directly from fire hydrants. Flooding of trenches from the top is not permitted.

All backfill shall be compacted to a relative compaction of no less than 90 percent to within 24 inches of the surface, and the top 24 inches in surfaced streets shall be compacted to a relative compaction of no less than 95 percent. In new development streets and alleys to be subsequently recompacted and paved, and in non-paved areas, the top 24 inches shall be compacted to no less than 90 percent relative compaction. No free water will be allowed in the top 24 inches of backfill.

When the trench is to be resurfaced, backfill shall be brought to a level which will make the top of the surfacing even with existing surfacing. Where trench is not to be resurfaced, backfill shall be brought even with adjacent undisturbed soil. The surface of the finished backfill in all areas shall be made even and uniform, free from depressions or raised areas.

Excess material shall be disposed of outside the right-of-way as set forth in Subsection 7.08 of these Specifications.

PROGRESS OF WORK OF EXCAVATING AND BACKFILLING

All work of excavation or backfilling shall be done as quickly as possible.

Existing surfacing at any location shall be removed from proposed trench areas or structure sites no sooner than 48 hours prior to excavation at that location. No surfacing shall be removed on Friday unless excavation and follow-up work will occur the same day.

No more than 600 lineal feet of trench shall be open ahead of any pipeline or other conduit in any street or alley, except upon written permission of the Engineer.

No excavation or trench shall be opened and left open more than 24 hours before the installation of the pipeline or other conduit which is to be placed in said excavation or trench. The backfilling of said excavation or trench shall be completed within twenty-four hours after the installation of the facility for which the excavation was made, excepting for cast-in-place pipe installations and that portion of trenches or excavations to be used for connecting the extension of the installations, provided said portion is adequately barricaded and protected, and backfilled the following working day.

Backfill for cast-in-place concrete pipe shall be accomplished as soon as practicable and shall follow pipe construction by no more than 2 working days, provided that in no case shall backfill material be placed over the pipe sooner than 24 hours following construction of the pipe. Said trenches shall be adequately barricaded and access shall be provided for abutting properties and street intersections. Reference is made to Subsection 18.03 relative to compaction timing requirements.

Where an excavation or trench crosses a street or alley intersection, the excavation or backfilling shall be completed within 24 hours, or bridging capable of supporting vehicular traffic shall be provided for access across said excavation or trench.

All excavations located within a street or alley for the purpose of boring or jacking pits shall be properly barricaded and protected, and may be left open for a period of no more than seven (7) calendar days, unless an extension of time is approved by the Engineer in writing.

Immediately after trenches or other excavations have been backfilled and preliminarily compacted at street or alley crossings, temporary surfacing shall be placed in conformance with Subsection 18.05 of these Specifications and the standard drawing pertaining to trench backfill and surface replacement. Such surfacing shall remain in place and shall be diligently maintained until the permanent surfacing is to be placed.

Final pavement replacement shall be accomplished as soon as possible and practicable, and within the time limits specified in the Special Provisions.

RESTORATION OF SURFACES

Restoration of surfaces shall consist of restoring the surfaces of all trenches, surfaces at or around structure sites, or any other surfaces damaged or disturbed by the work, to the condition existing prior to commencement of the work, or to such condition specified. Surfaces shall include, but not be limited to, pavement of any kind, grass, shrubbery or other landscaping, gravel, treated or untreated soil, etc. All work shall be done in accordance with these Specifications.

Restoration of paved surfaces shall conform to the standard drawing pertaining thereto and the Special Provisions, and as directed by the Engineer.

Temporary trench resurfacing shall consist of a minimum of 1 ½ inches of cold mix asphalt-concrete mixed in a central plant, placed and diligently maintained by the Contractor until permanent trench resurfacing is installed. Temporary surfacing shall be placed at all street and alley crossings and such other locations as specified or shown on the Plans, or directed by the

Engineer. Temporary surfacing shall be removed by the Contractor prior to placing final resurfacing.

Final replacement of pavement shall be performed in a manner consistent with good construction practices and methods which, when completed, shall leave all areas requiring replacement of pavement with as neat an appearance as possible.

Areas to receive final pavement replacement shall be completely cleaned of all debris, rubbish, dirt, temporary paving, or any other deleterious material which might affect the quality of the work in any way. Cleaning shall be accomplished to a minimum of 6 feet outside the edges of trenches or other areas to receive pavement replacement.

This distance may be increased by the Engineer as necessary to prevent contamination of the new work.

Where sawcutting of existing pavement edges is not shown on the standard drawing or specified, all damaged existing pavement shall be removed and the edges trimmed to neat lines by a method approved by the Engineer.

Where sawcutting of existing pavement edges is shown on a standard drawing or is specified, the cut shall be made on a straight line along both sides of trenches, and to neat lines around structures or other locations requiring pavement replacement. The cut shall be made a minimum of 3 inches in depth, and shall encompass all pavement damaged by the work or specified to be removed or replaced.

All edges of existing pavement, whether trimmed or sawcut, shall be protected from damage. Any edges damaged from any cause prior to or during paving operations, shall be recut or re-trimmed as directed by the Engineer, and no additional payment will be made therefore.

Where aggregate base is called for, it shall be furnished and placed in conformance with Subsections 13.01 through 13.05 of these Specifications.

Where concrete base is called for, concrete shall be six-sack or five-sax mix with one inch maximum aggregate, conforming to the requirements of Section 90 of the State Standard Specifications. The top surface of the concrete shall be given a rough rake finish while the mix is still workable with the corrugations parallel with the trench. Where called for on the Plans or Special Provisions or directed by the Engineer, calcium chloride of up to 2 percent by weight of the cement shall be added to the concrete mix.

A paint binder of asphaltic emulsion shall be furnished and applied, in conformance with Subsection 14.03 of these Specifications, to all vertical surfaces of existing pavement, curbs, gutters, or other surfaces against which asphalt-concrete pavement is to be placed. Paint binder shall also be applied to the top surface of the initial layer of asphalt-concrete if the pavement is to be replaced in lifts.

Contractor shall not commence surface paving until the subbase and/or base have been inspected and approved. Violation of this paragraph shall be cause for rejection of that portion of paving involved.

Asphalt-concrete shall be furnished and placed in conformance with Subsection 14.01 through 14.05 of these Specifications. When replacing pavement in existing pavement areas, the new pavement material shall not overlap the existing pavement edge. When compacted, the new pavement edge shall be flush with the existing pavement, and the surface shall be smooth, without humps or depressions. Except where the trench is located in the crown of the road, the top of the finished surfacing shall deviate no more than 1/8 inch, up or down, from a line struck off from two points on the existing road surface, one on each side of the trench.

Deviation from this tolerance shall be cause for rejection of the surfacing.

Restoration of miscellaneous surfaces shall consist of replacing or restoring in-kind any surface damaged or disturbed by the work, including but not limited to, grass, landscaping of any kind, gravel, oiled dirt, concrete, or soil, all as directed by the Engineer. The surfaces of all trenches, excavations or other areas damaged or disturbed by the work, upon completion of miscellaneous surface restoration, shall conform to the elevations and character of the areas which existed before work commenced.

Reference is made to Subsection 2.05 of these Specifications relative to cleanup.

MEASUREMENT

Measurement for trench resurfacing will be by the lineal foot as measured along the centerline of the actual trench resurfaced, unless otherwise indicated in the Plans and/or Special Provisions.

PAYMENT

Payment for trench and structure excavation, backfill and compaction, shall be included in the amount bid for installing the pipe, conduit, structure or other facility to be installed in such trench or other excavation, such amount to include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer, and no separate payment shall be made for such trench and structure excavation, backfill, compaction, pavement cutting, pavement removal, jetting, maintaining drainage, or other related work.

The unit price bid per lineal foot for temporary trench resurfacing shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans and Standard Drawings, as set forth in the Special Provisions, and as directed by the Engineer, including maintaining the temporary surfacing and removing it prior to final resurfacing.

When the Contract does not include a pay item for temporary trench resurfacing as above specified, and unless otherwise provided in the Special Provisions, full compensation for any necessary temporary trench resurfacing required shall be considered as included in the prices bid for the other various items of work and no separate payment will be made therefore.

The unit price bid per lineal foot for final trench resurfacing shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans and Standard Drawings, as set forth in the Special Provisions, and as directed by the Engineer, including sawcutting or trimming existing pavement edges.

Unless otherwise provided in the Special Provisions, full compensation for restoration of miscellaneous surfaces shall be considered as included in the prices bid for the various items of work and no separate payment will be made therefore.

Section 19 – Storm Drainage Facilities

GENERAL

This work shall consist of furnishing and installing storm drain pipe, laterals, manholes, inlets, and other structures as shown on the Plans, as required by the Special Provisions, and as directed by the Engineer.

MATERIALS

Storm drains shall be constructed by the installation of pre-cast (prefabricated) pipe, or, where specifically set forth on the Plans or Special Provisions, may be cast-in-place concrete pipe for sized 24 inches or greater in diameter.

Pre-cast pipe for storm drain pipelines and laterals shall be as follows:

- A. Reinforced concrete (RCP) – Shall conform to the provisions of Section 65 of the State Standard Specifications, the Plans and these Special Provisions. RCP shall be Class III conforming to ASTM –C 76, with rubber gasketed joints conforming to Section 65-2.02 E of the State Standard Specifications. Bedding shall be Class d.
- B. Polyvinyl Chloride Pipe (PVC) – Shall conform to ASTM F 794 (Series 10) and these Specifications. PVC pipe bedding and installation shall conform to ASTM D 2321.
- C. High Density Polyethylene (HDPE) Profile Wall Sewer Pipe 18-Inch and Larger-The HDPE profile wall sewer pipe with smooth interior shall be in conformance with ASTM F 894 or AASHTO M-252, M-294 and/or MP-7. The HDPE material or pipe and fittings shall meet ASTM D-3350 with a minimum cell class of 33540C. The HDPE pipe meeting ASTM F-894 shall meet the hydrostatic design criteria of ASTM D 2837. The pipe shall have a minimum pipe stiffness per AADH to M-252, M294, MP-7 or ring stiffness constant of 100 minimum. The pipe joints shall be bell/spigot with rubber gaskets meeting ASTM F-477. The manufacture of the HDPE pipe shall provide test reports by an independent testing laboratory tat the joints have been tested to the full protocol of ASTM D-3212 @ 10.8 psi.

The gasket installation shall be done in accordance with the pipe manufacturer's instruction using all the necessary materials, lubricants and equipment recommended by the manufacturer.

Thermal welding material, the material used for thermally welded pipe joints, shall meet the requirements established for the basic pipe material as detailed above under materials.

Connections to existing lines shall be made by coupling a piece of smooth wall HDPE profile pipe to the existing line. The coupling shall be flexible rubber boot with stainless steel clamps, such as FERNCO or equivalent. The coupling is to be encased in cement stabilized sand, grout or concrete. Lateral connections to HDPE Profile wall pipe may be made using INSERTATEE as manufactured by the Inserta Fittings Company of Hillsboro, Oregon or by providing a HDPE stubout which is head fused to the pipe.

The trenching, installations, backfilling and compaction shall conform to the requirements of the manufacturer, the City Standard Specifications, and ASTM D-2321. Backfill shall be placed by suitable means from the bottom of the trench to the spring line of the pipe, and inspected prior to backfill above the pipe.

The field leakage testing shall meet the minimum requirements of the City Standard Specification and ASTM F-1417.

- D. Cast-in-place concrete pipe shall be constructed of Portland cement concrete conforming to the provisions of Section 90 of the State Standard Specifications, and these Specifications. Concrete shall be either 6-sack mix (564 pounds of cement per cubic yard), or 5-sack mix (470 pounds of cement per cubic yard), and shall develop a minimum compressive strength of 2800 pounds per square inch (psi) at 28 days. The combined aggregates for pipes 48 inches or less in diameter shall conform to the grading limits for the 1 inch, maximum size specified in Subsection 90-1.02 C(4)(d) of the State Standard Specifications. For pipes larger than 48 inches in diameter, the combined aggregates shall conform to the grading limits for the 1-1/2 inch, maximum size specified in said Subsection 90-1.02 C (4) (d). Admixtures shall not be used without written permission from the Engineer or unless elsewhere provided for in these Specifications or in the Special Provisions.
The allowance for slump shall be not more than 3 inches.

- E. Concrete for manholes, inlets and other structures shall meet the requirements of Section 90 of the State Standard Specifications, and shall be 6-sack mix unless otherwise indicated on the Plans and/or Standard Drawings. The allowance for slump shall be no more than 3 inches.

Cement mortar for use in pipe joints, pipe patching and structure patching shall be composed of one part Portland cement and two parts of clean, well-graded sand of such size that it will pass a No. 8 sieve. An admixture of hydrated lime, fire clay or diatomaceous earth may be used in the mortar to facilitate workability, and the amount of such material used will be limited as ordered by the Engineer. Quick setting cement may be used when the Engineer determines that conditions so warrant. No mortar shall be used in which water has been added to the dry ingredients for a period of over 30 minutes.

Precast reinforced concrete pipe, tapered sections and adjustment rings for manholes shall conform to ASTM Specification Designation C-478, Class II. Elliptical single line reinforcement is not allowed. Materials used in manhole frames and covers shall conform to ASTM Specification Designation A48, Class 25 and shall conform to the standard drawing pertaining thereto.

All precast risers for outfall structures shall be Class II pipe. Cast-in-place risers may be used for all outfall structures up to 72 inches in diameter. The minimum wall thickness for cast-in-place risers shall be 8 inches.

- F. All metal parts for inlets, outlets and other miscellaneous structures (except outfall structure cages) shall be structural grade steel, except those permitted to be cast iron by the project Plans or Standard Drawings, and bar reinforcement shall be furnished and installed in conformance with the requirements of Subsection 52 of State Standard Specifications, except that Subsection 52-1.04 is hereby deleted. All exposed metal parts, unless otherwise specified, shall be painted or dipped with an asphaltum paint approved by the Engineer.

Exposed metal parts for all outfall structure cages shall be galvanized by the hotdip method with the large pieces meeting the requirements as set forth in ASTM Specification Designation A123, and nuts, bolts and small pieces meeting the requirements as set forth in ASTM Specification Designation A153.

TRENCHING AND EXCAVATING

Trenching for storm drain main line pipes and laterals, and excavating for manholes, inlets and other drainage structures shall conform to the requirements of Section 18 of these Specifications, and as indicated in this Section 20.

PRECAST PIPE INSTALLATION

Construction of all precast storm drain pipelines shall proceed upstream with the spigot end of the pipe in the direction of flow, unless otherwise approved in writing by the Engineer. Existing drain lines shall remain operational at all times.

All precast storm drain pipe shall be laid and jointed in compliance with the manufacturer's recommendation and shall be carefully adjusted to grade by scraping away or filling and tamping the trench bottom. Use of blocks to support the pipe is prohibited. Each joint of pipe must be fully pressed into place so that there will be no unevenness or settlement of one length of pipe with the other at the joint. All storm drain pipe shall be laid to true line and grade, except that pipe laterals shall be installed at the depth and grade specified by the Engineer after exposing of existing intersecting utilities by the Contractor. The Contractor shall allow in his bid price for the various lateral pipe installation items full compensation for any increase or decrease in anticipated depth of trench because of the location of intersecting utilities, shown on the Plans or not.

Laterals, as herein used, shall be taken to mean the pipeline which is installed to connect a storm drain inlet or outlet to the man storm drain, either directly or at a manhole.

The open ends of all lines being installed must be covered to keep out animal life, etc., whenever the line is left unattended for any length of time, such as overnight.

The ends of all precast pipe sections shall be of such design that when properly laid they shall have a smooth and uniform interior surface. Both ends of pipe sections shall be substantially free of cracks and broken edges. Pipe so found to be damaged shall be rejected for use in the work. Each joint shall be sealed as specified herein to prevent leakage.

Reinforced concrete pipe with elliptical reinforcement shall be placed with the minor axis in the vertical positions. For reinforced concrete pipe or non-reinforced concrete pipe, sealing of joints shall be accomplished with cement mortar or rubber gaskets, as indicated on the Plans or specified in the Special Provisions, and shall conform to the following specifications:

1. Cement Mortar Joints: The ends of the concrete pipe shall be thoroughly wetted and cleaned prior to the application of mortar. The ends of the pipe shall then be completely filled with mortar of the full periphery of the joint. The 2 sections to be joined shall be firmly placed together in such a manner that the bell or grave end of the pipe fits truly and snugly over the tongue end so that mortar completely fills the joint. The interior surface of the joint shall be brushed smooth and all surplus mortar removed. The completed interior surface of the joint shall be as flush as possible with the pipe walls.

An external mortar band at least 4 inches wide and $\frac{3}{4}$ inches thick shall be applied to the joint by first thoroughly cleaning and wetting the areas immediately adjacent to the joint and placing mortar around the upper 270° of the pipe at the joint. The width and thickness of the external band shall be completely and immediately covered with an impervious membrane which shall be adequately anchored. After jointing procedure has commenced, there shall be no movement of the pipe whatsoever in subsequent operations. Material shall be placed uniformly on either side of the pipe to prevent any movement. No walking in the trench or working over the pipe after it has been laid, except as may be necessary in tamping the earth and refilling, will be permitted until the pipe has been braced as specified above.

Backfilling and compacting of the pipe trench beyond the placement of support material shall not be commenced within 16 hours of jointing the pipe sections, or until, in the opinion of the Engineer, the cement in the joint has acquired a suitable degree of hardness.

In no case shall water be allowed to rise in or about the pipe before the joint mortar has become thoroughly set.

All openings in the pipeline must be tightly covered or closed to prevent the drying out of the mortar by circulation of air within the line, until the pipeline is completed.

2. Rubber Gasket Joints: The ends of the pipe shall be thoroughly cleaned immediately prior to joining sections of pipe. The 2 sections joined shall be firmly placed together in such a manner that the tongue or gasket end of the pipe "homes" on the bell end of the pipe. No appreciable gap shall exist at the completed joint, except as permitted by the engineer at locations where curves in the pipe alignment are specified or required.

Excessive gaps in any case shall be cause for rejection of the work, and corrective measures shall be taken when ordered by the Engineer.

For PVC pipe, sealing of joints shall be accomplished with a sleeve coupling designed to maintain alignment and ensure tight, flexible joints. Couplings shall be of the plastic sleeve type or of the rubber gasket type, as indicated in the Plans or Special Provisions. The ends of the pipe shall be thoroughly cleaned immediately prior to joining sections of pipe and installation of the coupling. The 2 sections joined shall be firmly placed together in such a manner that each succeeding section of pipe is forced "home" as far as possible into the coupling. No appreciable gap shall exist at the completed joint, except as permitted by the Engineer at locations where curves in the pipe alignment are specified or required. Excessive gaps in any case shall be cause for rejection of the work, and corrective measure shall be taken when ordered by the Engineer.

CAST-IN-PLACE PIPE CONSTRUCTION

Cast-in-place concrete pipe, where indicated on the plans and/or Special Provisions, shall be constructed to the lines, grades, and at the locations indicated, and as specified herein.

Reinforced concrete pipe may be substituted for cast-in-place concrete pipe at any location and shall comply with the following provisions:

1. Substituted pipe shall have the same internal diameter as specified for cast-in-place
3. pipe. The pipe class and joint type shall be as specified, or as determined by the Engineer.
2. Payment shall be at the unit price bid for cast-in-place concrete pipe with no additional compensation paid therefore, except as specifically provided otherwise in the Special Provisions.

The nominal internal diameter of the cast-in-place concrete pipe shall be the size indicated on the Plans. The actual internal diameter of the pipe at any point shall not be more than 5 percent less than the nominal internal diameter, and the actual internal cross-sectional area of the pipe at any point shall not be less than the cross-sectional area of a circle computed from the nominal internal diameter. The Contractor may be allowed to construct pipe of larger size than that specified on the Plans; however, any and all deviations in sizes from that specified must be approved by the Engineer.

Minimum wall thickness for the various sizes of pipe shall conform to the following table:

<u>Internal Diameter</u>	<u>Minimum Wall Thickness for Pipe</u>
24"	2-1/2"
30"	3"
36"	3-1/2"
42"	4"
48"	5"
54"	5-1/2"

60"	6"
66"	6-1/2"
72"	7"
78"	7-1/2"
84"	8"
90"	8-1/2"
96"	9"

Excavation for cast-in-place concrete pipe shall conform to the requirements of Section 18 of these Specifications. The trench shall be excavated to the lines and grades established by the Engineer. The trench shall be of the proper width and the bottom of the trench shall be shaped to the external diameter of the pipe to be constructed.

The City makes no guarantee as to the types of soils or of soil conditions within the project limits. The Contractor shall perform whatever soils or other tests as he deems necessary to make himself fully aware, prior to submitting a bid proposal, of the soil types or conditions which may prevail throughout the project site. Tests so performed shall be conducted at the Contractor's expense, and no compensation will be paid therefore.

Where unstable trench conditions are encountered, the Contractor shall attempt to stabilize the trench by shoring or, wherever practicable, by sloping the sides of the trench above the top of the pipe.

Where the Engineer determines, due to unstable trench conditions or other reasons, that it is not feasible to place cast-in-place concrete pipe, the Contractor shall place reinforced concrete pipe of the same size and Class indicated on the Plans or Bidder's proposal, or as specified in the Special Provisions.

Construction of cast-in-place concrete pipe may be considered as not feasible when the trench walls are not stable below a distance above the bottom of the trench equal to half the diameter of the pipe. The Engineer, however, shall be the sole judge as to the feasibility of constructing cast-in-place concrete pipe as shown on the Plans. Construction of cast-in-place concrete pipe shall be considered as feasible where 50 feet or more of stable trench is encountered.

Pipes shall be constructed in conformity with the prescribed lines and grades obtained from stakes set by the Engineer.

All surfaces against which concrete is to be placed shall be free from standing water, mud and debris and shall be firm enough to prevent contamination of the concrete by earth or other foreign material. Absorptive surfaces against which concrete is to be placed shall be moistened thoroughly so that the moisture will not be drawn from the freshly placed concrete.

When placing operations cease or are delayed for any reason for more than 30 minutes, the end of the pipe shall be left rough with a slope of approximately 30° and the ends of the pipe shall be securely closed by heavy canvas or other acceptable materials to prevent excessive dehydration of the concrete already placed. The joint so formed when placing operations again commence shall conform to the requirements of Subsection 20.06 of these Specifications.

Cast-in-place concrete pipe shall be constructed in one placement around the complete periphery of the pipe by means of a traveling pipe-casting machine approved by the Engineer. The bidder may be required to furnish evidence of successful in-service performance of pipe produced by the pipe-casting machine under similar working conditions.

The concrete shall be vibrated, rammed, tamped or worked with suitable appliances until the concrete has been consolidated to the maximum practicable density, free of rock pockets and closed snugly against all surfaces of forms. The concrete shall completely fill the forms.

Unless otherwise specifically indicated in the Special Provisions, pipe shall be cast-in-place in a manner such that as forms are lapped, the lap ridges formed in the interior walls of the pipe face downstream in the direction of flow.

Forms used in the work shall be clean and reasonably free of concrete adhering to the surface of the forms from previous operations. Immediately prior to use in the work, each form shall be sprayed or otherwise coated with an approved form oil. Forms used shall be of sufficient strength to withstand vibrating of concrete and which will provide interior dimensions of the pipe in accordance with the tolerances set forth in these Specifications. Damaged forms shall not be used in the work and shall be removed from the job site.

Immediately after finishing of the exposed exterior surface of the pipe, it shall be covered with an approved polyethylene or plastic membrane which shall be anchored sufficiently to keep the surface covered.

Unless the pipe terminates at a structure which is closed to the air, the ends of the pipe, as well as any other openings, shall be securely closed with an impermeable membrane for a minimum of 7 days or until the structure is constructed, if sooner. Precaution shall be used to make the structure reasonably airtight for a minimum of 7 days, except when work is taking place inside the pipe.

The finished surface of the concrete pipe shall be substantially free of fractures, cracks and surface roughness.

The exterior exposed surface of the pipe shall have a steel screeded finish. A hand trowel shall be used, as construction progresses, to smooth areas not sufficient smoothed by the pipe-casting machine. All finishing of the exterior shall be accomplished immediately as pipe construction progresses.

The interior surface of the pipe shall be finished as soon as possible or practicable after placing of the pipe, and shall be equivalent to a steel screeded finish. All honeycombed or minor voids shall be chipped out, filled and smoothed with cement mortar. Major voids shall be repaired with portland cement concrete (Class 2 or 3) in a manner prescribed by the Engineer.

Excessive longitudinal ridges along the sides of the interior of the pipe shall be chipped back and smoothed with cement mortar, as directed by the Engineer.

Form lap offsets exceeding the limits established below shall be chipped back and smoothed with mortar.

Pipe Diameter (Inches)	Maximum Offset (Inches)
24 – 30	3/8
36 – 42	1/2
48 – 66	5/8
72 – 90	7/8

During cast-in-place concrete pipe pouring operations, the Contractor, if requested, shall assist the Engineer in securing 3 standard test cylinders for each 50 cubic yards of concrete, or portions thereof, per day. Test cylinders shall be cured by approved methods. Cylinders shall be tested for compressive strength by a recognized testing laboratory. The cost of such tests will be at the Contractor's expense and certified copies of the results will be submitted to both the Contractor and the Engineer. One of the cylinders will be tested at the end of 7 days; one of the test cylinders will be tested at the end 28 days; and one of the test cylinders will be held to be tested at the discretion of the Engineer, all in accordance with the procedures established by the ASTM Specification Designation C39. Failure of the 28 day test to achieve the 28 day strength requirement shall be grounds for rejection of the section of pipe represented by the test cylinder.

CONSTRUCTION JOINTS

Whenever 2 section of pipe are to be joined where standard joints are not available, such as joining reinforced concrete pipe to cast-in-place concrete pipe or PVC pipe, or where construction of cast-in-place concrete pipe stops short of a manhole or other structure and construction will continue at a later time, the resulting joint shall be reinforced by constructing a concrete collar around the joint. This collar shall extend one foot each side of the joint around the full periphery of the pipe and shall be equal in thickness to the wall thickness of the joined pipe, but in no case less than 4 inches. The area to receive the collar shall be thoroughly cleaned and dampened immediately prior to constructing the collar. The cost of construction joints shall be included in the various items requiring construction of concrete collars, and no separate payment will be made therefore.

MANHOLES

Manhole structures shall be constructed at the locations shown on the Plans and Special Provisions, and as indicated on the Standard Drawings pertaining thereto. Exact locations of manholes will be indicated in the field. Materials for manholes shall conform to the requirement of Subsection 20.02 of these Specifications, and the Standard Drawings.

Manholes shall be complete structures in place and backfilled including the furnishing and placing of all materials involved. Manholes shall consist of a poured in place concrete base section, reinforced concrete pipe or cast-in-place concrete riser section(s), a reinforced concrete taper section, cast iron frame and cover and a poured in place concrete collar with paving patch. Invert channels shall be smooth and semicircular in shape conforming to the inside of the adjacent pipe insert. The floor and wall of the manhole outside the channels shall be smooth and shall slope toward the channels. All entering and leaving pipes shall be placed flush with the inside edge of the manhole, except that all edges shall be rounded with cement mortar to a 3 inch radius as specified on the Standard Drawings.

The top of the manhole base section shall be keyed to receive the tongue end of the riser section. The key shall be formed in the freshly poured concrete by using a template manufactured to the dimensions of the riser section. If the riser is cast-in-place monolithically with the base section by using a slip form or other means, the key may be omitted between the base and riser. If the base and riser sections are not poured monolithically, but separately, a key shall be provided in the base section. In either case, a key will be required in the top of the riser section to receive the tongue end of the tapered cone. Cast-in-place riser sections shall have the minimum wall thicknesses specified on the Standard Drawings.

The joints between the base and all precast elements of the manhole, including adjustment rings and manhole frame, shall be filled with cement mortar prior to joining the elements.

The interior of the manhole shall be troweled smooth with a wooden trowel, removing excess mortar extruded out of joints for the entire height of the manhole, from the manhole frame to the floor. All excess mortar and any other debris shall be removed from the manhole.

Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be made gradually and evenly.

All manholes shall be completed to finish grade with concrete collar and paving patch (where indicated) as shown on the Standard Drawings and as herein specified. In undeveloped areas where no street or alley surfacing is to be done in conjunction with or immediately after utility installation, the manhole cover shall be finished off to ground elevation and shall be provided with 12 inches of grade rings. In existing street areas where surfacing exists and no new street surfacing is contemplated in conjunction with or immediately after utility installation, the manhole cover shall be brought to existing street grade and finished off in conformance with the Standard Drawings. In areas where street or alley surfacing is to be done in conjunction with or immediately after utility installation, such as new subdivisions, manholes shall initially terminate with the top of the cone 6 inches below subgrade and shall be brought to street or alley surface with grade adjustment rings and completed after street paving is accomplished. Unless specifically indicated otherwise in the Special Provisions, it will be the responsibility of the storm drain Contractor to return and install the manhole covers to finish grade as specified and as shown on the Standard Drawings.

INLETS, OUTLETS AND OTHER DRAINAGE STRUCTURES

Storm drainage structures such as inlets, outlets, outfall structures and other miscellaneous drainage structures shall be furnished and installed by the Contractor as indicated on the Plans and Special Provisions, as shown on the Standard Drawings, and as directed by the Engineer.

Materials shall conform to the requirements of Subsection 20.02 of these Specifications and as indicated on the Standard Drawings.

Forms shall be smooth, mortar tight, true to the required lines and grades, and of sufficient strength to resist springing out of shape during the placing of the concrete. All dirt, chips, sawdust, nails, and other foreign matter shall be completely removed from forms before any concrete is deposited therein. Forms previously used shall be thoroughly cleaned of all dirt, mortar, and foreign matter before being reused. Before concrete is placed in forms, all surfaces against which the concrete will be placed shall be thoroughly coated with form oil. Prior to placing concrete, the Contractor shall have all forms checked by the Engineer for alignment and grade.

Storm drain inlets, outlets for outfall structures may be constructed either by completely forming the interior and exterior of the structure, or by forming only the interior and upper section and neat pouring concrete for the lower section against undisturbed earth that has been excavated to the lines and grades indicated on the Plans or as directed by the Engineer. Subgrade for inlets or outlets shall be compacted to a relative compaction of no less than 95 percent.

Storm drain inlets or outlets shall be constructed monolithically (one pour), or if the Contractor elects, the structures may be constructed in 2 sections (2 pour) as provided in the details of the Standard Drawings, with no additional payment made therefore.

Depths of storm drain inlets or outlets may vary according to the depth and grade at which the lateral pipe must be installed in order to avoid existing utilities. The Contractor shall allow in his bid price for the various inlet or outlet structures full compensation for any possible increase or decrease in the anticipated depth because of adjustment in depth of lateral pipes.

Lateral pipes connecting to storm drain inlets and outlets shall be installed flush with the inside walls of the structure, except that pipe edges shall be smoothed and rounded with cement mortar to a 3 inch radius as specified in the Standard Drawings for the type of inlet or outlet installed.

Existing concrete work shall be removed and replaced as necessary to install proposed inlets and outlets, with full compensation therefore included in the price bid for said inlets and outlets. A concrete pavement saw shall be used, unless determined to be impractical by the Engineer or unless some other method approved by the Engineer, such as removal of concrete to an adjacent expansion joint, obtains as satisfactory a result as sawcutting in removing of all existing concrete pavements, curbs, sidewalks, and gutters. A minimum of 1 inch depth of sawcut shall be used. No separate payment shall be made for concrete sawcutting and full compensation therefore shall be included in the various bid items of work involving sawcutting.

The surface finish of the exterior exposed surfaces of concrete shall conform to the sidewalk, curb and gutter finish as required by Subsection 15.06 of these Specifications, or as directed by the Engineer. The interior surface shall have a wood trowel finish. Excessive voids shall be chipped and repaired as directed by the Engineer.

Grading work in the immediate vicinity of the installed inlet structures shall be done by the Contractor as directed by the Engineer so as to provide for the movement of surface water to the newly installed inlet. Full compensation of said grading work shall be included in the price bid for inlet structures, and no separate payment will be made therefore.

Plugs for storm drains shall be double row brick and mortar plugs installed as directed by the Engineer.

BACKFILLING, COMPACTING AND RESTORATION OF SURFACES

Backfilling, compacting and restoration of surfaces of trenches and excavations for storm drainage facilities shall conform to the requirements of Section 18 of these Specifications. Backfill for cast-in-place concrete pipe will consist of final backfill as therein specified.

The Contractor shall exercise every precaution against damage to the pipe, including damage from backfill or compaction operations. Any damaged pipe shall be removed from the work or repaired as directed by the Engineer, at no cost to the City.

MEASUREMENT

Measurement for storm drain pipe installation shall be by the lineal foot of pipe installed. The length of pipe to be paid for will be the slope length designated by the Engineer exclusive of manholes or other structures. When pipes enter a structure at an angle different from a right angle and are cut to conform to the faces of the structure or of a slope, the quantity to be paid for will be measured along the centerline of the pipe to the inside face of the structure, or to the face of the slope.

Measurement for manholes shall be per each manhole installed.

Measurement for inlet or outlets shall be per each inlet or outlet installed.

Measurement for outfall structures shall be per each outfall structure installed.

PAYMENT

The unit price bid per lineal foot for precast pipe storm drain installation shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This shall include, but not be limited to, furnishing and installing the pipe, trenching, backfilling, compacting, placing constructions joints, all connections to existing or proposed facilities and all plugs.

The unit price bid per lineal foot for constructing cast-in-place concrete pipe shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This shall include, but not be limited to, constructing the pipe, trenching, backfilling, compacting, concrete cylinder tests, construction joints, all connections to existing or proposed facilities and all plugs.

The unit price bid per each for manholes shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This shall include, but not be limited to, furnishing and installing the manhole, excavation, backfill and compaction, returning and adjusting manhole lids and frames to final grade following street or alley construction or reconstructions, and connections to all pipes, wet or otherwise.

The unit price bid per each for inlet or outlet structures shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This shall include, but not be limited to, furnishing and constructing and structure, excavation, backfill and compactions, surface grading work, removing and replacing existing concrete work, and connections to all pipes, wet or otherwise.

The unit price bid per each for outfall structures shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved therein as shown on the Plans, as set forth in the Special Provisions, and as directed by the Engineer. This shall include, but not be limited

to, furnishing and constructing the outfall structure, furnishing and installing the grate or fence cage, excavation, backfill and compaction, and connections to all pipes, wet or otherwise.