

**SPECIFICATIONS FOR THE
CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

PREPARED FOR

**CITY OF FONTANA
8353 Sierra Avenue
Fontana, California 92335
(909) 350-7610**

PREPARED BY

**WLC ARCHITECTS, INC.
8163 ROCHESTER AVENUE, SUITE 100
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 987-0909**

OCTOBER 2010

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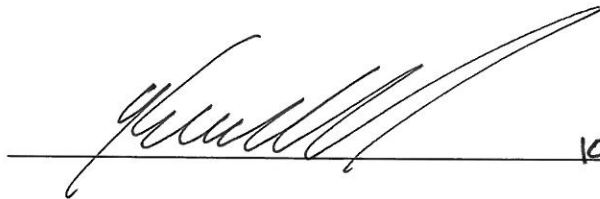
VOLUME 1

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CONSTRUCTION OF**

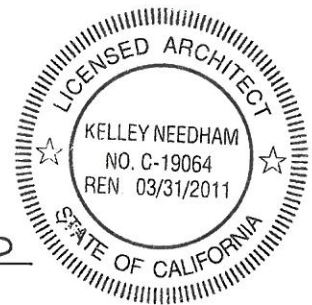
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FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

Prepared Under the Supervision of:


**KELLEY NEEDHAM
LICENSED ARCHITECT, NO. 19064, EXPIRES 3/31/11**



10.29.2010
DATE:



Approved By:



10.29.10
DATE:
**CITY ENGINEER
RICARDO SANDOVAL, P.E., P.L.S.**

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CONSTRUCTION OF**

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FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

Owner:

**CITY OF FONTANA
8353 Sierra Avenue
Fontana, California 92335**

Project Manager:

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(909) 987-0909**

**TABLE OF CONTENTS
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
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NOTICE INVITING SEALED BIDS..... 10 - 11

INSTRUCTIONS TO BIDDER 13 - 23

PROPOSAL DOCUMENTS 25 - 48

Proposal (Submit Online w/Bid Bond) 25
Bidder's Information (Submit Online w/Bid Bond) 27
Contractor's Licensing Statement (Submit Online w/Bid Bond) 28
List of Subcontractors (Enter Online) 29
References (Submit Online w/Bid Bond) 30
Designator of Sureties (Submit Online w/Bid Bond) 31
Bid Bond (Submit Online) 32
Non-Collusion Affidavit (Submit Online w/Bid Bond) 35
Certification of Non-Discrimination by Contractors (Submit Online w/Bid Bond) 36
Proposal Bid Sheet 37
Addendum No: Acknowledgment 48

CONTRACT DOCUMENTS 50 - 72

Agreement 50
Contract Performance Bond 54
Payment Bond 58
General Liability Endorsement 62
Automobile Liability Endorsement 66
Worker's Compensation/Employer's Liability 69

GENERAL CONDITIONS 74 - 86

Scope of Work 74
Location of Work 74
Time of Completion 74
Liquidated Damages 75
Traffic Requirements 75
Hazardous Materials 75
Utility Requirements 76
Utilities Service Charges 80
Flow and Acceptance of Water 80
Removal of Water 80
Furnishing and Applying Water 81
Cleanup and Dust Control 81
Best Management Practices and NPDES Requirements 81

TABLE OF CONTENTS (cont'd)

Trench Safety and Sheet piling, Shoring, and Bracing Excavation	81
Standard Specifications	82
Wage Rates and Labor Code Requirements	83
Apprentices	84
Clayton Act and Cartwright Act	85
Notice to Contractor	85
Builders Risk ["All Risk"] Insurance	85

SPECIAL PROVISIONS 88 - 133

PART 1 - GENERAL PROVISIONS..... 88

Section 1 Terms, Definitions, Abbreviations and Symbols 88

1-2	Definitions.....	88
-----	------------------	----

Section 2 Scope and Control of the Work..... 89

2-1	Award and Execution of Contract.....	89
2-4	Contract Bonds.....	89
2-5	Plans and Specifications	89
2-8	Right of Way.....	90
2-9	Surveying.....	90

Section 3 Changes in Work..... 90

3-2	Changes Initiated by the City.....	90
3-3	Extra Work.....	91

Section 4 Control of Materials 91

4-1	Materials and Workmanship.....	92
-----	--------------------------------	----

Section 5 Utilities 92

5-1	Location.....	92
5-4	Relocation.....	92

Section 6 Prosecution, Progress and Acceptance

Of the Work 92

6-1	Construction Schedule and Commencement Of Work	92
6-4	Default by Contractor.....	93
6-7	Time of Completion	93
6-8	Completion and Acceptance	94
6-9	Liquidated Damages	94
6-10	Project Sign	94

Section 7 Responsibilities of the Contractor 95

7-1	Contractor's Equipment and Facilities	95
7-2	Labor	95
7-3	Liability Insurance.....	95

TABLE OF CONTENTS (cont'd)

7-5	Permits	98
7-8	Project Site Maintenance	98
7-9	Protection and Restoration of Existing Improvements	103
7-10	Public Convenience and Safety	104
7-15	Certified Payroll Records.....	109
Section 9 Measurement and Payment		109
9-1	Measurement of Quantities for Unit Price Work.....	109
9-3	Payment	110
PART 2 - CONSTRUCTION MATERIALS.....		111
Section 200 Rock Materials.....		111
200-2	Untreated Base Material.....	111
Section 201 Concrete, Mortar, and Related Materials		112
201-1	Portland Cement Concrete.....	112
201-2	Reinforcement for Concrete	115
201-3	Expansion Joint Filler & Joint Sealants	115
201-4	Concrete Curing Materials.....	115
201-5	Cement Mortar	116
Section 203 Bituminous Materials		116
203-6	Asphalt Concrete	116
Section 210 Paint and Protective Coatings		116
210-1	Paint and Protective Coatings	116
Section 211 Soils and Aggregate Tests		117
211-2	Compaction Tests	117
PART 3 - CONSTRUCTION METHODS		117
Section 300 Earthwork.....		117
300-1	Clearing and Grubbing	117
300-2	Unclassified Excavation.....	120
300-3	Structure Excavation & Backfill.....	121
300-4	Unclassified Fill.....	121
Section 301 Treated Soils, Sub grade Preparation And Placement of Base Materials		122
301-1	Sub grade Preparation	122
301-6	Soil Sterilant	122

TABLE OF CONTENTS (cont'd)

Section 302 Roadway Surfacing 123
 302-4 Emulsion-Aggregate Crack Sealing 123
 302-5 Asphalt Concrete Pavement..... 124

Section 303 Concrete and Masonry Construction 125
 303-1 Concrete Structures 125
 303-2 Air Placed Concrete 129
 303-5 Concrete Curbs, Walks, Gutters, Cross Gutters,
 Driveways and Alley Intersections 129
 303-7 Rock Slope Protection (Rip Rap) 130

Section 306 Underground Conduit Construction 130
 306-1 Open Trench Operations..... 130
 306-2 Jacking Operations..... 132
 306-5 Abandonment of Conduits and Structures 132

Section 307 Street Lighting and Traffic Signals..... 132
 307-8 Payment for Traffic Signal Construction..... 132

**Section 308 Landscape and Irrigation
 And Installation** 132
 308-4 Planting..... 133
 308-8 Payment 133

Section D City of Fontana Landscape Specifications

**Section E Traffic Signing, Striping, Markings,
 And Markers**

SEPARATE DOCUMENTS

Project Manual – Fontana Fire Station No. 71

GEOTECHNICAL INFORMATION	APPENDIX I
APPLICABLE STANDARD PLANS/DETAILS	APPENDIX II
WATER QUALITY MANAGEMENT PLAN (WQMP)	APPENDIX III
TRAFFIC CONTROL MEMORANDUM	APPENDIX IV
SOLID WASTE DISPOSAL AND RECYCLING REPORT	APPENDIX V
FIRE STATION NO. 71 CONSTRUCTION PHASING EXHIBIT	APPENDIX VI

PLANS

SEPARATE DOCUMENTS

Title: Fire Station No. 71 (SCHEDULE I)

DRAWING No. T-1 through T-4.5

DRAWING No. C1 through C7

DRAWING No. A-1.1 through A-8.8

DRAWING No. S0.1 through S6.1

DRAWING No. M-1.1 through M-4.2

DRAWING No. P-1.1 through P-4.1

DRAWING No. E0.1 through E3.2

DRAWING No. L-1.01 through L-4.01

Title: Campus Parking Lot Improvements (SCHEDULE II)

DRAWING No. 4849, SHEETS 1, 2, 3, 8, 13, 18, 19, 25, 26 & 27 of 27

DRAWING No. 4850, SHEETS 1 through 5 of 5

DRAWING No. 4851, SHEETS 1, 2, 3, 6 & 8 of 8

DRAWING No. 4852, SHEET 1 of 1

DRAWING No. 4854, SHEETS 1, E-2, E-4, E-5, E-8, 20 through 26 & 36 through 39, of 39

Title: Arrow Boulevard & Library Way Traffic Signal (SCHEDULE III)

DRAWING No. 4853, SHEET 1 of 1

**NOTICE INVITING
SEALED BIDS**

**NOTICE INVITING SEALED BIDS
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

PUBLIC NOTICE IS HEREBY GIVEN that the **CITY OF FONTANA**, as **CITY**, invites sealed bids to be received only by submitting electronically at www.fontanapurchasing.org, for the above stated project and **will receive such bids no later than the hour of 2:00 P.M. on the 24th day of November, 2010, at which time or thereafter said bids will be electronically opened and available online. Bids received after this time will not be able to submit electronically.**

A **mandatory pre-bid conference** and site-walk will be held on **November 15, 2010 at 9:30 a.m. at the project site.** Each and every Bidder must attend the scheduled meeting; otherwise the submitted bid shall be considered non-responsive and shall be rejected by the City. Bidders will be required to sign-in and sign-out to demonstrate that they have attended the pre-bid meeting.

The **City** reserves the right to reject any or all bids, to waive any irregularity, to accept any bid or portion thereof, and to take all bids under advisement for a period of ninety (90) calendar days.

The work of improvement consists of furnishing all materials, equipment, tools, labor, and incidentals as required by the Plans, Specifications and Contract Documents for the above stated project. The general items of work to be done hereunder consist of the construction of Fire Station No. 71 and all related site improvements as indicated in the project plans and specifications.

The Project will have distinct phases of construction that need to be sequenced appropriately to facilitate the construction of the Project. The first order of work will be to relocate the existing storm drain running through the site to west of the Fire Station No. 71 property boundary. The second order of work will be to widen Lerner Lane including the installation of the utility conduits. The remaining work can then begin after those two items have been completed. This sequence is necessary to facilitate proper pedestrian traffic and traffic circulation of the Civic Center Campus during construction.

Bid must be submitted electronically for the exact item(s) requested in the bid specifications. Copies of the plans, specifications, and contract documents are available **for free** from the City's Purchasing website www.fontanapurchasing.org.

Each Bid submitted electronically is required to be accompanied by the Proposal Documents; Proposal, Bidder's Information, Contractor's Licensing Statement, List of Subcontractors (enter online), References, Designator of Sureties, Bid Bond, Non-

Collusion affidavit, Certificate of Non-Discrimination by Contractors, Proposal Bid Sheet (enter online), Addendum Acknowledgement, and all additional documentation required by the Instructions to Bidders. Bids must be submitted on the City's bid forms. Any questions pertaining to this project should be directed to **Richard Oaxaca** at **(909) 350-7661**.

Proposals must be accompanied by a proposal guarantee in the form of cash, cashier's check, a certified check or bid bond available to the **CITY** in the amount of at least ten percent (10%) of the total amount bid. Any proposal not accompanied by such a guarantee will not be considered. A payment bond and a performance bond, each in an amount equal to 100 % of the total contract amount, shall be required concurrently with the execution of the contract and shall be in the form set forth in the contract documents.

Any contract entered into pursuant to this notice will incorporate the provisions of the **State Labor Code. Labor Code Section 1735** requires that no discrimination be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in **Government Code Section 12940**. Compliance with the prevailing rates of wages and apprenticeship employment standards established by the **State Director of Industrial Relations** will be required. Affirmative action to ensure against discrimination in employment practices on the basis of race, color, national origin, ancestry, sex, or religion will also be required.

The **CITY** hereby affirmatively ensures that minority business enterprises will be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, sex, or religion in any consideration leading to the award of contract.

The contract documents call for monthly progress payments based upon the engineer's estimate of the percentage of work completed. The **CITY** will retain 10 percent of each progress payment as security for completion of the balance of the work. At the request and expense of the successful bidder, the **CITY** will pay the amounts so retained upon compliance with the requirements of **Public Contract Code Section 22300** and the provisions of the contract documents pertaining to Substitution of Securities.

At the time of submitting a bid, the prime contractor shall possess a Class "B" contractor's license issued by the State of California, and must maintain the license throughout the duration of the contract. In addition, the prime contractor or subcontractors doing work in the public right of way shall possess a Class "A" contractor's license or a combination of Class "C" specialty contractor's license(s) sufficient to perform the work.

BY ORDER OF CITY OF FONTANA

Dated this 29th day of October, 2010.

INSTRUCTION TO BIDDERS

**INSTRUCTIONS TO BIDDERS
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

AVAILABILITY OF CONTRACT DOCUMENTS

Bids shall be submitted in to the City on the Bid Forms which are a part of the Bid Package for the Project. Contract Documents may be obtained from the City's Purchasing Department website www.fontanapurchasing.org as indicated in the Notice Inviting Bids.

The City may also make the Contract Documents available for review at one or more plan rooms. Please Note: Prospective Bidders who choose to review the Contract Documents at a plan room must contact the City to obtain the required Contract Documents if they decide to submit a Bid for the Project.

EXAMINATION OF CONTRACT DOCUMENTS

Bidder shall be solely responsible for examining the Project Site and Contract Documents, including any Addenda issued during the Bidding period, and for informing himself/herself with respect to local labor availability, laws and codes, local permit requirements, availability of required insurance, and other factors that could affect the Work. Bidders are responsible for consulting the standards referenced in the Contract. Failure of Bidder to so examine and inform himself/herself shall be at his/her own risk, and no relief for error or omission will be given except as required under State law.

INSPECTION OF SITE

Each prospective Bidder is responsible for fully acquainting himself/herself with the conditions of the Project Site (which may include more than one site), as well as those relating to the construction and labor of the Project, to fully understand the facilities, difficulties and restrictions which may impact the cost or effort required to complete the Project.

BID GUARANTEE (BOND)

Each Bid shall be accompanied by a proposal guarantee in the form of: (a) cash; (b) a certified check made payable to the City; (c) a cashier's check made payable to the City; or (d) a Bid bond payable to the City executed by the Bidder as principal and surety as obligor in an amount not less than 10% of the maximum amount of the Bid. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The cash, check or Bid Bond shall be given as a guarantee that the Bidder shall execute the Contract if it be awarded to the Bidder, shall provide the payment and performance

bonds and insurance certificates and endorsements as required herein within ten (10) calendar days after notification of the award of the Contract to the Bidder. Failure to provide the required documents may result in forfeiture of the Bidder's Bid deposit or bond to the City and the City may award the Contract to the next lowest responsible Bidder, or may call for new Bids.

PERFORMANCE BOND AND PAYMENT (LABOR AND MATERIALS) BOND REQUIREMENTS

Within the time specified in the Contract Documents, the Bidder to whom a Contract is awarded shall deliver to the City three identical counterparts of the Performance Bond and Payment (Labor and Material) Bond, each in an amount equal to one hundred percent (100%) of the Total Bid Amount and in the form supplied by the City and included in the Contract Documents. Failure to do so may, in the sole discretion of the City, result in the forfeiture of the Bid Guarantee. The surety supplying the bond must be an admitted surety insurer, as defined in the Code of Civil Procedure Section 995.120, authorized to do business as such in the State of California and satisfactory to the City.

SIGNING OF BONDS

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venture or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

EXECUTION OF CONTRACT

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The City may require appropriate evidence that the persons executing the Contract are duly empowered to do so.

NON-COLLUSION AFFIDAVIT

Bidder shall declare that the only persons or parties interested in the proposal as principals are those named therein; that no officer, agent, or employee of the **CITY** is personally interested, directly or indirectly, in the proposal; that the proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that the proposal is in all respects fair and without collusion or fraud. The Non-Collusion Affidavit shall be executed and submitted with the proposal.

NON-DISCRIMINATION AFFIDAVIT

Labor Codes Section 1735 requires that no discrimination be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in **Government Code Section 12940**. Bidder shall declare that it does not discriminate in its employment with regard to such factors. The Non-Discrimination Affidavit (on enclosed form) shall be executed and submitted with the proposal.

PROPOSAL BID SHEET

Bidders shall give unit prices for each and all of the items set forth. No aggregate bids will be considered. The bidder shall set forth for each item of work, in clearly legible figures, a unit item price and a total for the item in the respective spaces provided for this purpose. The quantities listed in the Bid sheets are supplied to give an indication of the general scope of work, but the accuracy of figures is not guaranteed and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

REJECTION OF BIDS

The **CITY** reserves the right to reject any or all bids or waive any irregularity in any one or all bids received.

EQUIPMENT RENTAL AND LABOR RATES

Bidder shall submit a schedule of equipment rental and labor rates which may be applicable to any extra work which is performed.

SUBMISSION OF BIDS

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be submitted electronically.

Only where expressly permitted in the Notice Inviting Bids, may Bidders submit their Bids via electronic transmission pursuant to Public Contract Code Sections 1600 and 1601. The acceptable method(s) of electronic transmission shall be stated in the Notice Inviting Bids.

DELIVERY AND OPENING OF BIDS

Bids are to be submitted electronically. Electronic Bid System will close exactly at the time set forth in the Notice Inviting Bids. All applicable forms required to be completed per the Bid Documents shall be submitted electronically prior to the Bid date and time. Hard copies will not be accepted as a viable bid. It is the Bidder's sole responsibility to ensure that its bid is received as specified. Bids may be submitted earlier than the date(s) and time(s) indicated.

Bids will be available at the date and time stated in the Notice Inviting Bids and the amount of each Bid will be available online and recorded. The City may in its sole discretion, elect to postpone the opening of the submitted Bids. City reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid.

WITHDRAWAL OF BID

Prior to the Bid submittal deadline, a Bid may be withdrawn by the Bidder only by using the City's electronic bidding system.

IRREGULAR PROPOSALS

Unauthorized conditions, limitations, or provisions attached to a proposal will render it irregular and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternative proposals will not be considered unless specifically requested. No oral, telegraphic, or telephonic proposal, modification, or withdrawal will be considered.

SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay permits, licenses and fees required by the agencies with authority in the jurisdiction in which the work will be located, unless otherwise expressly provided by the Contract Documents.

INTERPRETATION OF PLANS AND DOCUMENTS

If any bidder contemplates submission of a bid for the proposed contract and is in doubt as to the true meaning of any part of the plans, specifications or other proposed contract documents, or finds discrepancies in, or omissions from, the Plans, Specifications or other Contract Documents or questions as to their meaning shall be immediately brought to the attention of the City by submission of a written request for an interpretation or correction to the City. Such submission, if any, must be sent, in writing, to the **Project Manager** by email to roaxaca@fontana.org. **Interpretations or corrections received within 5 days prior to bid opening will not be answered.**

Any interpretation of the Contract Documents will be made only by addendum duly issued electronically to each person registered on the prospective bidder's list. The City will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any Bidder, and no Bidder should rely on any such oral interpretation.

Bids shall include complete compensation for all items that are noted in the Contract Documents and are the responsibility of the Contractor.

ADDENDA

The City reserves the right to revise the Contract Drawings prior to the Bid opening date. Revisions, if any, shall be made by written Addenda. All Addenda issued by the City shall be included in the Bid and made part of the Contract Documents. Pursuant to the Public Contract Code, Section 4104.5, if the City issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the City will extend the deadline for submission of Bids. The City may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Each prospective Bidder shall provide City a name, address, email, and facsimile number to which Addenda may be sent, as well as a telephone number by which the City can contact the Bidder. Copies of Addenda will be made available on the City's Purchasing Department website www.fontanapurchasing.org. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda. To this end, each Bidder should contact the City's Purchasing Department website www.fontanapurchasing.org to verify that he/she has received all Addenda issued, if any, prior to the Bid submittal deadline. Failure to cover in his bid any such addenda issued may render his bid irregular and may result in its rejection by the City.

COMPLETION OF BID FORMS

Bids shall only be prepared using copies of the Bid Forms which are included in the Contract Documents. The use of substitute Bid Forms other than clear and correct photocopies of those provided by the City will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable) and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. USE OF BLACK OR BLUE INK, INDELIBLE PENCIL, ELECTRONICALLY OR TYPED IS REQUIRED. Deviations in the Bid Form may result in the Bid being deemed non-responsive.

MODIFICATIONS OF BIDS

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms, nor make substitutions thereon. Oral, telephonic and electronic modifications will not be considered, unless the Notice Inviting Bids authorizes the submission of electronic Bids and modifications thereto and such modifications are made in accordance with the Notice Inviting Bids.

DESIGNATION OF SUBCONTRACTORS

Pursuant to State law, the Bidders must designate the name and location of each subcontractor who will perform work or render services for the Bidder in an amount that exceeds one half of one percent (1/2%) of the Bidder's Total Bid Amount, as well as the portion of the work each subcontractor will perform by entering the information online. No additional time will be provided to Bidders to submit any of the requested information in the Designation of Subcontractor Form.

LICENSING REQUIREMENTS

Pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract Code, all Bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Section 7028.5 of the Business and Professions Code, the City shall consider any Bid submitted by a contractor not currently licensed in accordance with State law and pursuant to the requirements found in the Contract Documents to be non-responsive, and the City shall reject the Bid. The City shall have the right to request, and Bidders shall provide within five (5) calendar days, evidence satisfactory to the City of all valid license(s) currently held by that Bidder and each of that Bidder's sub-contractors, before awarding the Contract. Please also note that, pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code Section 2717(b) in order to supply mined material for this contract.

LEGAL RESPONSIBILITIES

All proposals must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same are expressly referred to herein or not.

Any Bidder submitting a proposal shall by such action thereby agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and Contract Documents, and to full compliance therewith.

BASIS OF AWARD; BALANCED BIDS

The City shall award the contract to the lowest responsible Bidder submitting a responsive Bid. The City may reject any Bid which in the opinion of City staff when compared to other Bids received or to the City's internal estimates, does not accurately reflect the cost to perform the Work. The City may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular items.

DISQUALIFICATION OF BIDDERS; INTEREST IN MORE THAN ONE BID

No Bidder shall be allowed to make, submit or be interested in more than one Bid. However, a person, firm, corporation or other entity that has submitted a sub-proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other Bidders submitting a Bid to the City. No person, firm, corporation, or other entity may submit a sub-proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime Bid on the same Project.

INSURANCE REQUIREMENTS

The successful bidder shall procure the insurance in the form and in the amount specified in the Contract Documents.

AWARD PROCESS

Once all Bids are electronically opened and reviewed to determine the lowest responsible Bidder, the City will award the Contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Payment (Labor and Materials) Bond, and (2) the required insurance certificates and endorsements. Once the City notifies the Bidder of the award, the Bidder will have ten (10) consecutive calendar days from the date of this notification letter to execute the Contract and supply the City with all of the required documents and certifications. Regardless whether the Bidder supplies the required documents and certifications in a timely manner, the Contract time will begin to run ten (10) calendar days from the date of the notification. Once the City receives all of the properly drafted and executed documents and certifications from the Bidder, the City shall issue a Notice to Proceed to that Bidder.

FILING OF BID PROTESTS

Bidders may file a 'protest' of a Bid with the City's Purchasing Officer. In order for a Bidder's protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the Bid submittal deadline:
- B. Clearly identify the specific irregularity or accusation;

- C. Clearly identify the specific City staff determination or recommendation being protested;
- D. Specify, in detail, the grounds of the protest and the facts supporting the protest; and
- E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, it will be rejected as invalid.

If the protest is valid, the City's Purchasing Officer, or other designated City staff member, shall review the basis of the protest and all relevant information. The Purchasing Officer will provide a written decision to the protester. The protestor may then appeal the decision to the City Manager.

LABOR CODE

Pursuant to the provisions of **Section 1773 of the Labor Code of the State of California**, the **CITY** has obtained the general provisions rate of per diem wages and the general prevailing rate for holiday and overtime work in this locality for each craft, classification or type of workman needed to execute the contract from the **Director of the Department of Industrial Relations**. These rates are on file and available online at <http://www.dir.ca.gov/dlsr>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

The Contractor and all subcontractors shall comply with the provisions of **Section 1774 of the Labor Code** and other statutes relating to prevailing wages, benefits, overtime and so forth. Failure to comply with the subject section will subject the Contractor to penalty and forfeiture provisions of **Section 1775 of the Labor Code**.

Pursuant to the provisions of **Section 1770 of the Labor Code**, the general prevailing rate of wages has been ascertained (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work.

The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

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

The Contractor and subcontractors shall comply with **Section 1777.6** which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age (of such employee), except as provided in **Section 3077**.

Pursuant to **Public Contract Code Section 6109**, contractors or subcontractors who are ineligible to perform work on a public works project pursuant to **Section 1777.1 or Section 1777.7 of the California Labor Code** shall not be allowed to perform any portion of the work contemplated herein. Any subcontract between the contractor and a debarred subcontractor shall be void as a matter of law, and the debarred subcontractor shall not receive any payment for performing such work. Any public money that has been paid to the debarred subcontractor on the project shall be returned to the Owner. The contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

REQUEST FOR SUBSTITUTIONS

The successful Bidder shall comply with the substitution request provisions set forth in the Special Conditions, including any deadlines for substitution requests **which may occur prior to the Bid submittal deadline, as specified in the General Conditions.**

DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code and Federal "Excluded Parties List System". Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for a Project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

WORKER'S COMPENSATION CERTIFICATE

Section 3700 of the State Labor Code requires that every employer shall secure the payment compensation by either being insured against liability to pay compensation with one or more insurers or by securing a certificate of consent to self-insure from the **State Director of Industrial Relations**.

In accordance with this section and with **Section 1861 of the State Labor Code**, the contractor shall sign a Compensation Insurance Certificate which is included with the Contract Agreement, and submit same to **CITY** along with the other required contract documents, prior to performing any work. Reimbursement for this requirement shall be considered as included in the various items of work.

CLAYTON ACT AND CARTWRIGHT ACT

Section 7103 of the Public Contract Code specifies that in executing a public works contract with the **CITY** to supply goods, services or materials, the Contractor or Subcontractor offers and agrees to assign to the **CITY** all rights, title and interest in and to all causes of action it may have under **Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Sec. 16700) of Part 2 of Division 7 of the Business and Professions Code**, arising from purchase of goods, services or materials pursuant to the contract or subcontract. This assignment shall become effective when the **CITY** tenders final payment to the Contractor without further acknowledgment by the parties.

SUBSTITUTION OF SECURITIES

In conformance with the **State of California Public Contract Code, Section 22300**, the contractor may substitute securities for any monies withheld by the **CITY** to ensure performance under the contract.

At the request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the **CITY** or with a State or Federally chartered bank as the escrow agent who shall pay such monies to the contractor upon notification by **CITY** of Contractor's satisfactory completion of the contract.

The type of securities deposited and the method of release shall be approved by the **CITY'S Attorney**.

SUBLETTING AND SUBCONTRACTING

Pursuant to the **Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code)**, bidders are required to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications in excess of 1/2 of 1% of this prime contractor's total bid. Failure to list a subcontractor for a portion of the work means that the prime contractor will do that portion of the work. It is the **City's** intent for the Subletting and **Subcontracting Fair Practices Act** to apply to all phases of the work. The list of subcontractors (on enclosed form) shall be executed and submitted with the proposal.

NOTICE TO CONTRACTOR:

Pursuant to **Public Contract Code Section 3400(b)**, the **City of Fontana** may make a finding that designates certain materials, products, things, or services by specific brand or trade name for statutorily enumerated purposes. As required by **Section 3400(b)**, the **City of Fontana** has made such findings as further described in the **Project Special Provisions**. **These findings, as well the materials, products, things, or services and their specific brand or trade names that must be used for the Project are found in the Special Provisions and Drawings.**

The Contractor's attention is directed to Section 200-2 and 203-6 of the Special Provisions. Section 200-2.2 Crushed Aggregate Base has been modified to disallow the use of crushed aggregate base unless otherwise directed and Section 200-2.4 Crushed Miscellaneous Base has been modified to be required in lieu of crushed aggregate base. Section 203-6.1 has been modified to require the use of reclaimed asphalt pavement (RAP) in asphalt concrete.

PRE-BID CONFERENCE:

A mandatory pre-bid conference and site-walk will be held on November 15, 2010 at 9:30 a.m. at the project site. Each and every Bidder must attend the scheduled meeting; otherwise the submitted bid shall be considered non-responsive and shall be rejected by the City. Bidders will be required to sign-in and sign-out to demonstrate that they have attended the pre-bid meeting.

BUILDER'S RISK ["ALL RISK"] INSURANCE:

In addition to the insurance requirements specified in Section 7 of the Special Provisions, it is the Contractor's responsibility to maintain or cause to be maintained Builder's Risk ["All Risk"] extended coverage insurance on all work, material, equipment, appliances, tools, and structures which are part of the Contract and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The City accepts no responsibility until the Contract is formally accepted by the governing body for the work. The Contractor is required to file with the City a certificate evidencing fire insurance coverage.

Provide insurance coverage on completed value form, all-risk or special causes of loss coverage.

1. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
2. Coverage shall include all materials stored on site and in transit.
3. Coverage shall include Contractor's tools and equipment.
4. Insurance shall include boiler, machinery and material hoist coverage.

Such Insurance shall comply with the provisions of the Contract Documents.

PROPOSAL DOCUMENTS

BIDDER'S NAME _____

**PROPOSAL
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

TO CITY OF FONTANA, as CITY:

In accordance with **CITY'S "Notice Inviting Sealed Bids"**, the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and Contract Documents therefore, and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Specifications, Instructions to Bidders, and Contract Documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with **CITY** at the unit and/or lump sum prices set forth in the following Proposal Bid Sheet. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to **CITY** of the Bid Bond accompanying this proposal.

BIDDER understands that a bid is required for the entire work that the estimated quantities set forth in the Proposal Bid Sheet are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts.

BIDDER certifies that it has visited the construction site and familiarized itself with local conditions under which the work is to be performed. Furthermore, BIDDER certifies that it will be responsible for incorporating into its bid whatever contingencies which are discernible by a reasonable investigation.

BIDDER agrees and acknowledges that it is aware of the provisions of **Section 3700 of the Labor Code** which requires every employer to be insured against liability for workman's compensation or to undertake self-insurance in accordance with the provisions of that code, and that the BIDDER will comply with such provisions of that code before commencing the performance of this Contract if awarded to it.

BIDDER certifies that in all previous contracts or subcontracts, all reports which may have been due under the requirements of any Agency, State, or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

BIDDER declares that the only persons or parties interested in this proposal as principals are those named herein; that no officer, agent, or employee of the **CITY** is personally interested, directly or indirectly, in this proposal; that this proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that this proposal is in all respects fair and without collusion or fraud.

BIDDER certifies that affirmative action has been taken to seek out and consider disadvantaged business enterprises for those portions of the work to be subcontracted, and that such affirmative actions have been carefully documented, that said documentation is open to inspection, and that said affirmative action will remain in effect for the life of any contract awarded hereunder.

Furthermore, BIDDER certifies that affirmative action will be taken to meet all equal employment opportunity requirements of the contract documents.

BIDDER certifies that THE BIDDER possesses a Class "B" license issued by the State of California.

BIDDER declares that the contractor's license number is _____ and that the license expiration date is _____.

DATED: _____, 20__

BIDDER: _____

BIDDER'S ADDRESS: _____ BY: _____

_____ TITLE: _____

PHONE: _____ FAX NO: _____

E-MAIL: _____

BIDDER'S INFORMATION

BIDDER certifies that the following information is true and correct:

Bidder's Name: _____

Business Address: _____

Telephone: _____ Fax: _____

E-Mail: _____

State Contractor's License No. and Class: _____

Original Date Issued: _____ Expiration Date: _____

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:

The dates of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows:

All current and prior DBA'S, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

CONTRACTOR'S LICENSING STATEMENT

The undersigned certifies that bidder is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number: _____

License Classification: _____ Expiration Date: _____

Name of Individual Contractor (Print or type):

Signature of Owner: _____

Business Address: _____

or

Name of Firm: _____

Business Address: _____

Name: _____ Title: _____

Address: _____

Name _____ Title: _____

Address: _____

or

Name of Corporation: _____

Business Address: _____

Corporation organized under the laws of the State of California

Signature of President of Corp.

Signature of Secretary of Corp.

Date

LIST OF SUBCONTRACTORS

BIDDER proposes to subcontract certain portions of the work as follows:

Name Under Which Subcontractor Is licensed	State License No.	Address of office, mill or shop	Percent total Contract	Specific description of work	DBE Yes / No
---	----------------------------------	--	---------------------------------------	---	-------------------------

LISTING OF SUBCONTRACTORS WILL BE ENTERED ONLINE WHEN SUBMITTING YOUR PROPOSAL

ALL ITEMS OF INFORMATION REQUESTED ON THIS PAGE ARE REQUIRED. BIDDERS SHALL SPECIFY EACH SUBCONTRACTOR WHO WILL PERFORM WORK OR LABOR OR RENDER SERVICE TO THE PRIME CONTRACTOR IN AN AMOUNT IN EXCESS OF ONE HALF OF ONE PERCENT (0.5%) OF THE PRIME CONTRACTOR'S TOTAL BID. FAILURE TO LIST ALL INFORMATION AS REQUESTED ABOVE MAY RESULT IN DISQUALIFICATION OF THE BID.

****SUBMIT ONLINE WITH BID BOND ****

REFERENCES

The following are the names, addresses, phone numbers and contact person for three public agencies for which BIDDER has performed similar work within the past two years:

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

****SUBMIT ONLINE WITH BID BOND****

DESIGNATOR OF SURETIES

The following are the names, addresses, and phone numbers for all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

****SUBMIT ONLINE****

**BID BOND
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

KNOW ALL MEN BY THESE PRESENTS that we, the undersigned, _____
_____, (hereafter called "Principal"),

and _____, (hereafter called "Surety"), are held and firmly
bound unto the **City of Fontana** (hereafter called "**OWNER**"), in the sum of

_____ dollars (\$_____), for the payment of
which, well and truly to be made, we hereby jointly and severally bind ourselves and our
successors and assigns.

SIGNED this _____ day of _____, 20____.

The condition of the above obligation is such that whereas the Principal has
submitted to the **OWNER** a certain Bid, attached hereto and hereby made a part hereof, to
enter into a contract in writing for the construction of the **City of Fontana Fire Station No.
71**.

NOW THEREFORE,

- a. If said Bid is rejected, or
- b. If said Bid is accepted and Principal executes and delivers a contract in the
attached Agreement form within then (10) days after acceptance (properly
completed in accordance with said Bid), and furnishes insurance certificates
and endorsements, bonds for faithful performance of said Contract and for
the payment of all persons performing labor or furnishing materials in
connection therewith, and all other required documents, then this obligation
shall be void; otherwise, the same shall remain in force and effect, it being
expressly understood and agreed that the liability of Surety for any and all
claims hereunder shall, in no event, exceed the amount of this obligation as
herein stated.

For value received, Surety hereby stipulates and agrees that the obligation of said
Surety and its bond shall be in no way impaired or affected by any bidding errors or
extension of the time within which the **OWNER** may accept such Bid, and said Surety
hereby waives notice of any such extension.

(Page 1 of 3)

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year first set forth above.

PRINCIPAL: _____

ATTEST: (if corporation)

By: _____

By: _____

Title: _____ Title: _____

Corporate Seal)

SURETY: _____

ATTEST:

By: _____

By: _____

Title: _____ Title: _____

(Corporate Seal)

IMPORTANT: Surety companies executing Bonds must possess a certificate of authority from the **California Insurance Commissioner** authorizing them to write surety insurance defined in **Section 105 of the California Insurance Code**, and if the work or project is financed, in whole or in part, with federal grant or loan funds, must also appear on the **Treasury Department's most current list (Circular 570 as amended)**. **THIS IS A REQUIRED FORM.**

Any claims under this bond may be addressed to:

(Name and address of Surety) _____

(Name and address of agent or Representative for service of Process in California, if Different from above) _____

(Telephone number and FAX Number of Surety and agent Or representative for Service of process in California) _____ / _____

E-MAIL: _____

(Page 2 of 3)

****SUBMIT ONLINE****

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
 } ss.
County of _____ }

On _____ before me, _____
Here Insert Name and Title of the Officer

personally appeared _____
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title of Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____
 Individual
 Corporate Officer Title(s): _____
 Partner - Limited General
 Attorney in Fact
 Trustee
 Guardian or Conservator
 Other:

Signer's Name: _____
 Individual
 Corporate Officer Title(s): _____
 Partner - Limited General
 Attorney in Fact
 Trustee
 Guardian or Conservator
 Other:

Right Thumbprint of Signer
Top of thumb here

Right Thumbprint of Signer
Top of thumb here

Signer is Representing:

Signer is Representing:

NON-COLLUSION AFFIDAVIT

STATE OF _____)
) ss.
COUNTY OF _____)

_____, being first duly sworn, Says that he/she is
(Name of Affiant)

_____ of
(Title)

_____,
(Name of Bidder)

the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive 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.

(Signature)

(Typed Name)

(Title)

NOTARY PUBLIC IN AND FOR THE STATE OF _____

SUBSCRIBED BEFORE ME on this _____ day of _____, 20____

My Commission Expires: _____
Notary Public

CERTIFICATION OF NON-DISCRIMINATION BY CONTRACTORS

Labor Code Section 1735 requires that no discrimination be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status or sex of such persons, except as provided in **Government Code Section 12940**.

The firm listed below certifies that it does not discriminate in its employment with regard to the factors set forth in **Labor Code Section 1735**; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal employment opportunity in employment.

We agree specifically:

1. To establish or observe employment policies which affirmatively promote opportunities for minority persons at all job levels.
2. To communicate this policy to all persons concerned, including all company employees, outside recruiting services, especially those serving minority communities, and to the minority communities at large.
3. To take affirmative steps to hire minority employees within the company.

FIRM: _____

TITLE OF PERSON SIGNING: _____

SIGNATURE: _____

DATE: _____

Please include any additional information available regarding equal opportunity employment programs now in effect within your company.

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE I

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT
1	Construction of Fire Station No. 71 and all related site improvements	1	LS

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II

ITEM NO.	DESCRIPTION GENERAL	ESTIMATED QUANTITY	UNIT
2	Mobilization/Demobilization	1	LS
3	Traffic Control including Traffic Control Plans; Complete for entire project duration. (Traffic Control Plans to be signed & stamped by T.E. and be on full size 24" x 36" sheets)	1	LS
4	Best Management Practice SWPPP and NPDES Requirements per Bid Document	1	LS
5	Clearing and Grubbing	1	LS
6	Grading	1	LS
7	Potholing	1	LS
	DESCRIPTION DEMOLITION		
8	Saw-cut and Remove Existing AC Berm or PCC Curb and/or Gutter	3,686	LF
9	Sawcut and Remove Existing AC/PCC Sidewalk or PCC Drive Approach	10,677	SF
10	Sawcut and Remove Existing PCC Curb Ramp	444	SF
11	Remove Existing PCC Cross Gutter/Spandel	1,274	SF
12	Sawcut and Remove Existing Asphalt Concrete Pavement and Subgrade to Accommodate the New Street Section	70,862	SF
13	Remove and Relocate Existing Sign	12	EA

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION DEMOLITION	ESTIMATED QUANTITY	UNIT
14	Adjust Existing Manhole or Cleanout to Grade	10	EA
15	Adjust Existing Traffic Signal/ Communications Box to Grade	6	EA
16	Adjust Existing Electrical Box to Grade	4	EA
17	Adjust Existing Water Valve to Grade	7	EA
18	Remove Existing Tree	23	EA
19	Remove Existing Wall	100	LF
20	Remove and Replace Existing Landscape and Irrigation	1	LS
21	Remove Existing Storm Drain Grate Inlet and Required Piping and Bulkhead	8	EA
22	Remove Existing Catch Basin and Required Piping and Bulkhead	4	EA
23	Remove Existing Power Pole	1	EA
24	Remove Existing Bollard	2	EA
25	Remove Existing Steel Trash Enclosure Doors	2	EA
26	Remove Existing Wooden Open Patio Roof Structure	1	EA
27	Remove Existing Concrete Sign	1	EA

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION DEMOLITION	ESTIMATED QUANTITY	UNIT
28	Remove Existing Decorative Hardscape	40	SF
29	Remove and Replace Existing Light Pole, Footing, and Electrical System	2	EA
30	Remove Existing Parking Lot Light Fixtures and Footing and Return Fixtures to City Yard	7	EA
	DESCRIPTION CIVIL - STREET		
31	Construct 6" PCC Curb per City of Fontana Std Plan No. 1000	1,441	LF
32	Construct 6" PCC Curb and Gutter per City of Fontana Std Plan No. 1000	1,195	LF
33	Construct 8" PCC Curb per City of Fontana Std Plan No. 1000	779	LF
34	Construct 8" PCC Curb and Gutter per City of Fontana Std Plan No. 1000	666	LF
35	Construct PCC Sidewalk per City of Fontana Std Plan No. 1006	10,785	SF
36	Construct 12" Wide Concrete per Vehicular Access Walkway Detail	441	SF
37	Construct 6" Thick PCC Concrete Pavement Over 1.0' Compacted Native Soil	614	SF
38	Construct Standard Curb Return Access Ramp per City of Fontana Std Plan No. 1003	3	EA
39	Construct Curb Ramp, Case D, Type 2 per SPPWC Std Detail No. 111-3	2	EA

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION CIVIL - STREET	ESTIMATED QUANTITY	UNIT
40	Construct Curb Ramp, Case D, Type 1 per SPPWC Std Detail No. 111-3	2	EA
41	Construct Curb Ramp, Case A, Type 1, per SPPWC Std Detail 111-3	3	EA
42	Construct Curb Ramp, Case B, Type 1, per SPPWC Std Detail No. 111.3	1	EA
43	Construct Commercial Driveway per City of Fontana Std Plan No. 1002	3,461	SF
44	Construct 5' Cross Gutter per City of Fontana Std Plan No. 403	980	SF
45	Construct 10' Cross Gutter per City of Fontana Std Plan No. 403	1,098	SF
46	Construct 1.5" Asphalt Concrete Overlay	377	Tons
47	Construct 2" Asphalt Concrete Overlay	475	Tons
48	Construct 2" Asphalt Concrete Pavement Over 1.0' Compacted Native Soil	502	Tons
49	Construct 2.5" Asphalt Concrete Pavement Over 1.0' Compacted Native Soil	113	Tons
50	Construct 4" Asphalt Concrete Pavement Over 1.0' Compacted Native Soil	771	Tons
51	Construct 4.5" Decorative Asphalt Concrete Pavement to Match Existing Pattern and Color Over 1.0' Compacted Native Soil	2,116	SF
52	Construct Type II Latex Modified, Asphalt Emulsion, Slurry Seal	75,454	SF
53	Construct Tree Well and Grate per City of Fontana Std Plan No. 5046	3	EA

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION CIVIL - STREET	ESTIMATED QUANTITY	UNIT
54	Construct 8' Decorative Block Wall	58	LF
55	Construct 8' Mesh Screened Wrought Iron Double Swing Gate (6' Wide Each)	1	EA
56	Construct Signing and Striping Improvements	1	LS
	DESCRIPTION CIVIL – STORM DRAIN		
57	Construct 12" Reinforced Concrete Pipe (RCP) and Trench Repair	399	LF
58	Construct 24" Reinforced Concrete Pipe (RCP) and Trench Repair	111	LF
59	Construct 30" Reinforced Concrete Pipe (RCP) and Trench Repair	424	LF
60	Construct 25" x 16" Elliptical Corrugated Metal Pipe (10 Gauge)	24	LF
61	Construct Manhole per City of Fontana Std Plan No. 3013	3	EA
62	Construct Junction Structure per City of Fontana STD Plan No. 3010	1	EA
63	Construct 3.5' Catch Basin and Local Depression per City of Fontana Std No. 3003, Case C and 3004	4	EA
64	Construct 7' Catch Basin and Local Depression per City of Fontana Std No. 3003, Case C and 3004	3	EA
65	Construct 7' Catch Basin and Local Depression per City of Fontana Std No. 3003, Case C and 3004 with Modified B Dimension	1	EA

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION CIVIL – STORM DRAIN	ESTIMATED QUANTITY	UNIT
66	Construct Concrete Collar per City of Fontana Std Plan No. 3022	2	EA
67	Construct Storm Drain Pipe Connection per City of Fontana Std Plan No. 3025	4	EA
68	Construct Monolithic Catch Basin Connection per City of Fontana Std Plan No. 3005	3	EA
69	Construct Curbside Grate Inlet per SPPWC Std Detail No. 303-2	2	EA
70	Construct Alley Longitudinal Grate Inlet per SPPWC Std Detail No. 303-2	2	EA
71	Construct Slurry Backfill and Utility Protection	1	LS
72	Cut, Plug and Abandon Existing Storm Drain as Required	1	LS
	DESCRIPTION ELECTRICAL		
73	Furnish and Install Type 'A' Light Pole and Fixture without 1" Hub, Footing, Conduit, Wiring, and Connection	10	EA
74	Furnish and Install Type 'BB' Light Pole and Fixture with 1" Hub, Footing, Conduit, Wiring, and Connection	3	EA
75	Provide Power to Way Finding Signs Including Conduit, Wiring and Connection per Plans and Specifications	2	EA
76	Furnish and Install Way Finding Sign Light Including Conduit, Wiring and Connection per Plans and Specifications	1	LS

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION ELECTRICAL	ESTIMATED QUANTITY	UNIT
77	Furnish and Install Power Connection to Irrigation Controller Including Conduit, Wiring, and Connection per Plans and Specifications	1	EA
78	Furnish and Install Power Circuit Connections to Existing panel 'MSD' with Lighting Control System Complete per Plans and Specifications	1	LS
79	Furnish and Install All Miscellaneous Pull Boxes, Conduit and Wire Not Included in Any Other Item	1	LS
	DESCRIPTION LANDSCAPE		
80	Perform Weed Abatement in Accordance with Plans and Specifications	13,018	SF
81	Furnish and Install Soil Prep Complete per Plans and Specifications	13,018	SF
82	Furnish and Install Turf Areas – Sod Complete per Plans and Specifications	815	SF
83	Furnish and Install 3" Deep Decorative Bark Mulch Bed Complete per Plans and Specifications	12,203	SF
84	Furnish and Install 1 Gallon Shrub Complete per Plans and Specifications	470	EA
85	Furnish and Install 5 Gallon Shrub Complete per Plans and Specifications	851	EA
86	Furnish and Install 24" Box Tree Complete per Plans and Specifications	53	EA
87	Furnish and Install Root Barriers Complete per Plans and Specifications	960	LF

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE II (continued)

ITEM NO.	DESCRIPTION LANDSCAPE	ESTIMATED QUANTITY	UNIT
88	Construct Enhanced Concrete Paving to Match Existing Color and Pattern	3,876	SF
89	Furnish and Install New Irrigation Controller Complete per Plans and Specifications	1	EA
90	Furnish and Install Irrigation System Complete per Plans and Specifications	13,018	SF

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCHEDULE III

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT
91	Traffic Control Plans, Implemented and Maintained for Project Duration	1	LS
92	Traffic Signal Installation Complete per Plan	1	LS
93	Signing, Striping and Pavement Markers Complete per Plan	1	LS

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

(CONTRACT AWARD WILL BE BASED ON THE TOTAL OF BID SCHEDULES I, II & III)

NOTE: The estimated quantities listed in the **Proposal Bid Sheet(s)** are supplied to give an indication of the general scope of the work, but the accuracy of these figures is not guaranteed and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

The **CITY** reserves the right to reject any and or all bids, or to waive any information on any one or all bids received. The **CITY** specifically reserves the right to delete, reduce all or any portion of the work at any time prior to authorization to proceed with this portion of work.

_____ BIDDER'S NAME
_____ TELEPHONE NUMBER
_____ FAX NUMBER
_____ E-MAIL

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

ADDENDUM ACKNOWLEDGMENT

**ADDENDUM(S) TO BE ACKNOWLEDGED ONLINE WHEN YOU ARE SUBMITTING
YOUR BID.**

CONTRACT DOCUMENTS

**CONTRACT AGREEMENT
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

THIS CONTRACT AGREEMENT is made and entered into for the

Above stated project this _____ day of _____, 20__,

BY AND BETWEEN **City of Fontana**, as **CITY**, and _____

_____, As **CONTRACTOR**.

WITNESSETH that **CITY** and **CONTRACTOR** have mutually agreed as follows:

ARTICLE I

The **CONTRACT DOCUMENTS** for the aforesaid project shall consist of the Notice Inviting Sealed Bids, Instructions to Bidders, Proposal Documents, General Conditions, Standard Specifications, Special Provisions, Plans (**Drawing. No. xxx, Sheets 1 through 104**), and all referenced specifications, details, standard drawings, and appendices; together with this Contract Agreement and all required bonds, insurance certificates, permits, notices, and affidavits; and also including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to insure its completion in an acceptable manner. All of the provisions of said **CONTRACT DOCUMENTS** are made a part hereof as though fully set forth herein.

ARTICLE II

For and in consideration of the payments and agreements to be made and performed by **CITY**, **CONTRACTOR** agrees to furnish all materials and perform all work required for the above stated project, and to fulfill all other obligations as set forth in the aforesaid **CONTRACT DOCUMENTS**.

ARTICLE III

CONTRACTOR agrees to receive and accept the prices set forth in the **PROPOSAL BID SHEET(S)** as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid contract documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

ARTICLE IV

CITY hereby promises and agrees to employ, and does hereby employ, CONTRACTOR to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the contract documents.

ARTICLE V

CONTRACTOR acknowledges the provisions of the **State Labor Code** requiring every employer to be insured against liability for worker's compensation, or to undertake self-insurance in accordance with the provisions of that code, and certifies compliance with such provisions.

ARTICLE VI

CONTRACTOR shall defend, indemnify and hold harmless **CITY**, its officers, officials, agents, employees and contractors from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from performance of work under this Contract and which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of property, including the loss of use resulting therefrom, caused in whole or in part by any act or omission of the Contractor or anyone directly or indirectly employed or engaged by it or for whose acts it may be liable.

Without limiting the generality of the foregoing paragraph, Contractor specifically agrees to indemnify and hold harmless **CITY**, its officers, officials, agents, employees, and contractors from and against all claims, damages, losses, penalties, fines and expenses (including attorney's fees and litigation costs) arising out of or in any way resulting from Contractor's failure to perform the work required of it under this Contract in the manner required by this Contract and applicable provisions of federal and state law.

ARTICLE VII

CONTRACTOR affirms that the signatures, titles, and seals set forth hereinafter in execution of this Contract Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

ARTICLE VIII

If any legal action is required to enforce or interpret the Contract Documents, then the prevailing party shall have the right to recover from the losing party all costs of such action including attorney fees.

ARTICLE IX

PAYMENTS WITHHELD AND BACKCHARGES In addition to amounts which the City may retain under other provisions of the Contract Documents the City may withhold payments due to Contractor as may be necessary to cover:

- a. Stop Notice Claims.
- b. Defective work not remedied.
- c. Failure of Contractor to make proper payments to its subcontractors or suppliers.
- d. Completion of the Contract if there exists a reasonable doubt that the work can be completed for balance then unpaid.
- e. Damage to another contractor or third party.
- f. Amounts which may be due the City for claims against Contractor.
- g. Failure of Contractor to keep the record ("as-built") drawings up to date.
- h. Failure to provide updates on the construction schedule.
- i. Site clean up.
- j. Failure of the Contractor to comply with requirements of the Contract Documents.
- k. Liquidated damages.
- l. Legally permitted penalties.

Upon completion of the Contract, the City will reduce the final Contract amount to reflect costs charged to the Contractor, backcharges or payments withheld pursuant to the Contract Documents.

**CITY OF FONTANA
CITY OF FONTANA FIRE STATION NO. 71
CONTRACT AGREEMENT**

CITY OF FONTANA

CONTRACTOR/CONSULTANT NAME

By: _____
Kenneth R. Hunt
City Manager

By: _____
[INSERT NAME]
[INSERT TITLE]

Attest:

Attest: ¹

By: _____
Tonia Lewis, City Clerk

By: _____
[INSERT NAME]
[INSERT TITLE]

Approved as to form:

Best Best & Krieger LLP
City Attorney

By: _____
Debbie M. Brazill, Deputy City Manager
Development Services Organization

By: _____
Ricardo Sandoval
Director of Engineering/City Engineer

IN COMPLIANCE WITH CONTRACT INSURANCE REQUIREMENTS

By: _____
Annette Henckel, Interim Director of Human
Resources and Risk Management

IN COMPLIANCE WITH PURCHASING AND CONTRACT ADMINISTRATION POLICIES/PROCEDURES

Lisa Strong
Management Services Director

Purchasing Office

¹ Attestation of Consultant's signature must be obtained when required by the by-laws, articles of incorporation or other laws, rules or regulations applicable to Consultant's business entity.

**CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the **City of Fontana** (sometimes referred to hereinafter as "**Obligee**") has awarded to _____ (Hereinafter Designated as the "Contractor"), an agreement for the work described as follows: **The construction of Fire Station No. 71 and all related site improvements.**

(hereinafter referred to as the "**Public Work**"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for the said

Public Work dated _____, (hereinafter referred to As the "Contract"), which Contract is incorporated herein by this reference; and WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, _____, the

Undersigned Contractor, as Principal, and _____, A corporation organized and existing Under the laws of the State of _____, and duly authorized To transact business under the laws of the State of _____, As Surety, are held and firmly bound unto the **OBLIGEE** in the sum

Of _____ Dollars (\$_____),

Said sum being not less than one hundred percent (100%) of the total amount payable by the said **OBLIGEE** under the terms of the said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the bounden Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said Contract and any alteration thereof made as therein provided, on his or its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill the one year guarantee of all materials and workmanship; and indemnify and save harmless the **OBLIGEE**, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed there under or the Specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

No final settlement between the **OBLIGEE** and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

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

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ Day of _____, 20____.

Subscribed before me a Notary Public
in and for the County of _____
State of _____

On this ____ Day of _____

NOTARY

MY COMMISSION EXPIRES:

PRINCIPAL/CONTRACTOR:

By: _____

SURETY:

By: _____
Attorney-in-Fact

The rate of premium on this bond is _____ per thousand.

The total amount of premium charged: \$ _____

(The above must be filled in by corporate surety).

IMPORTANT: Surety companies executing bonds must possess a Certificate of Authority from the **California Insurance Commissioner** authorizing them to write surety insurance defined in **Section 105 of the California Insurance Code**, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, it must also appear on the **Treasury Department's most current list (Circular 570 as amended)**.

THIS IS A REQUIRED FORM.

Any claims under this bond may be addressed to:

(Name and Address of Surety)

(Name and Address of Agent or Representative for service of Process in California if Different from above)

(Telephone Number and Fax Number Of Surety and Agent or Representative for service of Process in California)

E-MAIL

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
 } ss.
 County of _____ }

On _____ before me, _____
 Here Insert Name and Title of the Officer

personally appeared _____
 Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____
 Place Notary Seal Above Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title of Type of Document: _____
 Document Date: _____ Number of Pages: _____
 Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____ <input type="checkbox"/> Individual <input type="checkbox"/> Corporate Officer Title(s): _____ <input type="checkbox"/> Partner - <input type="checkbox"/> Limited <input type="checkbox"/> General <input type="checkbox"/> Attorney in Fact <input type="checkbox"/> Trustee <input type="checkbox"/> Guardian or Conservator <input type="checkbox"/> Other: _____	Right Thumbprint of Signer Top of thumb here	Signer's Name: _____ <input type="checkbox"/> Individual <input type="checkbox"/> Corporate Officer Title(s): _____ <input type="checkbox"/> Partner - <input type="checkbox"/> Limited <input type="checkbox"/> General <input type="checkbox"/> Attorney in Fact <input type="checkbox"/> Trustee <input type="checkbox"/> Guardian or Conservator <input type="checkbox"/> Other: _____	Right Thumbprint of Signer Top of thumb here
Signer is Representing: _____ _____ _____		Signer is Representing: _____ _____ _____	

**PAYMENT BOND
(CALIFORNIA PUBLIC WORK)
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the **City of Fontana** (sometimes referred to hereinafter as "**OBLIGEE**") has awarded to _____ (Hereinafter designated as the "**Contractor**"), an agreement dated _____, described as follows: **The construction of Fire Station No. 71 and all related site improvements.**

(hereinafter referred to as the "**Contract**"): and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to **Section 3247 of the California Civil Code**;

NOW, THEREFORE, We, _____, the undersigned Contractor, as Principal; and, _____ a corporation organized and existing under the laws of the State of California, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the **City of Fontana** and to any and all persons, companies or corporations entitled to file stop notices under **Section 3181 of the California Civil Code**, in the sum of _____ Dollars (\$_____), said sum being not less than one hundred percent (100%) of the total amount payable by the said **OBLIGEE** under the terms of the said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

(Page 1 of 4)

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if said Contractor, his or its heirs, executors, administrators, successors or assigns, or Subcontractors, shall fail to pay for any materials, provisions or other supplies, implements, machinery or power used in, upon for or about the performance of the Public Work contracted to be done, or to pay any person for any work or labor of any kind, or for bestowing skills or other necessary services thereon, or for amounts due under the **Unemployment Insurance Code** with respect to such work or labor, or for any amounts required to be deducted, withheld, and paid over to the **Employment Development Department** from the wages of employees of paid Contractor and his Subcontractors pursuant to **Section 13020 of the Unemployment Insurance Code** with respect to such work and labor as required by the provisions of **Section 3247 through 3252 of the Civil Code**, the Surety or Sureties hereon will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In addition to the provisions herein above, it is agreed that this bond will inure to the benefit of any and all persons, companies and corporations entitled to serve stop notices under **Section 3181 of the Civil Code**, so as to give a right of action to them or their assigns in any suit brought upon this bond. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or additions to the terms of the said Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

No final settlement between the **OBLIGEE** and the Contractor hereunder shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied. Contractor and Surety agree that if the **OBLIGEE** is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay **OBLIGEE'S** reasonable attorney's fees incurred, with or without suit, in addition to the above sum. IN WITNESS WHEREOF, we have hereunto set our hands and seals this __ day of _____, 20 _____.

Subscribed before me a Notary Public
in and for the County of _____
State of _____

On this ____ Day of _____

NOTARY

MY COMMISSION EXPIRES:

PRINCIPAL/CONTRACTOR:

By: _____

SURETY:

By: _____
Attorney-in-Fact

IMPORTANT: Surety companies executing bonds must possess a certificate of authority from the **California Insurance Commissioner** authorizing them to write surety insurance defined in **Section 105 of the California Insurance Code**, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, it must also appear on the **Treasury Department's most current list (Circular 570 as amended)**.

THIS IS A REQUIRED FORM.

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____

(Name and Address of Agent
Or Representative for
Service of process in
California if different
From above) _____

(Telephone Number and Fax
Number of Surety and Agent
Or Representative for service
Of process in California) _____

E-MAIL: _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
 } ss.
County of _____ }

On _____ before me, _____
Here Insert Name and Title of the Officer

personally appeared _____
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title of Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer Title(s): _____
- Partner - Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other:

Right Thumbprint of Signer
Top of thumb here

Signer is Representing:

Signer's Name: _____

- Individual
- Corporate Officer Title(s): _____
- Partner - Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other:

Right Thumbprint of Signer
Top of thumb here

Signer is Representing:

GENERAL LIABILITY ENDORSEMENT

CITY OF FONTANA
8353 Sierra Avenue
Fontana, CA 92335

A. POLICY INFORMATION

Endorsement # _____

1. Insurance Company: _____
Policy Number: _____

2. Policy Term (From): _____ (To): _____
Endorsement Effective Date: _____

3. Named Insured: _____

4. Address of Named Insured: _____

Additional Insured(s): City of Fontana
Address of Additional Insured(s): 8353 SIERRA AVENUE, FONTANA, CA 92335

5. Limit of Liability Any One Occurrence/Aggregate:
\$ _____ / _____

6. Coverage is equivalent to:
Comprehensive General Liability form GL0002 (Ed. 1/73)

Commercial General Liability "Occurrence" form CG0001

7. Bodily injury and Property Damage Coverage is:

"Occurrence"

Note: The **City of Fontana (OWNER)** standard insurance requirements specify "**occurrence coverage**". "**Claims-made**" coverage is not acceptable. If commercial general liability form or equivalent is used, the general aggregate must apply separately to this location/project or the general aggregate must be twice the occurrence limit.

8. Description of Project: _____

B. POLICY AMENDMENTS

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto, it is agreed as follows:

1. **INSURED.** As respects any work performed on the above-described Project, the **City of Fontana**, its elected or appointed officers, officials, employees, consultants, and volunteers are included as insured with regard to damages and defense of claims arising from: **(a)** activities performed by or on behalf of the Named Insured, **(b)** products and completed operations of the Named Insured, or **(c)** premises owned, leased or used by the Named Insured.
2. **CONTRIBUTION NOT REQUIRED.** As respects: **(a)** work performed by the Named Insured on the above-described Project for or on behalf of the **City of Fontana**; or **(b)** products sold by the Named Insured to the **City of Fontana** for use on the Project; or **(c)** premises leased by the Named Insured from the **City of Fontana**, the insurance afforded by this policy shall be primary insurance as respects the **City of Fontana**, its elected or appointed officers, officials, employees, consultants, or volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's schedule underlying primary coverage. In either event, any other insurance maintained by the **City of Fontana**, its elected or appointed officers, officials, employees, consultants, or volunteers shall be in excess of this insurance and shall not contribute with it.
3. **SCOPE OF COVERAGE.** This policy, if primary, affords coverage at least as broad as:
 - (1) Insurance Services Office Form Number GL 0002 (Ed. 1/73), Comprehensive General Liability Insurance and Insurance Services Office form number GL 0404 Broad Form Comprehensive General Liability endorsement; or
 - (2) Insurance Services Office Commercial General Liability Coverage, "occurrence" form CG 0001; or
 - (3) If excess, affords coverage which is at least as broad as the primary insurance forms referenced in the preceding sections (1) and (2).
4. **SEVERABILITY OF INTEREST.** The insurance afforded by this policy applies separately to each insured who is seeking coverage or against whom a claim is made or a suit is brought, except with respects to the Company's limit of liability.
5. **PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS.** Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the **City of Fontana**, its elected or appointed officers, officials, employees, consultants or volunteers.

E. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____, warrant that I have authority to
(Print/type name)

bind the below listed insurance company and by my signature hereon do so bind this company.

SIGNATURE OF AUTHORIZED REPRESENTATIVE (Original Signature required on endorsement furnished to the **OWNER**)

ORGANIZATION: _____

TITLE: _____

ADDRESS: _____

TELEPHONE: _____

FAX NO: _____

E-MAIL: _____

AUTOMOBILE LIABILITY ENDORSEMENT

**CITY OF FONTANA
8353 Sierra Avenue
Fontana, CA 92335**

A. POLICY INFORMATION Endorsement # _____

1. Insurance Company: _____
Policy Number: _____

2. Policy Term (From): _____ (To): _____
Endorsement Effective Date: _____

3. Named Insured: _____

4. Address of Named Insured: _____

Additional Insured(s): City of Fontana
Address of Additional Insured(s): 8353 SIERRA AVENUE, FONTANA, CA 92335

5. Limit of Liability Any One Occurrence/Aggregate:
\$ _____ / _____

6. Coverage is equivalent to:
Comprehensive General Liability form GL0002 (Ed. 1/73)

Commercial General Liability "Occurrence" forms CG0001

7. Bodily injury and Property Damage Coverage is:

"Occurrence"

Note: The **City of Fontana (OWNER)** standard insurance requirements specify "**occurrence coverage**". "**Claims-made**" coverage is not acceptable. If commercial general liability form or equivalent is used, the general aggregate must apply separately to this location/project or the general aggregate must be twice the occurrence limit.

8. Description of Project: _____

B. POLICY AMENDMENTS

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto, it is agreed as follows:

1. **INSURED.** The **OWNER** and the **CITY**, its elected or appointed officers, officials, consultants, employees and volunteers are included as insured with regards to damages and defense of claims arising from the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured regardless of whether liability is attributable to the Name Insured or a combination of the Name Insured the **OWNER** and the **CITY**, its elected or appointed officers, officials, employees, consultants or volunteers.
2. **CONTRIBUTION NOT REQUIRED.** As respects work performed by the Named Insured for or on behalf of the **OWNER**, the insurance afforded by this policy shall: **(a)** be primary insurance as respects the **OWNER**, and the **CITY**, its officials, employees and consultants; or **(b)** stand in an unbroken chain of coverage in excess of the Named Insured's primary coverage. In either event, any other insurance maintained by the **OWNER**, and the **CITY**, its officials, employees and consultants shall be in excess of this insurance and shall not contribute with it.
3. **SCOPE OF COVERAGE.** This policy, if primary, affords coverage to the Named Insured at least as broad as:
 - (1) Insurance Services Office form number CA 00001 (Ed. 1/78), Code 1 ("any auto") and endorsement CA 0025.
 - (2) If excess, affords coverage which is at least as broad as the primary Insurance forms referenced in the preceding Section (1).
4. **SEVERABILITY OF INTEREST.** The insurance afforded by this policy applies separately to each insured who is seeking coverage or against whom a claim is made or a suit is brought, except with respect to the Company's limit of liability.
5. **PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS.** Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the **OWNER** and the **CITY**, its officials, employees and consultants.
6. **CANCELLATION NOTICE.** The insurance afforded by this policy shall not be canceled, suspended or modified, or renewal of such a policy declined unless notice is mailed, by certified mail return receipt requested, to the **OWNER** at least 45 days prior to the effective date of the non-renewal, suspension or modification or at least 60 days prior to the effective date of cancellation.

D. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER

I, _____, warrant that I have authority to bind the below
(Print/type name)
listed insurance company and by my signature hereon do so bind this company.

SIGNATURE OF AUTHORIZED REPRESENTATIVE (Original Signature required
on endorsement furnished to the **OWNER**)

ORGANIZATION: _____

TITLE: _____

ADDRESS: _____

TELEPHONE: _____ FAX NO: _____

E-MAIL: _____

WORKER'S COMPENSATION INSURANCE CERTIFICATION

Pursuant to **Section 1861 of the State Labor Code, (amended by Stats. 1979, C.373, p. 1343,)** each contractor to whom a contract has been awarded shall sign the following certificate and shall submit same to the **OWNER** prior to performing any work on the contract.

I am aware of the provisions of **Section 3700 of the Labor Code** which requires every employer to be insured against liability for Worker'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 work of this contract.

Contractor:

By:

Title:

Date:

Section 3700 of the State Labor Code reads as follows:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:"

- (A)** "By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state."
- (B)** "By securing from the **Director of Industrial Relations**, a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the **Director of Industrial Relations** of ability to self-insure and to pay any compensation that may become due to his employee."

(Amended by State.1978, c. 1379, p. 4571)

GENERAL CONDITIONS

**GENERAL CONDITIONS
FOR CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

SCOPE OF WORK

The work to be done consists of furnishing all materials, equipment, tools, labor, transportation, services and incidentals as required by the contract documents to complete the work for the above stated project.

The general items of work to be done hereunder consist of construction of:

Fire Station No. 71 Plans (Schedule I)

**Drawing No. T1 through T-4.5
Drawing No. C1 through C7
Drawing No. A-1.1 through A-8.8
Drawing No. S0.1 through S6.1
Drawing No. M-1.1 through M-4.2
Drawing No. P-1.1 through P-4.1
Drawing No. E0.1 through E3.2
Drawing No. L-1.01 through L-4.01**

Campus Project Phase III (Schedule II)

**DRAWING No. 4849, SHEETS 1, 2, 3, 8, 13, 18, 19, 25, 26 & 27 of 27
DRAWING No. 4850, SHEETS 1 through 5 of 5
DRAWING No. 4851, SHEETS 1, 2, 3, 6 & 8 of 8
DRAWING No. 4852, SHEET 1 of 1
DRAWING No. 4854, SHEETS 1, E-2, E-4, E-5, E-8, 20 through 26 & 36 through 39, of 39**

Arrow Boulevard & Library Way Traffic Signal (SCHEDULE III)

DRAWING No. 4853, SHEET 1 of 1

LOCATION OF WORK

The general location and limits of the work are as follows:

The new Fire Station is located at 16980 Arrow Boulevard, Fontana, CA, 92335

TIME OF COMPLETION

The Contractor shall complete all work in every detail, within **365 calendar days** after the date of Notice to Proceed, exclusive of maintenance periods. The Contractor shall place the order for materials within 10 working days following project award by **CITY**. Verification of order shall be presented to **CITY**.

LIQUIDATED DAMAGES

Failure of the contractor to complete the work within the time allowed will result in damages being sustained by the **CITY**. The amount prescribed in the Special Provisions, pursuant to the authority of **Public Contract Code Section 10226** to be paid to the **CITY** or to be deducted from any payments due or to become due the Contractor for each consecutive calendar day in completing the whole or any specified portion of the work beyond the time allowed in the specifications are prescribed in the **Special Provisions, pursuant to Public Contracts Code Section 10226**.

TRAFFIC REQUIREMENTS

A minimum of one (1) travel lane in each direction shall be maintained on all paved streets within the construction zone at all times. Access shall be provided to all intersecting local streets and driveways at all times. The Contractor shall submit a plan detailing the delineation and protective measures to be undertaken for **CITY** and other agencies' approval.

Said plan shall identify construction phasing, which shall not disrupt existing traffic circulation patterns. Delineation shall be in accordance with the **California Department of Transportation Traffic Manual as approved by the City Traffic Engineer**. No street closures shall be made without the prior approval of the **ENGINEER** and other agencies involved. (See Page 104).

Steel plate covers shall be installed per **Work Area Traffic Control Handbook (Place Bridging)** over all open trenches at the close of construction each day so that a minimum of one (1) travel lane in each direction can be maintained during non-construction hours.

The contractor shall maintain traffic signing for graffiti and shall provide a new sign if the graffiti or other event which damages the sign cannot remediate the sign within 48 hours.

HAZARDOUS MATERIALS

Public Contract Code Section 7104 requires a contractor to notify the public entity of various problems, including the existence of possible hazardous materials, as follows: If the work entails digging a trench or other excavation four (4) feet or more in depth, contractor shall promptly, and before the following conditions are disturbed, notify the **CITY** in writing or any material that the contractor believes may be hazardous waste; any subsurface and latent physical conditions at the site differing from those indicated; or any unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the work of the character provided for in the contract.

UTILITY REQUIREMENTS

The Contractor is advised of the existence of the utility notification service provided by **DIG ALERT (DA)**. DA member utilities will provide the Contractor with the precise locations of their substructures in the construction area when the Contractor gives at least **48 hours** notice to the **Dig Alert** by calling **1-800-227-2600**. Contractor shall contact **Underground Service Alert (USA)** as specified and shall provide the Agency with proof of contact with USA upon request. Caltrans shall be notified separately if required as Caltrans facilities are not covered under Dig Alert.

The Contractor shall notify the following agencies at least **48 hours** in advance of excavating around any of their structures. The utility companies listed below, may or may not be a complete list of utility companies and it shall be the Contractor's responsibility for proper notification of all utility companies that may be within their work zone area. The City does not guarantee the correctness of any information provided with regards to contact person and contact numbers.

1. Time Warner Cable
Lewis McDonald (909) 975-3343
2. AT & T – (See SBC)
Walter Werstiuk (909) 776-3914
3. Cal Trans – District 8 – (Permits)
Local Telephone: (909) 383-4637
4. Cucamonga Valley Water District
Adham Almasri (909) 483-7440
5. Fontana - Community Development Department
(Sewers, Storm Drain and Landscaping)
Engineering/Construction (909) 350-7610
Public Services (Maint. Yard) (909) 350-6760
Traffic Signal (Traffic Sect.) (909) 350-6647
6. Fontana Union Water Company
Jim Chapman (909) 822-9190
7. Fontana Water Company
Al Krohn (909) 822-2201
8. Inland Empire Utilities Agency (IEUA)
Lisa Munoz (909) 993-1522
(Civil Engineer)
9. Kinder – Morgan (formerly Santa Fe Pacific Pipeline)
Philip Vasquez (714) 560-4641

10. Marygold Mutual Water
Justin Brokaw (909) 877-0516
11. Metropolitan Water District of Southern California
Kieran Callahan (213) 250-6432
Main Office:
12. AT & T / SBC – (formerly Pacific Bell)
Susan Morgan (714) 666-5401
13. San Bernardino County Flood Control District
Ken Eke, M.S.C.E., P.E. (909) 387-7995
(Permit Engineer)
Larry Brock (909) 387-8014
14. Santa Fe Pacific Pipeline – (See Kinder Morgan)
Local Telephone: (909) 877-2373
15. Southern California Edison Company
Tim Keetle (909) 357-6221
16. Southern California Gas Company
Tyree Lee (800) 427-2200
17. Southern Pacific Railroad
Local Telephone: (213) 629-6161
Fiber Optic Cable: (800) 283-4237
18. U.S. Sprint
Lynn Durrett (909) 873-8022
19. Verizon - formerly GTE
Frank Angustain (760) 245-0330
20. West San Bernardino Water District
Lon Tsai, Engineering Department (909) 875-1804
21. 360 Networks (USA) Inc.
Main Office: (206) 239-4360
22. Crawford Canyon Water
Dennis Allard (909) 356-1815
23. USA Member Utility, Phone (800) 422-4133

The Contractor shall notify separately, City of Fontana Public Services Division at (909) 350-6760 and Traffic Division at (909) 350-6777 for location of utility lines, landscape irrigation lines, traffic signals and communication conduits.

The **California Public Utility Commission** mandates that, in the interest of public safety, main line gas valves be maintained in a manner to be readily accessible and in good operating condition. **The Contractor shall notify the Southern California Gas Company's Headquarters Planning Office at (909) 793-2725 at least two (2) working days prior to the start of construction.**

The Contractor shall exercise extreme care to protect all existing utilities in place whether shown on the plans or not, and shall assume full responsibility for all damage resulting from his operations. The Contractor shall coordinate with each utility company as to the requirements and methods for protection of their facilities during the construction period, and shall be responsible for preparation and processing of any required plans or permits. The Contractor shall assume full responsibility to maintain uninterrupted service for all utilities, including temporary service connections.

By submitting a bid, the Contractor acknowledges the above referenced utility work to be done in conjunction with this project. The contractor shall schedule the work and conduct the operations so as to permit access and time for the required utility work to be accomplished during the progress of the work. The Contractor shall coordinate with each utility company as to the extent of required work and the time required to do so. The Contractor shall include this time in the schedule. Payment for the above, including coordination, protection in place, and temporary connections, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

To the extent required by Government Code Section 4215, the OWNER shall compensate Contractor for the costs of locating and repairing damage to utility facilities not due to the failure of Contractor to exercise reasonable care, and for removing or relocating main or trunk line facilities not indicated in the plans with reasonable accuracy, and for equipment necessary idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of OWNER to provide for removal or relocation of such utility facilities.

The Contractor shall "pothole" to determine the exact horizontal and vertical location of the underground utilities and conduits including but not limited to existing water, gas, storm drain, sewer, electric, telephone, cable TV. and signalization conduits where the conduits will cross as shown on the plans, marked in field, or as directed by the **ENGINEER**, in conformance with **Section 5-1 of the Standard Specifications**, and shall immediately notify the Engineer in case of conflict. This shall be the first item of work completed. The Contractor shall be responsible for obtaining the horizontal and vertical measurements to the utility once exposed. The area of pavement removed for potholing shall be the minimum required to perform the work.

Pavement removal, if required, shall be by saw cutting. Following excavation in paved areas, the existing soil shall be replaced and compacted to 95% or greater to a level of one foot below the existing sub-grade. Asphalt cold mix shall then be added and compacted to a level flush with the existing finished surface. In areas without paving, the soil shall be replaced and compacted to a level even with the adjacent grade.

All backfilling and compacting for potholing shall be completed under the review of the Inspector. Any backfilling or compaction done without proper inspection will require submittal of a soils report confirming compaction of sub-grade and base and gradation conformance prior to final release. Compaction testing will be performed by the **CITY**. For potholing done without the proper supervision, the cost of testing shall be deducted from the compensation paid to the Contractor for potholing. The Inspector may, at his discretion, order testing for any area he believes to be below the required compaction, whether he has reviewed the work or not. If the suspect area fails to meet the required compaction, the Contractor shall rework the area until the specified density is obtained. The **CITY** shall then retest the area for compliance. The cost of all testing within these areas shall be deducted from the compensation paid for potholing. If the suspect area meets the compaction requirements, the testing will be at the **CITY'S** expense and the cost will not be deducted from the compensation paid for potholing.

Cold mix patches shall remain in place a minimum of five working days to assure proper compaction. Cold mix patches within the proposed areas to be repaved may remain in place until such time as the final paving is undertaken. The Contractor shall maintain full responsibility for the temporary cold mix patch and shall complete all required maintenance and repairs until final paving is completed.

Following approval of the waiting period by the CITY, the Contractor shall remove the temporary cold mix in areas outside the repaving limits and construct the final patch using C2-AR4000 or C2-PG-64-10 hot mix asphalt. A tack coat shall be applied to the pavement edges and surrounding areas. The thickness of the asphalt concrete layer shall be one inch greater than the existing section, but not less than four inches.

Payment for potholing shall be made at the contract price bid for each and shall include full compensation for furnishing all materials, labor, tools and equipment to provide this item of work, complete in place, including pavement removal, excavation, measurement, backfilling, compacting, temporary and final patch, maintenance, temporary and permanent striping and all appurtenant related work and no additional compensation will be allowed. The bid quantity shown in the proposal sheet for potholing is an estimate only and maybe substantially different from the actual work performed by the Contractor. The exact number of potholes to be performed by the Contractor shall be as determined by the **ENGINEER** in the field.

Payment for potholing will be made at the contract unit bid price only for the work actually performed and pre-approved to be performed at each location by the **ENGINEER** in the field and shall not be subject to the provisions of **Section 3-2 of the Standard Specifications**.

If no pay item is provided in the Contract for this work, full compensation for such work shall be considered as included in the prices bid for other items of work.

UTILITIES SERVICE CHARGES

The contractor is responsible for all utility service charges related to the work during the course of construction and construction maintenance periods until the project has been accepted by the **CITY**. Payment for the utility service charges shall be considered as included in the prices paid for various items of work and no additional compensation will be made therefore.

FLOW AND ACCEPTANCE OF WATER

It is anticipated that storm, surface or other waters will be encountered at various times during the work herein contemplated. The Contractor, by submitting a bid, acknowledges that he has investigated the risk arising from such waters and has prepared his bid accordingly; and Contractor submitting a bid assumes all said risk.

The Contractor shall conduct his operations in such a manner that storm or other existing waters may proceed uninterrupted along their existing drainage courses. Diversions of water for short reaches to protect construction in progress will be permitted if public and/or private properties, in the opinion of the **ENGINEER**, are not subject to probability of damage. The Contractor shall obtain written permission from the applicable public agency or property owner before any diversion of water outside of street right of way will be permitted.

REMOVAL OF WATER

The Contractor shall provide and maintain at all times during construction ample means and devices to promptly remove and properly dispose of all water entering the excavations or other parts of the work. **No concrete footing or floor shall be laid in water nor shall water be allowed to rise over them until the concrete or mortar has set at least two (2) hours. Water shall not be allowed to rise unequally against the wall for a period of twenty-eight (28) days.** Dewatering for the structures and pipelines shall commence when ground water is first encountered, and shall be continuous until such time as water can be allowed to rise in accordance with the above paragraph.

Dewatering shall be accomplished by well points or some other method which will insure a dry hole and preservation of final lines and grade of the bottoms of excavation, all subject the approval of the **ENGINEER**.

Disposal of water from dewatering operations shall be the sole responsibility of the Contractor. **Disposal methods shall conform to the Porter-Cologne Water Quality Control Act, 1974, the Federal Water Pollution Control Act Amendments of 1972, and the California Administrative Code, Title 23, Chapter 3.**

Full compensation for dewatering shall be considered as included in the contract prices paid for the related items of work, and no additional compensation will be allowed therefore.

FURNISHING AND APPLY WATER

Furnishing and applying water shall conform to the applicable provisions of the Standard Specifications. Full compensation for furnishing and applying water will be considered as included in the prices paid for various items of work and no additional compensation will be made therefore. The Contractor shall make application for a permit for a temporary water meter as required.

CLEANUP AND DUST CONTROL

Cleanup and dust control shall conform to **Section 7-8.1 of the Standard Specifications**. Full compensation for furnishing all labor materials, equipment, and incidentals to clean up and control the dust as specified above shall be considered as included in various items of work and no additional compensation will be allowed therefore.

BEST MANAGEMENT PRACTICE (BMP'S) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

The City of Fontana has applied for the Notice of New Construction (NONC) for this project with the Santa Ana Regional Water Quality Control Board (SARWQCB). However, the Contractor has to prepare the storm water runoff and erosion control plan, with regards to the general notes on the project plans regarding Best Management Practices and NPDES requirements, have it approved by the City of Fontana and in place prior to start of work on this project. A cost associated with the preparation of plans and implementation of the BMP's and NPDES requirements will be paid under a bid item for "BMP's and NPDES Requirements" in the bid proposal and no additional compensation will be allowed.

TRENCH SAFETY AND SHEETING, SHORING, AND BRACING EXCAVATION

The Contractor shall utilize sheeting, shoring and bracing as required to minimize the trench width or to protect existing improvements or utilities in place as required for this project.

In accordance with **Sections 6500 and 6705 of the Labor Code**, the Contractor is required to obtain a permit from the **Division of Industrial Safety** for any trench or excavation which is five feet or more in depth and into which a person is required to descend.

The Contractor shall furnish all labor, equipment, and materials required to design, construct, and remove all sheeting, shoring and bracing or other equivalent method of support of this project.

Excavation for any trench five (5) feet or more in depth shall not begin until the Contractor has received an acknowledgement from the ENGINEER of the Contractor's detailed plan for worker protection from any hazards of caving ground. Such plan shall be submitted at least five (5) days before the Contractor intends to begin excavation and shall show the details of the design of shoring, bracing, shielding or other provisions to be made for worker protection during excavation. No such plan shall allow the use of shoring, sloping or a protective system less effective than required by **Construction Safety Orders of the Division of Industrial Safety** and if such Plan varies from the shoring system standards established by the **Construction Safety Orders**, the Plan shall be prepared and signed by a Professional Engineer who is registered as a Civil or Structural Engineer in the State of California.

Prior to the beginning of excavations requiring shoring, the Contractor shall designate in writing to the **ENGINEER** someone whose responsibility it is to supervise the project safety measures and someone whose responsibility it is to supervise the installation and removal of sheeting, shoring and bracing.

In addition to shoring the excavations in accordance with the minimum requirements of **Industrial Safety Orders**, it shall be the Contractor's responsibility to provide any and all additional shoring required to support the sides of the excavation against the effects of loads which may exceed those desired by using the criteria set forth in the **Industrial Safety Orders**. The Contractor shall be solely responsible for any damages which may result from his failure to provide adequate shoring of the excavation under any or all of the conditions of loading which may exist or which may arise during construction of the project.

The Contractor is advised that the **CITY** has provided the Contractor with evidence of existing right of way and temporary construction easements as approved to date. The Contractor by submitting a bid agrees to work within the right of way as provided and no other compensation for tight working areas will be provided.

Payment for sheeting, shoring, bracing, and all appurtenant related work shall be considered as included in the in the contract prices paid for the related items of work and no additional compensation will be allowed therefore.

STANDARD SPECIFICATIONS

The Standard Specifications of the **CITY** are contained in the latest edition of the **STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, ("Green Book")** including all supplements as written and promulgated by the Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and the Southern California District of the Associated General Contractors of California.

Copies of these Standard Specifications are available from the publisher:

Building News, Incorporated
10801 National Boulevard, Suite 100
Los Angeles, California 90064
(800) 873-6397, Fax: (714) 535-8078

The Standard Specifications set forth above will control the general provisions, construction material, and construction methods for this contract except as amended by the Plans, Special Provisions, or other contract documents.

The section numbers of the following Special Provisions coincide with those of the Standard Specifications for Public Works Construction. Only those sections requiring amendment or elaboration, or specifying options, are called out.

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

References in the **Special Provisions** to "**CALTRANS Standard Specifications**" shall mean the **Standard Specifications (latest edition) of the State of California, Department of Transportation.**

Copies of these specifications and standard drawings may be obtained from:

**State of California - Department of Transportation
Central Publication Distribution Unit
6002 Folsom Blvd.
Sacramento, CA 95819**

References **Special Provisions to Standard Plans** shall mean the **Standard Plans of the CITY** or other governing agencies as specified. The City Standard Plans can be purchased separately at the Engineering front counter in the main City Hall Building at 8353 Sierra Avenue, Fontana, CA 92335.

Where the Plans or Specifications describe portions of the work in general terms, but not in complete detail, it is understood that the item is to be furnished and installed complete and in place and that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment and incidentals, and do all the work involved in executing the contract.

WAGE RATES AND LABOR CODE REQUIREMENTS

Wage Rates

The Contractor and all Subcontractors shall be required to adhere to the general prevailing rate of per diem wages as determined and published by the **State Director of the Department of Industrial Relations, pursuant to Sections 1770, 1773, and 1773.2 of the California Labor Code.** Copies of these rates and the latest revisions thereto are on file in the Office of the Secretary of the Board of Directors and are available for review upon request.

Attention is directed to the provisions of **Sections 1774, 1775, 1776, 1777.5 and 1777.6 of the State Labor Code**. **Sections 1774 and 1775** require the contractor and all subcontractors to pay not less than the prevailing wage rates to all workmen employed in the execution of the contract and specify forfeitures and penalties for failure to do so. The minimum wages to be paid are those determined by the **State Director of the Department of Industrial Relations**. **Section 1776** requires the Contractor and all Subcontractors to keep accurate payroll records, specifies the contents thereof, their inspection and duplications procedures and certain notices required of the Contractor pertaining to their location.

Eight (8) hours of labor shall constitute a legal day's work, and the time of service of any worker employed on the work shall be limited and restricted to eight (8) hours during any one calendar day and forty (40) hours in any one calendar week, except when payment of overtime is made at not less than one and one-half (1-1/2) of the basic rate for all hours worked in excess of eight (8) hours per day.

The Contractor shall forfeit to the **CITY**, as a penalty, \$25 for each worker employed in the execution of this contract by him, or by any subcontractor under him, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one calendar week without such compensation for overtime.

APPRENTICES

Section 1777.5 requires the Contractor or Subcontractor employing tradesmen in any apprenticeable occupation to apply to the **Joint Apprenticeship Committee** nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen to be used in the performance of the contract.

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

Information relative to apprenticeship standards, contributions, wage schedules and other requirements may be obtained from the State Director of Industrial Relations or from the Division of Apprenticeship Standards.

CLAYTON ACT AND CARTWRIGHT ACT

Section 7103 of the Public Contract Code specifies that in executing a public works contract with the **CITY** to supply goods, services or materials the Contractor or Subcontractor offers and agrees to assign to the **CITY** all rights, title and interest in and to all causes of action it may have under **Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Sec. 16700) of Part 2 of Division 7 of the Business and Professional Code**, arising from the purchase of goods, services or materials pursuant to the contract or subcontract. This assignment shall become effective when the **CITY** tenders final payment to the contractor without further acknowledgment by the parties.

NOTICE TO CONTRACTOR:

Pursuant to **Public Contract Code Section 3400(b)**, the **City of Fontana** may make a finding that designates certain materials, products, things, or services by specific brand or trade name for statutorily enumerated purposes. As required by **Section 3400(b)**, the **City of Fontana** has made such findings as further described in the **Project Special Provisions**. **These findings, as well the materials, products, things, or services and their specific brand or trade names that must be used for the Project are found in the Special Provisions and Drawings.**

The Contractor's attention is directed to **Section 200-2 and 200-3 of the Special Provisions**. **Section 200-2.2 Crushed Aggregate Base has been modified to disallow the use of crushed aggregate base unless otherwise directed and Section 200-2.4 Crushed Miscellaneous Base has been modified to be required in lieu of crushed aggregate base. Section 203-6.1 has been modified to require the use of reclaimed asphalt pavement (RAP) in asphalt concrete.**

BUILDER'S RISK ["ALL RISK"] INSURANCE:

In addition to the insurance requirements specified in Section 7 of the Special Provisions, it is the Contractor's responsibility to maintain or cause to be maintained Builder's Risk ["All Risk"] extended coverage insurance on all work, material, equipment, appliances, tools, and structures which are part of the Contract and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The City accepts no responsibility until the Contract is formally accepted by the governing body for the work. The Contractor is required to file with the City a certificate evidencing fire insurance coverage.

Provide insurance coverage on completed value form, all-risk or special causes of loss coverage.

1. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
2. Coverage shall include all materials stored on site and in transit.
3. Coverage shall include Contractor's tools and equipment.
4. Insurance shall include boiler, machinery and material hoist coverage.

Such Insurance shall comply with the provisions of the Contract Documents.

SPECIAL PROVISIONS

**SPECIAL PROVISIONS
FOR
THE CONSTRUCTION OF**

**CITY OF FONTANA
FIRE STATION NO. 71
16980 ARROW BOULEVARD
FONTANA, CALIFORNIA
BID NO. SB-21-DE-11**

EXCEPT AS SPECIFIED BELOW, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), COMMONLY REFERRED TO AS "THE GREEN BOOK", WILL APPLY TO, AND CONTROL THIS WORK.

PART 1 - GENERAL PROVISIONS

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS AND SYMBOLS

1-2 DEFINITIONS

City	-	City of Fontana
Agency/Owner	-	City of Fontana
Board	-	City Council
County	-	County of San Bernardino
Engineer	-	City Engineer
Federal	-	United States of America
State	-	State of California
Caltrans	-	State of California Department of Transportation
SSPWC	-	Standard Specifications for Public Works Construction
SBCFCD	-	San Bernardino County Flood Control District

SECTION 2 - SCOPE AND CONTROL OF THE WORK

2-1 AWARD AND EXECUTION OF CONTRACT [Replace with the following]:

Within ten (10) working days after the date of the Notice to Award, the Contractor shall execute and return the following contract documents to the **CITY**:

- Contract Agreement
- Contract Performance Bond
- Payment Bond
- General Liability and Automobile Liability
- Insurance Certificate and Endorsement Forms
- Worker's Compensation and Employer's Liability
- Insurance Certificate and Endorsement Forms
- Construction Schedule

Failure to comply with the above will result in annulment of the award and forfeiture of the Proposal Guarantee.

The Contract Agreement shall not be considered binding upon the **CITY** until executed by the authorized **CITY** officials.

A corporation to which an award is made may be required, before the Contract Agreement is executed by the **CITY**, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

2-4 CONTRACT BONDS [Add the following]:

Both the Contract Performance Bond and the Payment Bond shall each be for not less than one hundred percent (100%) of the total contract amount. The Payment Bond shall remain in force until thirty-five (35) days after the date of recordation of the Notice of Completion. The Contract Performance Bond will not be released until one year after said date.

2-5 PLANS AND SPECIFICATIONS

2-5.1 General [Replace the first paragraph with the following]:

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-built conditions. Upon completion of all work, the Contractor shall return the control set to the **ENGINEER**. Final payment will not be made until this requirement is met. **Payment for the as-built plans shall be considered as included in the contract prices paid for the related items of work, and no additional compensation will be allowed therefore.**

2-5.3 Shop Drawings and Submittals [Add the following]:

All shop drawings and submittals required by the plans and specifications shall be submitted to the **CITY'S PROJECT MANAGER**. Contractor shall submit within ten (10) working days following "Notice to Proceed", a schedule of required submittals and shop drawings to the **CITY'S PROJECT MANAGER**.

2-8 RIGHT-OF-WAY

The **CITY** will acquire all rights of way, easements and rights of entry as required for this project. The **Contractor** shall verify that the acquisition(s) is completed prior to beginning any work outside the public right of way. All cost for remobilization, downtime, etc., due to delays in obtaining the required rights of way, easements, and rights of entry shall be included in the lump sum price bid for Clearing and Grubbing and no additional compensation will be allowed.

2-9 SURVEYING

2-9.2 Survey Service [Replace the first two paragraphs with the following]:

The **CITY** will provide surveying and construction staking required only for the Phase III Campus Project (Schedule II) portion of the project as determined by the **ENGINEER**. The cost of any additional surveying and/or construction staking primarily for the convenience of the Contractor, not in conformance with usual and customary practices, and for replacement of stakes lost as a result of the Contractor's operations will be the responsibility of the Contractor. The cost of said additional surveying shall be deducted from the Contractor's progress payments. The Contractor will be responsible for providing surveying and construction staking for the Fire Station No. 71 (Schedule I) portion of the project as outlined in the Project Manual for Fontana Fire Station No. 71.

The Contractor shall make all requests for construction stakes in writing at least forty-eight (48) hours in advance of the day required. The Contractor shall set finish elevation control stakes in the field and provide "cut" sheets forty-eight (48) hours in advance for review and approval by the **ENGINEER**. Payment for setting finish elevation control stakes shall be considered as included in the price bid for the applicable items of work.

SECTION 3 - CHANGES IN WORK

3-2 CHANGES INITIATED BY THE CITY

3-2.1 General [Add the following]:

The term "**Contract Price**" as specified herein shall serve to mean the total dollar value of the Contractor's original bid for all of the various items of work combined and shall not be construed to mean the subtotal shown on any singular item of work.

3-3 EXTRA WORK

3-3.2 Payment

3-3.2.3 Markup [Add the following as the first paragraph]:

The markups mentioned hereinafter shall include, but are not limited to, all costs for the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order and pickup or yard trucks used by the above personnel. These costs shall not be reported as labor or equipment elsewhere except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

(a) Work by Contractor. The following percentage shall be added to the Contractor's costs and shall constitute the markup for all overheads, profits, and compensations for bonding.

Labor	20
Materials	15
Equipment rental	15
Other Items and Expenditures	15

(b) Work by Subcontractor. When all or any part of the extra work is performed by a Subcontractor, the markup established in **Subsection 3-3.2.3(a)** shall be applied to the Subcontractor's actual cost of such work to which a markup of ten (10) percent of the subcontracted portion of the extra work may be added by the Contractor.

(c) The markups as stated in paragraphs 3-3.2.3(a) and 3-3.2.3(b) shall constitute the payment to the Contractor and subcontractor(s) for all overhead costs, job site and home office, attributable to the time extension of a change order. These markups in either lump sum items or unit priced items shall constitute the full payment for all overhead costs, job-site and home office, involved with impacts, disruptions and delays of a change.

SECTION 4 - CONTROL OF MATERIALS

The Contractor's attention is directed to the provisions of **Section 4**, including the provisions regarding inspection and testing, and use of equivalent materials. The **CITY** will pay for inspection and materials testing. The Contractor shall pay for retests due to failure to meet specifications.

4-1 MATERIALS AND WORKMANSHIP

4-1.1 General [Replace the third paragraph with the following]:

If at any time defects in the work shall be found, the Contractor shall promptly correct such defects, remove and dispose of all defective and unsatisfactory work or materials. Should the Contractor fail or refuse to remove and renew any defective work performed, or to make any necessary repairs in an acceptable manner, and in accordance with the Contract Documents, the **CITY** shall cause the unacceptable or defective work to be removed or renewed or such repairs as may be necessary to be made at the Contractor's expense. Any expense incurred by the **CITY** in making these removals, renewals, or repairs, which the Contractor has failed or refused to make, shall be deducted from any monies due or which may become due the Contractor, with Contractor being obligated to reimburse the **CITY** for any sums incurred in excess of monies due or which may become due.

SECTION 5 - UTILITIES

5-1 LOCATION [Add the following paragraph]:

The Contractor shall notify the utilities designated in the **General Conditions** at least forty-eight (48) hours in advance of excavating around any of their structures.

5-4 RELOCATION [Add the following paragraph]:

Contractor shall be responsible for adjusting gas and water valve covers during the paving operation to finished grade and the cost shall be deemed to be included as part of the paving cost.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

[Replace with the following]:

The Contractor's proposed Construction Schedule shall be submitted to the **ENGINEER** within ten (10) working days after the date of the Notice of Award of Contract. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged and setting forth the dates that each item will be delivered. Prior to issuing the Notice to Proceed, the **ENGINEER** will schedule a preconstruction meeting with the Contractor to review the proposed Construction Schedule and delivery dates, arrange the utility coordination, discuss construction methods and clarify inspection procedures.

The Contractor shall submit periodic Progress Reports to the **ENGINEER** by the tenth day of each month. The report shall include an updated Construction Schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

The Contractor is advised as to the possibility of award of other construction projects within the proposed construction zone by the **CITY**, other governing agencies, or private companies. In the event of such award(s), the Contractor shall coordinate with the applicable parties as to the extent of and time required to complete their work and shall schedule his work and conduct his operations so as to permit access and time as required for the concurrent work. The Contractor shall immediately notify the **CITY** and the **ENGINEER** in the event of a delay in scheduling caused solely by this concurrent work. Payment for the above, if any, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

6-4 DEFAULT BY CONTRACTOR [Replace the first paragraph with the following]:

The **CITY** has the right to suspend the work in whole or in part or cancel the contract without liability for damages, when in the **CITY'S** opinion the Contractor is not complying in good faith, has become insolvent, has assigned or subcontracted any part of the work without **CITY'S** consent, or shall fail to abide by the provisions of the Contract Documents.

In the event it is necessary for the **CITY** to suspend the work as provided in this section, the Contractor shall not be entitled to any additional compensation for labor, materials, or other cost or expenses which may be incurred as a result thereof. **CITY** shall further have the right to withhold from the Contractor any reasonable estimated sums as determined by the **ENGINEER** as may be required to correct the result of the Contractor's failure to abide by the provisions of the Contract Documents.

The Contractor shall remain liable to the **CITY** for any correction cost in excess of cost incurred. Should work be suspended in part, Contractor shall continue with other work unaffected by the work suspended in accordance with the regular schedule or construction practices.

6-7 TIME OF COMPLETION

6-7.1 General [Add the following]:

The time for completion shall be as set forth in the **General Conditions (Time of Completion) page 74**.

6-7.2 Working Day [Replace with the following]:

The Contractor's activities shall be confined to the hours between **7:00 AM and 4:00 PM, Monday through Friday, excluding holidays**. Deviation from these hours will not be permitted without the prior consent of the **CITY** and the **ENGINEER**, except in emergencies involving immediate hazard to persons or property.

The Contractor shall obtain approval for any deviation from regular working hours or days by submitting a written request to the **CITY** and the **ENGINEER** at least five (5) working days in advance, for approval by the **CITY** and the **ENGINEER**.

In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates, including benefits, overhead and travel time. The service fees will be deducted from any amounts due the Contractor.

6-8 COMPLETION AND ACCEPTANCE [Replace the second paragraph with the following]:

The substantial completion date shall be the date as certified by the **CITY** and the **ENGINEER** and/or accepted by the **CITY** and the **ENGINEER** when the construction of the project or specified construction schedule thereof is sufficiently completed. Completion will be in accordance with the Contract Documents, all applicable codes and to the full satisfaction and acceptance of the **CITY**, County, State and Federal authorities, having jurisdiction over the project so that the project or specified construction can be utilized for the purpose for which it was intended. Substantial completion shall include Contractor's furnishing of all Contractors' "**As-Built**" data as required by the **CITY** and the **ENGINEER** to comply with the requirements of the appropriate governmental authorities and acceptance by any governmental authority or municipality.

6-9 LIQUIDATED DAMAGES [Replace last sentence of the first paragraph with the Following]:

If the work is not completed within the period provided in the General Conditions, the **CITY** and the Contractor agree that it would be impractical or extremely difficult to assess the actual resulting damages to **CITY** and therefore, they agree that the sum of **Five Hundred (\$1,250) Dollars** for each **every calendar day** of such delay is a reasonable estimate of the same and shall constitute liquidated damages to **CITY** in such event.

6-10 PROJECT SIGN

The contractor shall provide and install a project sign. The sign shall be fabricated by a sign shop employed in the commercial business. The material for the sign shall be 6-foot x 8-foot CDX plywood, select structural. All exposed wood parts of the sign shall be painted, inclusive of posts and angle bracing. The finish and lettering of the sign shall be of the same quality as that indicated in the attached sample of these specifications. The contractor shall erect the sign at a location designated by the City's representative. Before the project sign installation can occur, the contractor shall notify the Engineer or Inspector and receive directive to proceed with installation after sign has been verified to meet requirements. The erection of the sign shall be designed to be stable when subjected to the high wind gusts. The sign must be installed on 6 x 6 posts at 96" above existing grade. The sign shall be installed and anchored with a minimum of ½" thru lag bolts with washers at three locations spaced approximately equidistant on each post. The location of the drilling on the sign must not be on the NAME/TITLE; anchoring must be angle-braced or "kicked" in both directions at approximately 45-degrees to resist the prevailing northeast to southwest winds with 2 x 6 bracing; utilization of a Simpson connector at post/angle-brace should be utilized. The point of connection shall be at the bottom of the sign when the angle brace is in front of the sign. Anchorage into the existing grade shall be four feet minimum.

The contractor shall maintain the sign for graffiti and shall provide a new sign if the graffiti or other event which damages the sign cannot remediate the sign. The contractor may apply an anti-graffiti coating or cover the sign with clear plexiglass as an alternative. The conditions for sign maintenance would remain the same; resulting in sign-replacement or plexiglass replacement. At the end of construction the contractor shall be responsible for removal and safe disposal of this sign board and related material. In addition to the project signs, the contractor shall provide advance electronic message signs for road closures requiring detours and for lane closures at appropriate locations prior to entering the detour or lane closure area in each affected direction.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES [Add the following]:

A noise level limit of 86 dbA at a distance of fifty feet shall apply to all construction equipment on or related to the job, whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel.

7-2 LABOR

7-2.2 Laws [Add the following]:

The Contractor, and all subcontractors, suppliers and vendors shall comply with applicable **CITY, STATE** and **FEDERAL** orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments. The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers.

7-3 LIABILITY INSURANCE [Replace the entire Subsection with the following]:

7-3.1 Indemnification

The contractor's obligation to provide indemnification shall be as set forth in **Article VI of the Contract Agreement.**

7-3.2 Insurance Requirements

The Insurance afforded by this policy shall not be cancelled, suspended or modified, or renewal of such a policy declined unless notice is mailed, by certified mail return receipt requested, to the **CITY** at least forty-five (45) days prior to the effective date of the nonrenewable, suspension or modification or at least thirty (30) days prior to the effective date of cancellation.

The Contractor shall maintain during the life of the contract and the entire progress of the work and until sixty (60) days after notice of completion has been filed a Comprehensive Automobile and General Liability policy. The policy shall provide for not less than the following amounts:

Bodily Injury	\$2,000,000	each person
	\$2,000,000	each occurrence
	\$2,000,000	each accident for products and completed operations
Property Damage	\$2,000,000	each accident
Worker's Compensation	Statutory	

Automobile Liability Insurance to include all owned, non-owned or hired vehicles, including loading and unloading thereof:

Automobile Bodily Injury	\$1,000,000	each person
	\$2,000,000	each occurrence
Automobile Property Damage	\$1,000,000	each accident

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the **CITY** shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than thirty (30) days before expiration or cancellation is effective.

The following statement shall be included on the insurance certificate:

Additional Insured: The insurer agrees that the **CITY**, it's City Council, and/or all City Council appointed groups, committees, boards and any other City Council appointed body, and/or elective and appointive officers, servants, agents or employees of the **CITY** when acting as such are additional insured hereunder, for the acts of the insured, and such insurance shall be primary to any insurance of the **CITY**.

The Contractor agrees to protect, defend and indemnify the **CITY** against loss, damage or expense by reason of any suit claims, demands, judgments and causes of action caused by the Contractor, his employees, agents or any subcontractor, or by any third party arising out of or in consequence of the performance of all or any operations covered by the Certificate of Insurance. The Contractor, at his option, may include such coverage under his General Liability coverage.

7-3.3 Contractor's Liability

The **CITY**, its **City Council** or the **ENGINEER** shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workmen or the public; or for damage to any person or persons, either workmen or the public; or for damage to adjoining property from any cause which might have been prevented by the Contractor, or his workmen, or any one employed by him; against all of which injuries or damages to persons and property the Contractor, having control over such work, must properly guard. The Contractor shall be responsible for any damage to any person or property resulting from defects or obstructions or any time before its completion and final acceptance, and shall indemnify and save harmless as set forth in **Article VI of the Contract Agreement**, the **CITY**, its **City Council** and the **ENGINEER** from all suits or actions of every name and description brought for, or on account of, any injuries or damages received or sustained by any person or persons, by the Contractor, his servants or agents, in the construction of the work or in consequence of any negligence in guarding the same, in improper materials used in its construction, by or on account of any act or omission of the Contractor or his agents, and so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the **CITY** may be retained by the **CITY** until disposition has been made of such suits or claims for damages aforesaid.

If, in the opinion of the **ENGINEER**, the precautions taken by the Contractor are not safe or adequate at any time during the life of the Contract, the **ENGINEER** may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the **ENGINEER** may order the work done by others and charge the Contractor for the cost thereof, such cost to be deducted from any monies due or becoming due the Contractor. Failure of the **ENGINEER** to order such additional precautions, however, shall not relieve the Contractor from his full responsibility for public safety.

7-3.4 Certificates of Insurance

The Contractor shall not commence work until Contractor has delivered to the **CITY** a Certificate of Insurance executed by a duly authorized agent of the insurance carrier specifying that the insurance affords coverage for all matters set forth in this contract in at least the minimum amount required. All of said certificates must show the correct job reference and location of the job site and are not to state "covering all tracts." Contractor at his own cost and expense shall insure this interest against loss resulting from fire, earth settlement, theft, embezzlement, riot or any other cause whatsoever.

7-5 PERMITS [Replace the first sentence with the following]:

Prior to the start of any work, the Contractor shall take out the applicable **CITY** permits and make arrangements for **CITY** inspections. The Contractor and all subcontractors shall each obtain any and all other permits, licenses, inspections, certificates or authorizations required by any governing body or public utility. Payment for this work shall be included in the bid items of work and no additional compensation will be allowed. The **CITY** will waive the usual **CITY** encroachment permit fees. **The Contractor will be required to pay for any fees for any permit associated with City Building & Safety Division and shall pay fees and any cost associated with permits from other agencies.** The Contractor shall provide the **CITY** with copies of all permits prior to commencement of construction. If the permit or license of any agency or public utility is more restrictive than the standard specifications, standard drawings or the special provisions, the requirements of the permit or license shall take precedence for that portion of the work in the agency or public utility right-of-way.

7-8 PROJECT SITE MAINTENANCE

7-8.5 Temporary Light, Power, and Water [Add the following]:

The contractor shall be responsible for installation of required temporary and permanent utility service meters. Payment for the Utility service meter fees, if any, shall be included in the bid items of related work and no additional compensation will be allowed. Payment shall include full compensation for application, connection fees, coordination and all related work and no additional compensation will be allowed.

Utilities service charges for electric, gas, water and telephone shall be the responsibility of the contractor during construction and construction maintenance periods. Payment for utilities service charges shall be considered as included in the prices paid for various items of work and no additional compensation will be allowed.

7-8.6 Water Pollution Control [Add the following]:

7-8.6.1 Scope of Work

- A.** The Contractor shall assume sole, complete, and continuous responsibility for storm water runoff management and erosion/sedimentation control during construction. The Contractor shall know and fully comply with the applicable provisions of the Manuals and Federal, State, and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.

- B. The Contractor shall prepare a storm water management plan for all associated construction activities. This plan shall include drawings showing methods for erosion and sediment control, sediment treatment control, wind erosion, vehicle and equipment tracking control, and non storm water waste management. The plan shall outline what measures will be used as conditions change along the alignment. The plan shall also include a description of the sequence of construction and all storm water control procedures to be used.
- C. The Contractor shall fully comply with all applicable state and local regulations and requirements related to storm water management and sedimentation and erosion control including **San Bernardino County, City of Fontana, and Caltrans** requirements.
- D. The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to perform all installation, maintenance, removal, and area cleanup related to erosion control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas including surface waters, storm drains, and flood control facilities.
- E. The Contractor shall implement **Best Management Practices (BMP)** including good housekeeping practices and erosion and sedimentation control to prevent the direct and indirect contribution of any contaminants into the storm drain system or waters of the United States.
- F. The **Storm Water Pollution Prevention Plan (SWPPP)** shall identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and shall identify water pollution control measures, hereafter referred to as control measures, to be constructed, implemented, and maintained in order to reduce to the extent feasible pollutants in storm water discharges from the construction site during construction under this contract.

The (SWPPP) shall incorporate control measures in the following categories:

- a. Soil stabilization
- b. Sediment control
- c. Tracking control
- d. Wind erosion control
- e. Non-storm water control
- f. Waste management and material pollution control

7-8.6.2 Payment and Retention

- A. All costs associated with storm water management, erosion/sedimentation control and the submittal of the "**Storm Water Pollution Prevention Plan (SWPPP)**" shall be included in the contract bid price for other items of work including all **City** and **County** permit and inspection fees, if any. No additional charges to the **City** will be considered.

- B.** The Contractor shall be responsible for the costs and for liabilities imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this Section "**Water Pollution Control**" including, but not limited to, compliance with the applicable provisions of the Manuals and Federal, State, and local regulations. For the purposes of this paragraph, 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 Quality Act**.

In addition to the remedies authorized by law, an amount of the money due the Contractor under this contract, as determined by the **City of Fontana**, may be retained by the **City of Fontana** until disposition has been made of the costs and liabilities.

- C. The retention of money due the Contractor shall be subject To the following:**

- a. The **City** will give the Contractor thirty (30) days notice of the **City's** intention to retain funds from partial payments that may become due to the Contractor prior to acceptance of the contract. Retention of funds from payments made after acceptance of the contract may be made without prior notice to the Contractor.
- b. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to **Section 9-1.06, "Partial Payments" of the Standard Specifications**.
- c. If the **City** has retained funds and it is subsequently determined that the **City** is not subject to the costs and liabilities in connection with the matter for which the retention was made, the **City** shall be liable for interest on the amount retained at the legal rate of interest for the period of the retention.

Conformance with the provisions in this Section "**Water Pollution Control**" shall not relieve the Contractor from the **Contractor's responsibilities as provided in Section 7, "Legal Relations and Responsibilities" of the Standard Specifications**.

7-8.6.3 Submittals

- A.** At least **10 days prior to the start of any work with the potential to cause water pollution**, submit to the **Engineer** for approval, a "**Storm Water Pollution Plan**" (**SWPPP**) for all proposed storm water control facilities, defining the sequence of construction, and describing all erosion/sedimentation control procedures to be used.

- B. At least **ten (10) days prior to the start of any work with the potential to cause water pollution**, submit to the **Engineer** for approval, technical product literature for all commercial products to be used for storm water management and erosion/sedimentation control.

7-8.6.4 Quality Assurance

- A. The Contractor shall be responsible for the timely installation of all storm water management and erosion/sediment control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas or into waterways via surface runoff or underground drainage systems. Measures necessary to prevent the movement of sediment off-site shall be installed, maintained, removed, and cleaned up at the expense of the Contractor. No additional charges to the **City** will be considered.
- B. The **SWPPP** shall be amended if the **SWPPP** has not achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved **SWPPP**, which are required on the project to control water pollution effectively. Amendments to the **SWPPP** shall be submitted for review and approval of the **Engineer** in the same manner specified for the initially approved **SWPPP**. Amendments shall be dated and attached to the on-site **SWPPP** document.

The Contractor shall keep a copy of the SWPPP, together with updates, revisions and amendments at the project site.

7-8.6.5 Materials

- A. The Contractor shall use the **California Storm Water Best Management Practice Handbook for Construction Activity, Latest Edition**, as a reference in selecting appropriate **BMP's** for the sites. Materials, including those used for storm drain inlet protection, slope protection and vehicle-tracking control shall be in conformance with this handbook.

7-8.6.6 SWPPP Implementation

- A. Work with the potential to cause water pollution shall not begin until the **Engineer** has approved the storm water management plan.
- B. Storm water management and erosion/sediment controls shall be installed in accordance with the approved storm water management plan and the procedures and requirements described in the **California Storm Water Best Management Practice Handbook for the Construction Activity, Latest Edition**.

- C. Unless otherwise directed by the **Engineer** or specified in these special provisions, the Contractor's responsibility for **SWPPP** implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in **Section 8-1.05, "Temporary Suspension of Work" of the Standard Specifications**. Requirements for installation, construction, inspection, maintenance, removal, and disposal of control measures are specified in the Manuals and these special provisions.
- D. Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the rainy season, defined as between **October 15th and April 30th**.
- E. Throughout the rainy season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control measures unless fair weather is predicted through the following workday. The weather forecast shall be monitored by the Contractor on a daily basis. **The National Weather Service** forecast shall be used. An alternative weather forecast proposed by the Contractor may be used if approved by the **Engineer**. If precipitation is predicted prior to the end of the following workday, construction scheduling shall be modified, as required and functioning control measures shall be deployed prior to the onset of the precipitation.
- F. The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the **SWPPP** for tracking control, wind erosion control, non-storm water control, and waste management and material pollution control.
- G. The **Engineer** may order the suspension of construction operations that create water pollution if the Contractor fails to conform to the provisions in this Section, **"Water Pollution Control"** as determined by the **Engineer**. All costs associated with the suspension of work are non-comestible by the City. The Contractor will not be entitled to any increase in contract price or completion time extension for this suspension of construction operations.

7-8.6.7 Inspections and Maintenance

A. Inspections

Make a visual inspection of all devices as necessary to ensure proper operation but not less than once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off-site areas, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.

The Special City Staff from the Environmental Section may inspect the construction site for NPDES compliance and issue correction notice as deemed necessary by such personnel. The Contractor will implement the corrective measures as required by such inspections and failure to do so may result in work stoppage and other legal actions permitted under the law.

B. Maintenance

Routine maintenance consisting of debris removal, silt/sediment removal, clearing of vegetation around flow control devices to prevent clogging, and maintenance of healthy vegetative cover, shall be performed.

During the rainy season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

- a. Prior to a forecast storm.
- b. After all precipitation that causes runoff capable of carrying sediment from the construction site.
- c. At **twenty-four (24) hour intervals** during extended precipitation events.

7-8.6.8 Removal and Final Cleanup

Once the construction site has been fully stabilized against erosion, remove Sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner. Re-grade all areas disturbed during this process and stabilize against erosion with surfacing materials.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS

[Add the following]:

In addition to Standard Specifications, special attention shall be given to the following:

Contractor shall notify the **CITY** of utility to be crossed. Contractor shall protect in place said utility and provide all labor, materials, tools and equipment necessary for shoring, bracing or other support and backfill required by utility owner or **CITY** and no additional compensation will be allowed.

Existing irrigation lines and landscape areas in the parkway or front yards that need to be removed for construction shall be replaced/reconstructed. Compensation for this item shall be considered as included in the item of work originating this work and no separate payment shall be made to the contractor.

Contractor shall prevent tracking tack coat, asphalt concrete emulsions, etc. onto existing concrete such as driveways, cross gutters, spandrels, and other adjacent improvements by sanding or other methods approved by the **Engineer**. Any material tracked onto existing improvements shall be removed to the satisfaction of the **Engineer** and the **Owner** of the improvements, at the Contractor's expense.

[Replace the last sentence of section 7-9, Paragraph 3 with the following]:

Lawns shall be repaired by installing sod of similar variety as that which was removed. Installation shall be in accordance with the grower/supplier's instructions.

7-10 PUBLIC CONVENIENCE AND SAFETY

7-10.1 Traffic and Access [Add the following]:

(Special attention is called out for **Section 7-10.1** in whole, and especially as **bolded** :)

The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the work, or an approved detour shall be provided.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, hospitals, and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the ENGINEER.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossing of the Work at intervals not exceeding 300 feet (90 m) also shall be maintained unless otherwise approved by the ENGINEER.

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to such extent that safe access may be provided, and the street is opened to local traffic, the contractor shall immediately clear the street and driveways and provide and maintain access.

The contractor shall cooperate with the various parties involved in the delivery of mail and the collection or removal of trash and garbage to maintain existing schedules for these services.

Grading operations, roadway, excavation and fill construction shall be conducted by the Contractor in a manner to provide a reasonably satisfactory surface for traffic. When rough grading is completed, the roadbed surface shall be brought to a smooth, even condition satisfactory for traffic.

Unless otherwise authorized, work shall be performed in only one-half of the roadway at one time. One-half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour.

Temporary asphalt pavement shall be placed in header cuts after cold milling prior to opening any milled section of road at all driveways if the header cut is greater than 0.1 feet in depth, to provide smooth ramps for vehicular traffic, until that portion of the street is overlaid. The temporary asphalt shall be maintained in good condition by the contractor at all times which the ramps are required.

Temporary asphalt pavement shall be placed in header cuts at join lines with adjoining streets to provide smooth ramps for vehicular traffic. The temporary A.C. shall be placed after cold milling but prior to reopening the milled section of the road to traffic. The temporary A.C. shall be maintained in good condition by the contractor until the road is overlaid.

Payment for providing, installing, and maintaining the temporary asphalt concrete, regardless of the number of times such temporary A.C. is required, or required to be repaired, shall be included in the price bid for traffic control, and no additional compensation will be allowed therefore.

At minimum, flagger control, pilot car, and appropriate signage on the street and adjoining streets shall be provided whenever lane closure is in effect on any streets where two 12-foot wide travel lanes cannot be maintained for two-way traffic. Pilot car, flaggers, traffic control setup workers and foreman shall have radio communication with each other.

For lane closure of less than 500 feet in length where there is direct and clear sight between flaggers, a pilot car will not be necessary subject to approval by the Engineer.

The contractor shall cooperate with the various parties involved in the delivery of mail and the collection of trash and garbage to maintain existing schedules for these services.

Cold milling and pavement rehabilitation operations shall be conducted by the contractor in a manner to provide a reasonably satisfactory surface for traffic.

All costs for the above requirements shall be included in the price bid for traffic control and no additional compensation will be allowed therefore.

When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

THE CONTRACTOR SHALL INCLUDE IN ITS BID ALL COSTS FOR THE ABOVE REQUIREMENTS.

The Contractor shall notify all affected property owners of the proposed schedule a minimum of **forty-eight (48) hours**, but not more than **seventy-two (72) hours**, in advance of any limitation or closure of access to their property. Form of said notice shall be as approved by the **ENGINEER** and shall contain the date and time of the closure. In the event of delay, whether beyond the control of the Contractor or not, the Contractor shall notify all affected property owners as to the extent of the delay and his revised schedule. In the event of delay over **seventy-two (72) hours**, the Contractor shall re-notify the property owners as described above. **Payment for notification and coordination as per Section 7-10 as modified herein shall be included in the compensation paid for the various items of work and no additional compensation will be allowed.**

7-10.1.1 Temporary Traffic Control Guidelines for At-Grade Railroad Crossings

When Contractor's activities are within or are in the vicinity of rail facilities and temporary traffic control devices are required to facilitate the work, the **CONTRACTOR shall coordinate with the Southern California Regional Rail Authority (SCRRA)** with regard to the traffic control devices required. **The traffic control activities shall be coordinated with SCRRA prior to the start of work. Traffic Control Plans shall be submitted to the CITY Traffic Engineer and to SCRRA for all activities within or in the vicinity of at-grade railroad crossings.** The Traffic Control Plans shall be prepared in accordance with the **Manual on Uniform Traffic Control Devices (MUTCD)**. Queuing of vehicles across tracks shall not be permitted unless approved by the railroad authority. This coordination and all required traffic control devices and measures shall be included as part of the unit costs for the work to be performed and no further payment will be allowed therefore.

7-10.2 Storage of Equipment and Materials in Public Streets [Add the following]:

No more than five hundred (500) linear feet of pipeline shall be stockpiled on the site, regardless of size. The Contractor shall assume full responsibility for any damage caused by stockpiling and shall repair same at his expense. The Contractor shall also be responsible for providing traffic control as required to protect the public from hazards caused by stockpiling within the right of way. The Contractor shall be responsible for obtaining the applicable **CITY** permit for stockpiling within the public right of way (Permit Fees will be waived for **CITY** contracts). Payment for the above, if any, will be deemed as included in the items of work and no additional compensation will be allowed.

The Contractor may, at his own expense, maintain and operate a work and storage area outside the public right-of-way. In such case the Contractor shall submit to **CITY** written authorization from the owners of the subject property prior to occupation. Occupation of site without written authorization shall be grounds for immediate suspension of work. Location of site to be approved by **CITY**. Condition and operation of yard shall conform to these specifications. The Contractor shall assume full responsibility for all damage to the site resulting from his operations and shall repair and/or replace same, at his own expense, to the satisfaction of the owner of the subject property.

The Contractor shall vacate site and return it to pre-project condition within five (5) working days following completion of work for which it was intended. The Contractor shall obtain a written release from the property owner accepting the condition of the vacated site and releasing the Contractor from any further clean-up or restoration work and shall submit a copy of such release to the **CITY**. The **Notice of Completion** will not be issued and final retention payment will not be made until said release is submitted and the **CITY** has approved the repairs, replacement and restoration of the site.

7-10.3 Street Closures, Detours and Barricades [Add the following]:

The Contractor shall maintain the minimum traffic requirements designated in the **General Conditions**. It shall be the Contractor's responsibility to furnish a detailed detour signing and barricade plan for **CITY** approval.

COMPENSATION FOR TRAFFIC CONTROL SHALL BE INCLUDED IN THE CONTRACT PRICE PAID FOR AT THE LUMP SUM CONTRACT PRICE FOR TRAFFIC CONTROL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. Unless otherwise specified, compensation for **Traffic Control** shall include full compensation for street closures, detours, grading, restoration, signs, flagmen, barricades, flashers, temporary striping, removal and replacement of miscellaneous signs, fences and all appurtenances and shall be paid for at the lump sum contract price for traffic control and no additional compensation will be allowed. Payment shall include full compensation for all labor, materials, tools, equipment for temporary Asphalt Concrete, Cold and Hot Mix installation as well as the removal for all work involved in **Traffic Control** as specified, including preparation of **Traffic Control Plans** and obtaining **CITY** and other agencies plan review, approval and permits.

All existing stop signs, street name signs and regulatory signs shall be maintained in visible locations during construction and permanently relocated or removed as directed by the plans and the **ENGINEER**. Signs which need not be maintained during construction or permanently relocated shall be salvaged to the applicable government authority.

When a **Traffic Control Plan** has not been provided, the Contractor will be responsible for providing 11"x17" **Traffic Control plan** in accordance with the **Work Area Traffic Control Handbook (W.A.T.C.H.)**. Should the Contractor need to deviate from the provisions of the **W.A.T.C.H.** manual, Traffic Control Plans shall be submitted on full-size drawings 24" x 36", and be stamped by a registered Engineer and submitted to the **City Engineer** for review and approval. The cost for preparing such traffic plans will be included in the price bid for traffic control, and no additional compensation will be allowed. **Traffic detour and traffic control plans shall be submitted for plan checking prior to the start of construction.** Any deviation from the **Traffic Control Plans** as provided shall be approved by the **CITY Engineer** and other agencies representatives. **Full street closures require prior approval by City Traffic Engineer and may require City Council approval.**

No street or access closure to through traffic will be allowed without the express approval of the **ENGINEER**.

Contractor's attention is especially directed to the Traffic Control Plan and sequencing of the work flow to be followed based on the Traffic Control Plan. If the Contractor is to deviate from this sequence then the new sequence must be approved by the City and Traffic Control Plan revised and approved accordingly at no additional cost to the City and no time extension will be allowed.

7-10.4 Public Safety [Add the following]:

The Contractor shall be responsible for safe, efficient and adequate methods and equipment during the progress of the work in order to serve the safety of the workmen and the traveling public; the quality of work required and stipulated value of work. In this respect, the Contractor is responsible for all traffic control measures undertaken during the work week and more particularly over the weekend. **In case of an emergency or an accident within the project construction work zone, the Contractor shall respond within half an hour of the observed emergency by the City Representative or Law Enforcement Agency. If the Contractor fails to do so, the City will rectify the situation in a safe and efficient manner and all expenses incurred would be back charged to the Contractor.**

Adequate provisions shall be made for pedestrians through a zone of “Temporary Traffic Control” and construction work zone area. The following criteria shall be followed when planning for pedestrians in the aforementioned areas.

- 1. Pedestrians shall not be led into conflicts with work site vehicles, equipment, and operations.**
- 2. Pedestrians shall not be led into conflicts with vehicles moving through or around the work site.**
- 3. Pedestrians shall be accommodated with a 48”-wide path through the construction work zone. The path shall be convenient, continuous and accessible in accordance with ADA requirements. The path must resemble, as nearly as practical, the most desirable characteristics of the existing sidewalk(s) or footpath(s). The plans for pedestrian paths must be approved by the City’s Traffic Engineer.**
- 4. Consideration shall be given to separate pedestrian movements from both work site activity and vehicular traffic. When pedestrian movement through or around a work site is necessary, a separate usable footpath shall be provided. If the previous pedestrian facility was accessible to pedestrians with disabilities, the footpath provided during temporary traffic control shall likewise, be in compliance with the ADA standards. When pedestrian and vehicle paths are rerouted to a closer proximity to each other, a temporary traffic barrier shall be utilized. If a temporary traffic barrier is utilized to shield pedestrians, it should be designed to accommodate site conditions.**

The Contractor shall assume the defense of and indemnify and hold harmless the City and its officers and agent from all claims of any kind arising from the Contractor's own negligence or that of the Contractor's agents in the performance of the work under this contract.

The Contractor shall be responsible for the custody of any material or traffic control furnished by the Contractor and for the care of all work until its completion and final acceptance and the Contractor shall at the Contractor's own expense, replace damaged or lost material and repair damaged parts of the work, or the same may be done at Contractor's expense by the City.

7-10.4.1 Safety Orders

The Contractor shall comply with the provisions of any **CITY** ordinances or regulations regarding requirements for the protection of excavations and the nature of such protection.

7-10.5 Mail Delivery

Contractor will make necessary arrangements with the post office and notify the property owner the method of mail delivery to the effected residents and business owners prior to any scheduled work.

7-15 CERTIFIED PAYROLL RECORDS [Add the following]:

Certified Payroll Records shall be submitted to the **CITY** by the tenth day of each month. Progress payments will be withheld pending receipt of any outstanding reports.

SECTION 9 - MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK

9-1.1 General [Add the following]:

Section 9 of the Special Provisions is supplementary to the Standard Specifications for Public Works Construction. Items of work which are shown on the drawings and/or as specified in the specifications shall be considered to be within the scope of the contract and the contractor will be required to perform the work item as shown on the drawings and/or as specified in the specifications. Omission of any item from the bid schedule or from Specification shall not relieve the contractor of the responsibility for performing the work.

9-3 PAYMENT

9-3.1 General [Add the following]:

Should any pay item contained in the Contract Documents be found unnecessary for the proper completion of the work, the **CITY** may, upon written Change Order to the Contractor, eliminate such pay items from the contract, and such action shall in no way invalidate the contract. Any pay items added to the contract as a result of unforeseen circumstances or required work not included on the plans and specifications will be paid only if those items were approved by the **CITY**, a cost was agreed to by all parties and a written Change Order was approved and submitted to the **CITY** prior to the construction of said work.

Before any payment shall be made, Contractor shall have provided **CITY** with releases executed by persons who might have mechanics liens, stop notices or labor and materials bond rights against the project and arising out of the work.

9-3.2 Partial and Final Payment [Replace the last paragraph with the following]:

The closure date for periodic progress payments will be five (5) working days prior to the first Monday of each month. The final progress payment will not be released until the Contractor returns the control set of the Plans and Specifications showing the as-built conditions.

The full ten percent (10%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion by the CITY.

In conformance with the **State of California Public Contract Code, Section 22300**, the Contractor may substitute securities for any monies withheld by the **CITY** to secure performance under the contract.

At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the **CITY** or with a **State or Federally chartered bank as the escrow agent** who shall pay such monies to the Contractor upon notification by **CITY** of Contractor's satisfactory completion of the contract. The type of securities deposited and the method of release shall be approved by the **CITY Attorney's office**.

Before the **CITY** shall make the final payment, Contractor shall execute and file with the **CITY** a release in the form supplied by the **CITY**, releasing its officers, employees, representatives, and agents from any and all claims for liability relating to any undisputed contract amounts for work performed in relation to the undisputed amounts.

9-3.3 Delivered Materials [Replace with the following]:

Materials and equipment delivered but not incorporated into the work will not be included in the estimate for progress payment.

9-3.4 Mobilization [Replace with the following]:

Mobilization shall consist of preparatory work and operations, including but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for the work on this project; and for all other work and operations which must be performed or cost incurred prior to the beginning of work on the various contract items on the project site. A 25% payment of the lump sum total shall be paid with the first progress payment and the remaining 75% shall be paid incrementally over the life of the contract where these subsequent payments will be based on the percentage of work completed to date. When no such bid item is provided, payment for such costs will be considered to be included in the other items of work.

The compensation paid for mobilization shall be included in the contract lump sum price for clearing and grubbing unless specified separately and shall be full compensation for all costs incurred by the Contractor for doing all work involved in mobilization as specified herein. **Payment for mobilization will be paid on a pro-rata basis with 25% in the first monthly progress payment and the balance distributed on a monthly basis for the rest of the project duration. Payment for mobilization shall be considered full compensation for the cost of such mobilization and administered for the entire contract period.**

PART 2 - CONSTRUCTION MATERIALS

SECTION 200 - ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS

In addition to the materials outlined in **Section 200-2 of the Standard Specifications**, the following materials are included under **Untreated Base Material** unless otherwise covered by specific bid item.

200-2.2 Crushed Aggregate Base

200-2.2.1 General [Replace with the Following]:

Crushed aggregate base use will not be allowed unless otherwise noted. Contractor is required to use crushed miscellaneous base unless otherwise directed by the Engineer.

200-2.4 Crushed Miscellaneous Base

200-2.4.1 General [Add the Following]:

Crushed miscellaneous base is required in lieu of crushed aggregate base. The contractor is required to provide the City with load count tickets indicating the amount of crushed miscellaneous base delivered to the jobsite. In addition, the City requires the contractor to provide documentation of all asphalt concrete or portland cement concrete removed from the project that has been taken to a recycling plant to be used as crushed miscellaneous base. Contractor is required to complete the recycling forms in the appendices of the bid documents and submit prior to release of any progress payments.

SECTION 201 - CONCRETE, MORTAR and RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE

In addition to the materials outlined in **Section 201-1 of the Standard Specifications**, the following materials are included under **Portland Cement Concrete** unless otherwise covered by specific bid item.

201-1.1.1 General [Add the Following]:

A. Quality Assurance

- 1. Concrete Mix Design:** Requirements for mixes designed by an **Independent Testing Laboratory (ITL)**, approved by the **CITY**, are:
 - a. Prove by preliminary tests prior to concrete placement or provide historical data to substantiate design strengths.
- 2. Procedure:**
 - a. Use plant batched concrete.
 - b. **Conform to ACI 318-77 Building Code Requirements for Reinforced Concrete and ASTM C-94 Specification for Ready-Mixed Concrete.**
- 3. Tests:**
 - a. The **CITY** may employ and pay for an **ITL** to test materials and design concrete mixes.
 - b. **Aggregate Test:** Test for Sieve or Screen Analysis of Fine and Coarse Aggregates (**ASTM C-136**).

B. Submittals

1. **Mix Design:** Submit in triplicate for each strength of concrete specified stating the proposed slump, proportions of each ingredient and location of usage.
2. **Test Reports:** Submit in triplicate to the **CITY** within 3 days after tests are made.
3. **Color Chart:** Submit in triplicate of texture masonry paint samples to **CITY**. Color and texture to be selected at time of installation by **CITY'S** authorized representative.

201-1.1.2 Concrete Specified by Class [Add the Following]:

- A. Refer to the **Standard Specifications**. Contractor shall utilize **Concrete Class 520-C-2500 for walks and slabs; for retaining walls, foundation and footings utilize class 560-C-3250**.
- B. **Maximum Slump:** Five (5) inches for concrete containing superplastizer admixture

201-1.1.4 Test for Portland Cement Concrete [Add the Following]:

- A. Evaluation of **Test Results** and **Failure to Meet Strength Requirements;**
 1. Evaluate test results according to the **Recommended Practice for Evaluation of Compression Test Results of Field Concrete (ACI 214)**.
 2. Consider evaluations valid only if the samples have been taken and tests have been conducted in accordance with **American Concrete Institute and American Society for Testing and Materials** specifications and methods are applicable.
 3. If strength tests performed on the concrete cylinders, cast at the time the concrete is placed, fail to meet the specified **twenty-eight (28) day** value, or if the samples have not been taken and tests conducted as specified, consider the concrete represented by such tests questionable and subject to further testing.
 4. Conduct additional tests of questionable concrete in accordance with **Standard Method of Obtaining and Testing Drilled Cores and Sawed beams of Concrete (ASTM C-42)** when concrete cores may be obtained in the field or by load tests conducted and results evaluated in accordance with **Chapter 20 of Building Code Requirements for Reinforced Concrete (ACI 318)**.

5. Test results obtained by the use of an impact hammer or Sonoscope, unless correlated with other test data, will not be considered conclusive in evaluating strengths of concrete.
6. If the additional tests fail to demonstrate strengths adequate for the intended purpose of the member or members in question, as determined by the **CITY**, removed and replaced the questionable concrete.

201-1.2 Materials [Add the Following]:

- A. **Contraction Joint:** Plastic KWIK joint or equal.
- B. **Waterproof Paper** or Polyethylene Film: **ASTM C-171.**
- C. **Quick-Set Concrete:** Pour stone. Mix and apply in accordance with manufacturer's specifications.
- D. **Fiber Fabric:** Outline 80 by Wellman Inc. Use around drainage system at retaining seatwall.
- E. **Silica Sand #16.**

201-1.2.2 Aggregates [Add the Following]:

- A. Provide evaluation of aggregates for susceptibility to an alkali-aggregate reaction.
- B. Regard fine and coarse aggregates as separate ingredients.
- C. Maximum size of coarse aggregate: One (1) inch for footings; three-quarter (3/4) inch for slab and walls.

201-1.2.4 Admixtures [Add the Following]:

- A. Water reducing admixture conforming to **ASTM C-494 Type A**, Plastocrete or equal.
- B. Superplastizer high range water reducing admix conforming to **ASTM C-494 Type A and K Sikament 300 or equal.**
- C. **Prohibited Admixtures:** Calcium chloride, Thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.

201-2 REINFORCEMENT FOR CONCRETE [Add the following]:

In addition to the materials outlined in **Section 201-2 of the Standard Specifications**, the following materials are included under **Steel Reinforcement for Concrete** unless otherwise covered by specific bid item.

- A. Furnish reinforcing bars cut to length and bent, chair, spacers, ties, and temperature steel necessary to complete reinforced concrete work shown on the Drawings.
- B. **Smooth Bar Dowels: ASTM A-615, Grade 60 or ASTM A-36**, plain round bars.

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS

In addition to the materials outlined in **Section 201-3 of the Standard Specifications**, the following materials are included under **Expansion Joint Filler and Joint Sealants** unless otherwise covered by specific bid item.

201-3.2 Premolded Joint Filler [Add the Following]:

Refer to the **Standard Specifications**. Contractor to utilize **Nonextruding And Resilient Filler ASTM D 1751 (Bituminous Type)**.

201-3.4 Type "A" Sealant [Add the Following]:

Refer to the **Standard Specifications**. Contractor to utilize type **"A" Sealant**.

201-4 CONCRETE CURING MATERIALS

In addition to the materials outlined in **Section 201-4 of the Standard Specifications**, the following materials are included under **Concrete Curing Compound** unless otherwise covered by specific bid item.

201-4.1 General [Add the Following]:

- A. **Liquid Membrane:** The compound shall be white styrene acrylate type, 30% solids content minimum, and have test data from an independent testing laboratory indicating a maximum moisture loss of 0.030 grams per square centimeter when applied at a coverage rate of three hundred (300) square feet per gallon. Compound shall be **"Super Rez Seal"** or **"Super Pliocure"** by **The Euclid Chemical Company**, **"Masterseal 66"** by **Master Builders**, or approved equal, manufacturer's certification required. Apply in strict accordance with manufacturer's recommendations.

- B. Dissipating Resin Curing Compound:** The compound shall be a dissipating resin compound, conforming to **ASTM C-309, Type, "Kurez DR" by The Euclid Chemical Company**, or approved equal. The film must chemically break down in a two to four week period.

201-5 CEMENT MORTAR

In addition to the materials outlined in **Section 201-5 of the Standard Specifications**, the following materials are included under **Cement Mortar** unless otherwise covered by specific bid item.

201-5.6 Quick Setting Grout [Add the Following]:

Set non-shrink grout manufactured by the **Master Builders Co.**, Upcon Construction Grout manufactured by the **Upcon Chemical Division of USM Corporation**, **5-Star Grout** manufactured by the **Grout Corporation**, **Crystex Grout** manufactured by **L & M Construction Chemicals, Inc.**, or approved equal.

SECTION 203 – BITUMINOUS MATERIALS

203-6 ASPHALT CONCRETE

203-6.1 General [Modify as Follows]

Reclaimed Asphalt Pavement (RAP) is required by the City of Fontana in the asphalt concrete per the Standard Specifications for Public Works Construction ("Green Book") with the exception that the asphalt concrete may contain a maximum of up to fifteen (15) percent RAP. The contractor is required to provide the City with load count tickets indicating the amount of RAP in the mix design being delivered to the jobsite. In addition, the City requires the contractor to provide documentation of all asphalt paving removed from the project that has been taken to a recycling plant for later use in asphalt concrete or pulverized at the jobsite and re-used as base or sub-base material. Processed Miscellaneous Base (PMB) will not be allowed for use in asphalt concrete.

SECTION 210 - PAINT AND PROTECTIVE COATINGS

210-1.6.1 General [Replace with the following]:

Thermoplastic traffic stripes (traffic lines) and pavement markings shall conform to the provisions in **Section 84-1, and 84-2, of the Caltrans Standard Specifications and as amended by these Special Provisions.**

210-1.6.2 Thermoplastic Paint, State Specifications

[Replace with the following]:

Thermoplastic material shall conform to **State Specification 8010-21C-19 (Alkyd Binder).**

Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of **State Specification 8010-11E-22 (Type II)**.

State Specifications for the thermoplastic material and glass beads may be obtained from the **Transportation Laboratory, P.O.Box 19128, Sacramento, CA 95819. Telephone numbers are (916)227-7280 or (916)654-2852.**

Application of thermoplastic materials and glass beads shall conform to **Section 84-2.04 of the CALTRANS Standard Specifications and these Special Provisions.**

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.090 inch. Thermoplastic material for pavement markings (including crosswalks, arrows and stop bars) shall be applied at a minimum thickness of 0.120 inch.

SECTION 211 - SOILS AND AGGREGATE TESTS

211-2 COMPACTION TESTS

211-2.2 Field Density [Add the following paragraph]:

Field density tests will be made by the Geotechnical Engineer during the course of Construction at the expense of the **CITY**. If field density tests indicate that any portion of the compacted sub grade has density lower than that specified, the Contractor shall rework that portion until the specified density is obtained. Retest of areas which have failed compaction will be performed by the Geotechnical Engineer at the Contractor's expense.

PART 3 - CONSTRUCTION METHODS

SECTION 300 - EARTHWORK

300-1 CLEARING AND GRUBBING

300-1.1 General [Add the following]:

Contractor shall field verify existing grades and shall accept site as is, for no other grading shall be performed by **AGENCY**.

300-1.3 Removal and Disposal of Materials

300-1.3.1 General [Replace the first sentence]:

All materials removed shall be disposed of in a legal manner at an appropriate Disposal Site.

300-1.3.2 Requirements [Add the following]:

A. Bituminous Pavement [Replace second sentence with the following]:

Saw cutting of edges to be joined is required.

D. Miscellaneous [Add the following]:

In addition to the work outlined in **Section 300-1.1 of the Standard Specifications**, the following items of work are included under **Clearing & Grubbing** unless otherwise covered by specific bid item.

1. Mobilization and demobilization in accordance with **Section 9-3.4 of the Standard Specifications**.
2. Maintaining dust control at all times by watering during the entire time of the project, whether extended or not, including developing a water supply and furnishing and placing all water for all work done in the contract, including water used for extra work.
3. Provide for necessary traffic control, including all signs, barricades, flashers and flagmen necessary to maintain proper control along street rights of way and easements.
4. Application of soil sterilant.
5. Protection of utilities, structures, improvements and other facilities within the construction zone, except those specifically shown on the plans to be removed or relocated.
6. Removal and disposal of existing natural and artificial objectionable material within the limits of construction.
7. Verification of existing locations and elevations as shown on the plans or directed by the **ENGINEER** other than that designated as "**potholing**."
8. Replacement of disturbed traffic signs, street names, mailboxes, property owner signs, fences, landscaping, protection of temporary construction fences and all appurtenances, striping and markings as required to the satisfaction of the **ENGINEER**. Also, includes the installation/safe pedestrian pathway (possibly installing orange netting).
9. Tree removal and disposal of trees in a legal manner including removal of all roots and vegetative material, over-excavation if applicable, and **recompaction to 95% minimum relative compaction (ASTM D-1557)**. Tree removal permit shall be obtained from the appropriate agency.
10. This item shall also be interpreted to include the removal or relocation of any additional items not specifically mentioned herein or covered

by specific bid item, which maybe found within the work limits whether shown or not shown on the plans to be removed or relocated.

11. All surplus material three (3) inches or smaller shall be uniformly spread and compacted in the street sub grade. No material greater than three (3) inches in any dimension shall be used in the top twelve (12) inches of the sub grade. No nesting of rocks shall be allowed.
12. Remove all rocks three (3) inches or larger to a depth of one (1) foot from parkway areas or as directed by the Inspector.
13. Earthworks. Unclassified excavation shall consist of all excavation, including roadways, unless separately designated. Unclassified fill shall consist of all fill unless separately designated. Construction of unclassified fill included preparing the area on which fill is to be placed, and the depositing, conditioning, and compaction of fill material.
14. Complete all demolition and removal work associated with the removal of A.C., underlying PCC, PCC curb/gutter, as designated on the drawings for removal.
15. Any structural or non-structural demolition work involved for the construction of the project shall be paid under clearing and grubbing unless otherwise noted and contractor shall be responsible for disposing in a legal manner.
16. Contractor shall provide temporary fencing when relocating existing fence, replacing or reconstructing new fencing.

300-1.4 Payment [Add the following]:

Unless otherwise specified, compensation for clearing and grubbing and earthworks shall include full compensation for items 1 through 16 as described above, mobilization, traffic control, signs, barricades and flashers, replacing trees and plants of the same kind to the reasonable satisfaction of the property owners whether indicated on the plans or not. Clearing and grubbing shall be paid for at the lump sum contract price and no additional compensation shall be allowed.

Payment shall include full compensation for furnishing all labor, materials, tools and equipment and doing all work involved in clearing and grubbing as specified, including saw-cutting, loading, hauling, stockpiling and disposal.

300-2 UNCLASSIFIED EXCAVATION

300-2.1 General [Add the following]:

Unless separately designated, unclassified excavation shall include excavating, loading, stockpiling, hauling and disposing of surplus material to the depth indicated on the plans or as directed by the **ENGINEER**. Any remnants of structures, foundations, and fences within limits of construction shall be removed and disposed of in the legal manner and will be considered part of **Unclassified Excavation**. Removal of existing asphalt concrete pavement shall be included in this item of work unless covered by a specific bid item.

300-2.2 Unsuitable Material [Add **Subsection 300-1.3.2 (a) Bituminous Pavement**" as in **Subsection 300-2.2.3** and amend as follows]:

Bituminous Pavement and **Concrete** removals shall be saw-cut at the designated lines of removal shown on the Plans or as designated by the **ENGINEER**.

300-2.6 Surplus Material [Add the following]:

All surplus materials shall be disposed of in a legal manner at the Contractor's expense.

300-2.9 Payment [Replace with the following]:

Payment for Unclassified Excavation shall be deemed as included in the compensation paid for the related bid item and no additional compensation will be allowed.

Payment for removal of existing asphalt concrete pavement, concrete driveways, and concrete curb and gutter shall be made at the contract unit bid price per square foot or linear foot, respectively, and shall include full compensation for furnishing all labor, materials, tools, and equipment involved, including saw cutting, loading, hauling, stockpiling and disposal and no additional compensation will be allowed. The contract unit bid actual price for asphalt pavement removal shall be independent of the actual thickness encountered in the field. The quantity measured for asphalt pavement removal shall be limited to a maximum of that designated as "pay lines" per detail on the plans and measured in the field. Removal of asphalt concrete beyond this limit shall be at the Contractor's expense. Payment will be made only for the quantity of pavement within the limits actually removed and within the "pay lines".

300-3 STRUCTURE EXCAVATION AND BACKFILL

300-3.1 General [Add the following]:

Structure excavation and backfill shall be limited to the areas shown on the plans.

In making structure excavations for the project, the Contractor shall be fully responsible for designing, checking, providing and installing adequate sheeting, shoring, bracing, lagging, cribbing and piling as may be necessary as a precaution against slides, slippage or cave-in and to protect all existing and temporary improvements of any kind, either public or private property, fully from damage.

300-3.5 Structure Backfill

300-3.5.1 Requirements [Add the following]:

The relative compaction of all structural fill and backfill shall be ninety-five (95) percent.

300-3.6 Payment [Add the following]:

Payment for structure excavation and backfill shall be considered as included in the various items of which they are a part, and no additional compensation will be allowed therefore.

300-4 UNCLASSIFIED FILL

300-4.1 General [Add the following]:

Unless separately designated, unclassified fill shall consist of all fill unless separately designated to the depth indicated on the plans or as directed by the **ENGINEER**. Construction or unclassified fill includes preparing the area on which the fill is to be placed, and the hauling, screening, depositing, conditioning, and compacting of fill material and will be considered part of Clearing and Grubbing unless covered by specific bid item.

300-4.9 Payment [Replace with the following]:

The Contract Unit Price Bid for unclassified fill shall include full compensation for all the hauling, importing, grading, shaping, compacting or consolidating, conditioning or other work that is required under this subsection. Payment for Unclassified Fill shall be deemed as included in the compensation paid for the related bid item and no additional compensation will be allowed.

SECTION 301 - TREATED SOILS, SUBGRADE PREPARATION AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION

301-1.2 Preparation of Sub grade [Add the following]:

Preparation of the sub grade shall conform to the provisions of **Section 301-1 of the Standard Specifications and these provisions.**

Sub-grade preparation for areas of new pavement shall include scarification, moisture conditioning, and compaction of the upper approximately twelve (12) inches of sub-grade. If areas of soft, saturated, or otherwise unsuitable materials are encountered, they should be removed to competent underlying material, as evaluated in the field by the geotechnical consultant, and replaced with compacted fill. No material greater than three (3) inch in any dimension shall be used in the top twelve (12) inches of the sub grade. No nesting of rocks shall be allowed.

Fill should be placed in horizontal lifts approximately eight (8) inches in loose thickness and compacted by appropriate mechanical methods. Fill should be generally free of rocks or hard chunks of material in excess of six (6) inches in diameter. **Fill material placed to support structures, such as pavements, curbs, and gutters, should be compacted to ninety-five (95) percent or more relative compaction in accordance with ASTM D 1557-91 at a moisture content at or near optimum.**

301-1.3 Relative Compaction [Replace with the following]:

Relative compaction of finished sub-grade under paved areas and concrete curb and gutter shall be modified to require **95% minimum relative compaction of the top twelve (12) inches of the sub-grade.** All material removed and replaced for remedial grading, trenching, or disturbed by tree removal shall be **compacted at 95% minimum relative compaction, even where it extends beyond twelve (12) inches below finished sub-grade.** **Relative compaction of all other areas outside of curb and gutters, gutters and paved areas shall require 90% minimum compaction.**

Compensation for sub grade preparation shall be deemed to be included in the unit price bid for respective bid item and no additional compensation will be allowed.

301-1.7 Payment [Replace the first paragraph with the following]:

Payment for sub grade preparation shall be included in the unit price bid for respective bid item and shall include, hauling, exporting, screening, spreading and compacting and no additional compensation will be allowed.

301-6 SOIL STERILANT [Add the following Subsection]:

301-6.1 General

All areas to receive **Asphalt Concrete Pavement** shall be prepared in accordance with applicable sections of the **Standard Specifications** concerning sub grade preparation. In addition, after the compaction is completed, the Contractor shall apply a non-migrating soil sterilant to the sub grade. Application shall be by spray equipment which provides good mechanical agitation and even coverage of the area to be treated. Spray equipment shall be calibrated before material is applied and the **CITY** Inspector's decision as to the effectiveness of the spray equipment shall be final. Great care shall be taken to apply soil sterilant to the designated areas only. Aggregate base may be placed immediately after placement of soil sterilant.

301-6.2 Operator's License

The Contractor's operator applying the soil sterilant shall be licensed by the State of California, Department of Food and Agricultural Affairs and registered with the Office of the Agricultural Commissioner of San Bernardino County as pest control officer.

301-6.3 Application

Any soil sterilant, which is approved in writing by a licensed pest control advisor (for the purpose of which it will apply) may be used upon acceptance by the **ENGINEER**. The dye shall not stain concrete or masonry. Certification shall be furnished to the **ENGINEER** showing the purchase receipt and manufacturer's recommended rate of application of the material.

301-6.4 Payment

The Contractor shall supply all labor, materials and equipment to apply the soil sterilant and shall include the cost for application in the lump sum contract price bid for clearing and grubbing and no additional compensation will be allowed.

SECTION 302 - ROADWAY SURFACING

302-4 EMULSION-AGGREGATE CRACK SEALING

302-4.1 Materials [Add the following]:

Materials shall be a slow setting asphalt emulsion SS-1h, Type I, in accordance with Section 203-5.

302-4.3.1 Application-General [Add the following]:

Existing cracks which are exposed after cold-milling, and which the cracks are hairline to 1/8" in width, shall be air-blown with compressed air, and cleaned to expose the A.C. with the appearance of clean edges. Cracks greater than 1/8" in width shall be routed to remove all loose A.C. particles and to leave a cracked edge line that is sound and integral with no secondary fractures emanating from the crack line. Areas that are badly fractured shall be brought to the attention of the City's representative prior to routing. These cracks, which are greater than 1/8" in width, shall then be air-blown with compressed air to the same extent as hereinbefore specified.

302-4.3.2 Spreading [Add the following]:

Material shall be nozzle injected and applied such that the cracks that are hairline and up to 1/8" in width shall be filled by "squeegees", wherein, the emulsion is forced into the cracks. The resultant filled crack line shall result with filled asphalt emulsion and with an upward concaved surface. Cracks greater than 1/8" in width shall be filled with asphalt emulsion by nozzle injection and the asphalt emulsion shall be similarly worked into the crack to fill the crack void. The filling of the crack void shall be worked in with "squeegees" or other hand tools to leave a surface which is level and not downwardly concave.

302-5 ASPHALT CONCRETE PAVEMENT

302-5.1 General [Replace the last paragraph with the following:]

Asphalt Concrete shall conform to the requirements of **Subsection 203-6.1** and **Section 302-5** of the **Standard Specifications, as modified by these Special Provisions.**

302-5.4 Tack Coat [Add the following]:

A tack coat shall be applied uniformly upon the existing pavement planes and joints, gutters, inlets, manholes, etc. prior to placing the asphalt concrete. The tack coat shall be **SS-1h emulsified asphalt per Section 203-3.** The surface to be covered shall be free of water, foreign material, vegetation or dust before application of the tack coat.

The area to which tack coat has been applied shall be closed to public traffic. **Care shall be taken to avoid tracking tack material onto existing pavement surfaces beyond the limits of construction.** Existing striping and pavement markings which have been tacked with tack coat shall be repainted at the Contractor's expense. Certain driveways which are heavily used during hours of construction as determined by the Engineer, shall remain open as long as possible, and tack shall be applied to areas along said driveways as soon as possible before the asphalt is placed, or the Contractor may provide some means of protecting the tack coat while traffic passes over it. The means of protection shall be utilized only after approval by the Engineer.

The Contractor shall clean existing concrete and asphalt surfaces of any tack coat tracked onto them, to the satisfaction of the Engineer.

Payment for tack coat, labor, equipment, and material and doing all other appurtenant work shall be deemed as included in the unit price bid for asphalt concrete and no additional compensation shall be allowed.

302-5.5 Distribution and Spreading [Add the following]:

Asphalt concrete pavement for resurfacing shall be at least **four (4) inches thick**, regardless of the thickness of the pavement removed and shall be placed in two (2) or more courses. The base courses shall be no more than three (3) inches thick and shall be **B-AR-4000, or B-PG-64-10**. The finish course shall be a minimum one (1) inch thick and shall be **C2-AR-4000, or C2-PG-64-10**. The courses shall be machine placed. All trench resurfacing shall be completed to the base course level within five (5) working days following underground construction.

Placement of the finish course shall not be completed until completion of all underground construction unless waived by the **ENGINEER**.

At those locations where new asphalt concrete pavement overlay joins existing asphalt pavement, the **Contractor shall rake out all aggregate three-eighths (3/8) inch or larger and feather the new paving to form a smooth transition to join the existing pavement.**

Contractor shall suspend all paving operations when the **CITY Inspector** determines the weather conditions are not suitable for paving.

302-5.9 Measurement and Payment [Add the following]:

Asphalt Concrete pavement for resurfacing shall include the full depth patch and **shall be measured by the ton**. The weight shall be determined as provided in **Subsection 302-5.9 of the Standard Specifications**. Payment shall be made at the contract unit price bid per ton and shall include full compensation for subgrade preparation, including tack coat where required.

Payment will only be made for resurfacing of areas of pavement removal within the "pay limits" as shown per detail on the plans and measured in the field. Resurfacing of areas removed outside of these limits will be at the Contractor's expense.

SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

303-1 CONCRETE STRUCTURES

303-1.1 General [Add the following]:

Concrete structures shall conform to the provisions of **Section 303-1 of the Standard Specifications for Public Works Construction as modified by the applicable Standard Plans and herein**.

Concrete in other agencies right-of-way shall be done as per other agencies permit requirements.

Steel Reinforcement for Concrete: All steel reinforcement for concrete structures shall conform to the provisions in **Section 201-2 of the Public Works Standards unless otherwise noted in the Plans or these Special Provisions. Section 52-1.04 of the State Standard Specifications shall apply in lieu of Section 201-2.4 of the Public Works Standards.**

Reinforcing steel shall be Grade 60 billet steel conforming to **ASTM A615**.

The surfaces of all concrete structures shall receive an ordinary surface finish. "NO DUMPING FLOWS TO CREEK" stencil shall be applied to all catch basin decks per City Standard 6002.

All concrete inlets shall have chamfered edges.

Twelve (12) inches of Concrete Bond Beam shall have rounded edges at tie in points.

The Contractor shall furnish all labor, tools, and materials to construct reinforced **Portland Cement Concrete** structures and appurtenant work to grades and dimensions shown on the Plans or staked in the field. The exact proportions of aggregate and water to be used in all classes of concrete shall be determined by the Contractor and submitted to the **ENGINEER** for review at least ten (10) working days prior to its use under this contract.

Unless otherwise specified, transverse construction joints shall be placed in all reinforced sections at intervals of not less than ten (10) feet or more than fifty (50) feet. The joints shall be in the same plane for the entire structure and for concrete thickness greater than six (6) inches shall be keyed as directed by the **ENGINEER**.

The concrete for surface improvements shall be Class 560-C-3250, while that for inlet structures and junction structures shall be Class 560-C-3250, and while that for box culverts shall be Class 650-C-4000.

303-1.3 Forms [Add the following]:

Forms shall be braced to withstand the pressures developed and shall be tight to prevent the loss of mortar. Formed wall surface shall be free of any unevenness greater than one-quarter (1/4) inch when checked with a ten (10) foot straight edge.

Concrete in walls with side slopes flatter than 3/4:1 shall be placed on suitable material which has been overfilled, compacted and trimmed to true grade. Backforms shall be used where the slide slope is 3/4:1 or steeper.

A clear non-staining form release agent, which will not discolor nor affect the surface texture of the concrete and does not react with any ingredients of the concrete, shall be used. The cost of furnishing and placing form release agent shall be included in the cost of Portland Cement Concrete.

Contractor shall be responsible for the design, engineering, construction and safety of removable form work.

Contractor shall design removable forms for the loads and lateral pressures outlined in the **American Concrete Institute Standard "Recommended Practice for Concrete Formwork" (ACI 347-78)**.

303-1.7 Placing Reinforcement

303-1.7.1 General [Add the following]:

Aluminum and plastic supports for reinforcement shall not be used.

Bars shall be accurately spaced as shown on the Plans and spacing of first bar immediately adjacent to transverse construction joint shall be one-half the required spacing shown on the Plans. In no case shall the clear distance between parallel bars be less than two and one half (2-1/2) inches diameters of the bar, or a minimum of two (2) inches. Unless otherwise shown on the Plans, embedment of reinforcing steel (other than stirrups and spacers) shall be one and one half (1-1/2) inches clear depth for #8 bars or smaller and shall be two (2) inches clear for #9 bars and larger. Where placement of reinforcing steel requires alternate bars of different size, embedment requirements shall be governed by the larger bar. Stirrups and spacers shall be embedded not less than one inch clear depth. Measurement of embedment shall be from the outside of the bar to the nearest concrete face. Tack welding or butt welding of reinforcing bars will not be permitted.

303-1.7.2 Splicing [Add the following]:

Reinforcing bars may be continuous at locations where splices are shown on the Plans, at the option of the Contractor. The location of splices, except where shown on the Plans, shall be determined by the Contractor based upon using available commercial lengths where applicable.

Splices shall consist of placing the reinforcing bars in contact and wiring them together in such a manner as to maintain the alignment of the bars and to provide minimum clearances.

No lapped splices will be permitted at locations where the concrete section is not sufficient to provide a minimum clear distance of two (2) inches between the splice and the nearest adjacent bar. The clearances to the surface of the concrete shall not be reduced.

Where Grade 60 reinforcing bars are required, the length of lapped splices shall be as follows: Reinforcing bars No. 8, or smaller, shall be lapped at least forty-five (45) diameters of the smaller bar to be joined, and reinforcing bars Nos. 9, 10, and 11 shall be lapped at least sixty (60) diameters of the smaller bar to be joined, except where otherwise shown on the plans.

Splices of tensile reinforcement at points of maximum stress shall be avoided; however, any deviation from splices shown on the Plans shall be approved by the **ENGINEER**.

303-1.8 Placing Concrete

303-1.8.1 General [Add the following]:

The Contractor shall exercise caution in placement of concrete walls and congested areas to ensure proper consolidation and that there are no voids, and protection of waterstops in position. Adequate provisions shall be made for easy visual inspection of concrete placement, consolidation and waterstop protection. Pouring of walls in lifts, use of smaller maximum aggregate sizes, or other methods as necessary may be proposed by the Contractor and will be permitted only after evaluation by the **ENGINEER**.

303-1.9 Surface Finishes

303-1.9.2 Ordinary Surface Finish [Add the following]:

Ordinary Surface Finish shall not apply to rock pockets, which in the opinion of the **ENGINEER**, are of such extent or character as to affect the strength of the structure materially or to endanger the life of the steel reinforcement. In such cases, the **ENGINEER** may declare the concrete defective and require the removal and replacement of the structure affected.

303-1.10 Curing [Amend first paragraph with the following]:

Exposed concrete surfaces shall be sprayed with Type 2 curing compound at a uniform rate of one (1) gallon per one hundred and fifty (150) square feet.

303-1.11 Payment [Replace paragraph one with the following]:

Portland Cement Concrete structures will be paid for as shown in the proposal bid sheet for each item and shall include full compensation for furnishing all labor, materials, tools and equipment and doing all work required to construct the respective structure in conformity with the plans and specifications.

Payment for concrete manhole structures, junction structures, catch basins, collars, and bulkheads shall be made at the contract unit price bid for each respective type of structure as bid and shall include full compensation for furnishing all materials, labor, tools and equipment, and doing all work required to provide each respective item of work complete in place as shown on the plans or specified herein, including removal of existing improvements, and no additional compensation will be allowed.

Payment for concrete catch basins shall include compensation for the local depression as shown on the plans and for Stenciling of decks per City Standard 6002. In areas of existing pavement, catch basins shall be constructed by saw cutting and removing the existing pavement one (1) foot from the edge of the local depression. Following construction of the basin and local depression, the void shall be patched with a minimum six (6) inches thick full depth asphalt concrete pavement or existing pavement thickness plus one (1) inch in accordance with **Section 302-5 of these Specifications**.

Payment for adjustment of concrete manholes or junction structures to grade shall be included in the compensation paid for the respective structure. Removal of existing structures shall be paid for at the contract unit price per each regardless of size and no additional compensation will be allowed.

303-2 AIR PLACED CONCRETE

303-2.1 Requirements

303-2.1.1 General [Add the following]:

Air-blown mortar (concrete drainage swale) shall conform to the provisions in CALTRANS Standard Specification, Section 53, "Air-Blown Mortar" and Section 72, "Slope Protection" and these special provisions.

The contract price paid per linear foot for air-blown mortar (concrete drainage swale) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in placing air-blown mortar, including preparing the foundation, reinforcement, and structure backfill, as shown on the plans, as specified in the **Standard Specifications, these special provisions, and as directed by the ENGINEER.**

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, DRIVEWAYS AND ALLEY INTERSECTIONS [Add the following]:

The applicable provisions of **Section 303-5** shall apply to concrete paving for Bus Bays and placement of drainage inlet aprons. Concrete shall be **Class 560-C-3250** for the Bus Bays and drainage inlet aprons.

Concrete driveway reconstruction shall consist of embankment, excavation, removal of existing asphalt and/or concrete driveways and placement of concrete driveways all to match driveways to new street grade as determined by the **ENGINEER**. Concrete driveways shall be six (6) inches minimum thickness.

303-5.9 Measurement and Payment [Replace paragraph one with the following]:

Portland cement concrete structures will be paid for as shown in the proposal bid sheet for related items of work and shall include full compensation for furnishing all labor, materials, tools and equipment and doing all work required to construct the respective structure in conformity with the plans and specifications.

Payment for concrete manhole structures, junction structures, catch basins, collars, and bulkheads shall be made at the contract price bid for related bid items and shall include full compensation for furnishing all materials, labor, tools and equipment, and doing all work required to provide each respective item of work complete in place as shown on the plans or specified herein, including removal of existing improvements, and no additional compensation will be allowed.

Payment for adjustment of concrete manholes or junction structures to grade shall be included in the price bid for the related items of work. Removal of existing structures shall be paid for at the contract unit price per each regardless of size and no additional compensation will be allowed.

Payment for concrete curb, gutters, sidewalk, access ramps and driveway approached wheel chair ramp(s) shall be made at the contract unit price and shall include full compensation for furnishing all materials, labor, tools and equipment, and doing all work required to provide each respective item of work complete in place as shown on the plans or specified herein, including removal of existing improvements, and no additional compensation will be allowed.

303-7 ROCK SLOPE PROTECTION (Rip Rap) [Add this Subsection]

Concreted rock slope protection shall conform to **CALTRANS Standard Specifications (Latest Edition), Section 72, "Slope Protection"**.

The unit price paid for concreted rock slope protection shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing the rock slope protection (rip rap), complete in place, as shown on the plans, as specified in the **Standard Specifications**, these **Special Provisions**, and as directed by the **ENGINEER**.

SECTION 306 - UNDERGROUND CONDUIT CONSTRUCTION

306-1 OPEN TRENCH OPERATIONS

306-1.1 Trench Excavation

306-1.1.2 Maximum Length of Open Trench [Replace with the following]:

The maximum length of open trench shall not exceed five hundred 500 feet, including length of pipe laid but not backfilled, pipe laying construction, and open trench excavation. All excavations shall be backfilled to finish grade at the completion of daily operations. Temporary asphalt patch shall be placed as soon as possible after pipe is laid in paved areas.

306-1.2.1 Bedding [Add the following]:

Pipe bedding for underground conduits shall conform to plans and **Section 306-1.2.1** of the **Standard Specifications**. The cost of providing and installing said bedding material shall be included in compensation paid for the respective bid item for construction and no additional compensation will be allowed. Where additional rock bedding is required by the **ENGINEER** to stabilize unstable sub-grade due to existing ground conditions (not attributable to the Contractor's operation), such rock bedding shall be considered extra work as provided in **Subsection 3-3** of the **Standard Specifications** as amended herein. Additional bedding placed in excess of the limits shown per the **Standard Plan** for the convenience of the Contractor shall not be subject to additional compensation.

306-1.3 Backfill and Densification

306-1.3.1 General [Add the following]:

No rocks greater than six (6) inches in any dimension shall be allowed in the backfill. No nesting of rocks shall be allowed.

306-1.3.4 Compaction Requirements [Replace with the following]:

All trench backfill and bedding shall be densified to 90% minimum relative compaction as required per **Section 301-1 of these specifications**. Relative compaction of top twelve (12) inches of subgrade in paved areas shall require 95% relative compaction of the subgrade. Relative compaction of the pavement section's aggregate base shall be 95%. Placed backfill and the granular bedding material shall be compacted to 90% minimum relative compaction. In **STATE** right-of-way trench backfill material will require 95% minimum relative compaction and/or as directed by the **STATE** representative. Labor to install backfill shall be included in the unit cost of the item of work requiring excavation and backfilling. Jetting will not be permitted unless specifically approved in advance by the **ENGINEER**. Asphalt Concrete shall not be used for backfill unless it has been crushed to a maximum size of three-quarter (3/4) inch. No rocks greater than six (6) inches in diameter shall be allowed in the backfill. All surplus material three (3) inches or smaller shall be uniformly spread and compacted in the street subgrade.

306-1.4 Testing Pipelines

All storm drains, storm drain laterals, sewer lines, and sewer laterals shall be videotaped at Contractor's expense for "Final Inspection" after all backfill and compaction operation is completed, and compaction as required by **Plans and Specifications** or as directed by the **ENGINEER** and no additional compensation will be allowed.

306-1.6 Basis of Payment for Open Trench Installation [Add the following]:

Payment for open trench installation of pipe and conduit shall be made at the contract unit price bid per linear foot, for the respective pipe size, as measured along the centerline of pipe and shall include full compensation for furnishing all materials, labor, tools and equipment and doing all work involved to provide these items of work, complete in place, including excavation, furnishing and installing the pipe, bedding, backfilling, compaction as shown on the plans or as directed by the **ENGINEER** and no additional compensation will be allowed.

306-2 JACKING OPERATIONS

306-2.1 General [Add the Following]:

Before starting boring/jacking operations, the contractor is required to excavate and physically locate all underground facilities including utility service connections as well as utility main lines. No boring/jacking work shall be started until after all known existing underground facilities have been identified and their exact location ascertained by physical excavated examination. No boring/jacking work is to begin until the Engineer or inspector has verified that all known existing underground facilities have been exposed and their exact location ascertained. During boring/jacking operation the contract shall visually observe and confirm safe and successful crossing/passing under/over all located utilities and shall be confirmed by the public works inspector to ensure no damage has taken place. The contractor performing the boring/jacking operation shall notify the Department of Industrial Relations, Division of Occupational Safety and Health to schedule a pre-construction conference prior to commencing any work.

Contractor will be responsible for the repair or replacement of any damaged utilities as a result of its operations.

306-5 ABANDONMENT OF CONDUITS AND STRUCTURES [Add the following]:

The above shall apply to all utilities and underground conduits.

SECTION 307 – STREET LIGHTING AND TRAFFIC SIGNALS

307-8 PAYMENT FOR TRAFFIC SIGNAL CONSTRUCTION [Add the following]:

All work shown on the plans and contract bid specifications Section “E” shall be included in the lump sum contract price for the traffic signal work.

SECTION 308 – LANDSCAPE AND IRRIGATION INSTALLATION

308-1 GENERAL [Add the following]:

All landscape work shall be done in accordance with the **“Specification Manual for Streetscape and Park”** provided under **Supplemental Technical Specification, SECTION “D”**

308-4 PLANTING

308-1.1 General [Add the following]:

All damage and reworked landscape areas shall be replaced to match the existing and to the satisfaction of the **CITY**.

308-8 PAYMENT

Payment for all landscape work shall be included in the Bid Items listed on bid proposal sheets and no additional compensation will be allowed.

SECTION 309 – MONUMENTS

309-1 DESCRIPTION [Add the following]:

The contractor shall not disturb existing survey monuments, monument ties or benchmarks without prior notification to the City Engineer. Survey monuments that exist as shown on recorded maps, highway maps or points that provide survey control within the construction area, shall be located and referenced out by a licensed land surveyor or registered civil engineer (authorized to practice land surveying), and corner records shall be filed with the County Surveyor prior to the start of construction. These corner records shall describe the monuments found with tie distances to reference points for resetting of the monuments. When construction is complete, monuments shall be reset and corner records shall be filed with the County Surveyor showing the new monuments.

CITY OF FONTANA

SECTION D

ENGINEERING DEPARTMENT

LANDSCAPE DEVELOPMENT
SECTION

RECOMMENDED
STANDARD LANDSCAPE

SPECIFICATION MANUAL
FOR STREETSAPES AND PARKS

APRIL 2006

SECTION 02810
LANDSCAPE IRRIGATION SYSTEM

PART 1.00 - GENERAL

1.01 WORK INCLUDED

- A. Contractor shall furnish all labor, materials, equipment, and services necessary to install the irrigation system as indicated on the approved drawings and specified herein and shall perform all other incidental work necessary to carry out the intent of this irrigation specification and irrigation drawings including the following:
 - 1. Furnish and install all pipelines and fittings.
 - 2. Furnish and install automatic controller, all electrical connections and control wiring.
 - 3. Furnish, assemble, and install material described in this specification and as indicated on the drawings.
 - 4. Excavate and backfill trenches.
 - 5. Test and inspect system.
 - 6. Sixty day maintenance.
 - 7. One year guarantee.
- B. Work noted as "N.I.C" "existing" or "to be supplied and/or installed by others" is not a part of this Section.
- C. The work in this section shall be coordinated with all underground utilities and trades responsible for their installation.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Landscape planting: Division 2 –Section 02900
- B. Electrical: Division 16 – Section 16000
- C. Mechanical: Division 15 – Section 15400
- D. Examine all Drawings and Specifications pertinent to the proper completion of the work.

1.03 QUALITY ASSURANCE

- A. Permits: Obtain and pay for all permits and inspections required by outside agencies.
- B. Ordinances and regulations: Local, municipal, and state laws, and rules and regulations governing or relating to any portion of this work are hereby incorporated

into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in the specifications shall not be construed to conflict with any of these rules and regulations or requirements of the same. However, when the specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by these rules and regulations, the provisions of the specifications and drawings shall take precedence.

- C. Protection: Erect and maintain barricades, warning signs and lights, and provide guards as necessary or required to protect all persons on the site.
- D. Underwriters Laboratories: Electrical wiring controls, motors, and devices shall be U.L. listed, and so labeled.
- E. Installer qualifications (for solvent and rubber gasket joints): Each person shall be trained by the manufacturer's representative in techniques for making correct joints prior to performing work on the site.
- F. Work of this Section, that is allied, with the work of other trades shall be coordinated as necessary.
- G. Superintendent: A superintendent satisfactory to the City's Representative shall be present on the site at all times during progress of the work.
 - 1. The Superintendent shall not be changed, except with the consent of the City's Representative.
 - 2. The Superintendent shall be authorized to represent the Contractor.
- H. Discrepancies: When discrepancies exist between drawings and specifications, and no specific interpretation is issued prior to bidding, the decision regarding this interpretation will rest with City's Representative, The Contractor will be compelled to act on this decision as directed. In the event the installation deviates from the directions given, it shall be corrected at the Contractor's expense.
- I. Explanation of drawings: Due to the scale of drawings, it is not possible to indicate all offsets, fittings, sleeves, etc., which may be required. Carefully investigate the structural and finished conditions affecting all of this work and plan this work accordingly, furnishing such fittings, etc., as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features.
- J. Manufacturer's directions: manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturers used in this Contract furnish directions covering points not shown in the drawings and specifications.
- K. Work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.
- L. The Contractor shall not install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in

equipment usage or area dimensions exist that might not have been considered in the engineering. Such obstructions or differences shall be brought to the attention of the City's Representative. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary at no additional cost to the City.

1.04 SUBMITTALS

- A. Within 20 days after award of contract, Contractor shall submit to the City's Representative for approval five (5) copies of a detailed list of each material proposed for use in the project. Prepare typewritten material list using the following format. Double space between each item.

ITEM NO.	DESCRIPTION	MANUFACTURER	MODEL NO.
1	Pressure supply line	Pac Western	Sched. 80 pvc
2	Lawn head	Rain Bird	1806-15H
3	Etc	Etc.	Etc.

- B. Within 20 days after award of contract, Contractor shall submit to the City's Representative for approval five (5) copies of descriptive literature with catalog cuts marked with highlighter pen on all items to be used in this project. No work shall commence before receipt of approved material list and descriptive material. List shall include all items indicated on drawings and/or specifications.
- C. Prior to start of maintenance period Contractor shall submit one (1) complete set of as-built drawings and a Landscape Architect Certificate of Compliance to the City's Representative for approval. Approved as-built drawings should be considered record drawings.

1.05 RECORD DRAWINGS

- A. Record dimensioned locations and depths for each of the following:
 1. Point of connection.
 2. Sprinkler pressure line routing (Provide dimensions for each 100 linear feet (maximum) along each routing, and for each change in direction.)
 3. Gate valves
 4. Sprinkler control valves (buried only)
 5. Quick coupling valves

6. Control wire routing
 7. Other related items as may be directed by the City's Representative.
- B. Locate all dimensions from two permanent points (buildings, monuments, sidewalks, curbs or pavements).
 - C. Record all changes which are made from the Contract Drawings, including changes in the pressure and non-pressure lines.
 - D. Record all required information on a set of blackline prints of the Drawings. Do not use these prints for any other purpose.
 - E. Maintain information daily. Keep drawings at the site at all times and available for review by the City's Representative.
 - F. When the City's Representative has approved record drawings, transfer all information to a set of reproducible prints. Record drawing information shall be provided as a plotted drawing of the project irrigation system, a digital AutoCAD 2008 or later drawing file . All digital files shall be provided on a CD diskette clearly marked with the project name, file descriptions and date.
 1. Make dimensions accurately at the same scale used on original drawings, or larger. If photo reduction is required to facilitate controller chart housing, notes or dimensions must be a minimum 1/4 inch in size.

1.06 ALTERNATE MATERIAL APPROVALS

- A. Substitution of any product, material, or equipment without the prior written approval of the City's Representative will not be permitted.
 1. Approval of any item as a substitution or alternate is for design only, based on information or samples provided by the Contractor.
 2. Contractor shall be responsible for the total performance of such substitution to equal or surpass the original in every respect.
 3. If the substitution proves to be unsatisfactory in the opinion of the City's Representative, Contractor shall remove such work and re place it with originally specified item (including installation) as part of the work of this Section.
 4. Manufacturer's warranties shall not relieve Contractor of any liability under the specified guarantee. Such warranties are intended only to supplement the contractor's guarantee.

1.07 CONTROLLER CHARTS

- A. Do not prepare charts until record drawings have been approved by the City's Representative

- B. Provide one controller chart for each automatic controller installed.
 - 1. Chart may be a reproduction of the Record Drawing, if the scale permits fitting the controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.
 - 2. Chart shall be blackline print of the actual system, showing the area covered by that controller.
- C. Identify the area of coverage of each remote control valve, using a distinctly different pastel color, drawn over the entire area of coverage.
- D. Following approval of charts by City's Representative they shall be hermetically sealed between two layers of 20 mil thick plastic sheet.
- E. Charts must be completed and approved prior to final review of irrigation system.

1.08 OPERATING AND MAINTENANCE MANUALS

- A. Provide two individually bound manuals detailing operation and maintenance requirements for irrigation systems.
- B. Manuals shall be delivered to the City's Representative no later than 10 days prior to completion of work.
- C. Provide descriptions of all installed materials and systems in sufficient detail to permit maintenance personnel to understand operate and maintain the equipment.
- D. Provide the following in each manual:
 - 1. Index sheet, stating Irrigation contractor's name, address, telephone number and name of person to contact
 - 2. Duration of guarantee period
 - 3. Equipment list providing the following for each item:
 - a. Manufacturer's name
 - b. Make and model number
 - c. Name and address of local manufacturer's representative
 - d. Spare parts list in detail
 - e. Detailed operating and maintenance instructions for major equipment

1.09 CHECKLIST

- A. Provide a signed and dated checklist and deliver to the City's Representative prior to final review of the work.
- B. Use the following format:

1. Plumbing permits: if none required, so note.
2. Material approvals: approved by and date
3. Pressure line tests: by whom and date
4. Record drawings: received by and date
5. Controller charts: received by and date
6. Materials furnished: received by and date
7. Operation and maintenance manuals: received by and date
8. System and equipment operation instructions: received by and date
9. Manufacturer's warranties if required: received by and date
10. Written guarantee: received by and date
11. Lowering of heads in lawn areas: if incomplete, so state

1.10 GUARANTEE

- A. Guarantee the irrigation system to provide service as designed and installed for a period of one year from date of acceptance by City's Representative
- B. Correct all problems which develop in the system due to faulty materials of workmanship during the guarantee period.
- C. Repair or replace such work as directed by the City's Representative
- D. Make repairs and replacements promptly when notified.
- E. Provide a written guarantee for each segment of the project, stating date of completion and guarantee period.
- F. The City reserves the right to make temporary repairs during the guarantee period as necessary to keep systems in operating condition without voiding the contractor's guarantee, nor relieving the Contractor of his responsibilities.

1.11 PRODUCT HANDLING

- A. Storage:
 1. Store materials at a location directed by the City's Representative
 2. Store materials in an orderly manner. Avoid interference with other construction activities.
- B. Protection: Contractor shall protect his work and work of others for the duration of the contract. He shall protect pipes and fittings from direct sunlight and avoid undue

bending and any concentrated external loading. Beds on which pipes are stored shall be full lengths of pipe. Pipe or fittings that have been damaged shall not be used.

1. It shall be the contractor's responsibility to protect all materials from theft or loss.
2. Protect all materials to prevent intrusion of dirt and moisture.
3. Protect the installed work and materials of other trades.

PART 2.00 - PRODUCTS

2.01 GENERAL

- A. Materials or equipment installed or furnished shall be new.

2.02 GENERAL PIPE

- A. Pressure supply line from point of connection through backflow prevention unit: must be cast iron, brass, copper or other material approved by the local code.
- B. With the exception of intake and discharge connections to backflow preventer, all other above ground installation shall be galvanized steel pipe and fittings.
- C. All threaded pipes shall be threaded by the manufacturer of the pipe.

2.03 P.V.C. PIPE

- A. All pressure supply lines under vehicular paving to be p.v.c. Schedule 40.
- B. Pressure supply lines 3" and larger downstream of backflow prevention units: class 200 p.v.c. (ASTM D-2241) connected with rubber gasket bell and spigot connections. The insertion mark shall be visible to show proper depths into spigot.
 1. Fittings for bell and gasket pipelines shall be ductile iron, slant-bell design, deep bell type. Fittings shall be manufactured of ductile iron, grade 65-45-12 in accordance with ASTM A-536. Fitting gaskets shall be in accordance with ASTM F-477. All ductile iron fittings shall be equipped with four 90-degree apart, outwardly extending radial lugs to accommodate for appropriate method of mechanical restraints.
 2. Fittings made from more than one piece shall utilize securely fastened bolt-on style spigot-bell links. Slip-on rings or loose rings as the method of attachment is not permissible.
 3. All tee fittings used to connect remote control valve and quick coupling assemblies to the mainline shall be ductile iron, deep bell service tee's. Saddles are not permissible.
 4. All ductile iron bends, reducers, tee's and gate valves shall be mechanically restrained. All bell and gasket joints adjacent to restrained joints shall be restrained in accordance to the manufactures recommended design criteria and guide.

5. The mechanical joint restraint shall be capable of securing the PVC pipe directly to the ductile iron fitting without the use of bolts, links and adapters. The joint restraint shall be capable of securing PVC gasket pipe joints and gate valves without the use of threaded rods. The width of the clamp at its apex shall be no less than 3 inches wide. Joint restraints made for iron or steel pipe are not permissible.
6. The joint restraint shall be manufactured from ductile iron, grade 65-45-12 in accordance with ASTM A-536. Bolts and nuts used on joint restraints shall be manufactured from stainless steel and be provided as part of the restraint assembly. Joint restraints shall be as manufactured by Leemco, Inc.
7. All joint restraints shall be installed using methods recommended by the manufacturer. All bolts and nuts shall be tightened as per manufacturer's recommended torque ratings.
8. The following Leemco models shall be utilized where applicable:
 - a. LH-Series restraints shall be used for all connections between PVC pipe and push-on deep bell, ductile iron fittings.
 - b. LB-Series restraints shall be used for PVC bell-spigot connections that require restraints.
 - c. LG-Series restraints shall be used for all push on gate valves.
 - d. LGK-Series restraints shall be used for all push on gate valves installed adjacent to a ductile iron fitting.
 - e. LMJ-Series restraints shall be used for all MJ gate valves, and flanged valves.
- C. Pressure supply lines 2" and 2-1/2" downstream of backflow prevention units: class 315 p.v.c. connected with primer and solvent cement per manufacturer's specifications.
- D. Pressure supply lines 1 1/2 inches and smaller down stream of backflow prevention unit: Schedule 40 p.v.c. connected with primer and solvent cement per manufacturer's specifications.
- E. Non-pressure lines: class 200 p.v. c.
- F. Identification markings:
 1. Identify all pipe with the following indelible markings:
 - Manufacturer's name
 - Nominal pipe size
 - Schedule or class
 - Pressure rating p.s.i.
 - NSF (National Sanitation Foundation) seal of approval
 - Date of extrusion

- G. Pipe (solvent weld type, 2-1/2" and smaller): manufacture from virgin polyvinyl chloride compound in accord with ASTM D1784 and ASTM D2241, cell classification 12454B; hydrostatic design stress rating not less than 2,000 p.s.i.
- H. Fittings for p.v.c. pipe connected with primer and solvent cement: standard weight, Schedule 80, injection molded p.v.c. Comply with ASTM D1784, cell classification 13454B, as manufactured by Dura Company or approved equal.
 - 1. Threads (where required): injection molded type
 - 2. Tees and ells: side gated
- I. Threaded nipples: standard weight, Schedule 80 with molded threads

2.04 JOINT CEMENT AND PRIMER

- A. Non-pressure plastic pipe and fittings shall be cemented using a 100% active solvent, blue in color.
- B. Pressure plastic pipe and fittings shall be coated with a primer and then with a 100% active solvent.
- C. Both primer and solvent shall be similar in all respects to that manufactured by Christi's or approved equal.

2.05 COPPER PIPE AND FITTINGS

- A. Pipe: Type K, hard tempered ASTM B 88
- B. Fittings: wrought copper, solder joint type in accordance with ANSI B 16.22.
- C. Joints shall be soldered with silver solder, conforming to ASTM B 206.

2.06 BRASS PIPE AND FITTINGS

- A. Brass pipe shall be 85% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe.
- B. Fittings shall be medium brass, screwed 125 pound class.

2.07 GALVANIZED PIPE AND FITTINGS

- A. Pipe shall be galvanized steel, American National Standard Institute (ANSI), Schedule 40 galvanized, mild steel screwed pipe.
- B. Fittings: screwed beaded malleable iron, or 125 pound cast iron, flanged.
- C. Unions (2 inches and smaller) shall be galvanized steel with brass to iron seat, minimum 300 lb. WOG, ground joint pattern.
- D. Union (larger than 2 inches): flanged type. Flanged pipe and fittings shall be shop fabricated, not field fabricated. Threaded flanges shall comply with AWWA C115 and shall be individually fitted and machine tightened in the shop.

1. Gaskets for Flanged Joints: Gaskets for flanged joints shall be 1/8 inch thick, cloth-inserted rubber. Gaskets shall be suitable for a water pressure of 350 psi at a temperature of 180 degrees F. Gaskets shall be John Crane Company Style 777, Johns Manville No. 109, or approved equal.
 2. Bolts, Nuts and Washers: Bolts and nuts for buried flanges, flanges located outdoors above ground, flanges located in open vaults and structures, and submerged flanges shall be Type 316 stainless steel conforming to ASTM A 193, Grade B8M for bolts, and ASTM A 194, Grade 8M for nuts. A washer shall be provided for each nut. Washers shall be of the same material as the nuts.
- E. When brass piping is connected to a galvanized pipe, make connections using a dielectric union, or dielectric flanges. Dielectric isolation must be provided between all connections joining ferrous and non-ferrous metals.
- F. Pipe Wrapping (Protective Coatings): All buried piping shall be factory wrapped, with the exception of field wrapping at joint conditions, as follows:
1. Underground steel piping buried directly in the soil shall be factory coated with asphalt, wrapped with asphalt saturated felt, finished with a coat of asphalt, and wrapped with an overwrap of 50 lb. kraft paper. Field wrapping of pipe shall not be acceptable except joints and risers to back flow preventers hose bibs, and the like field wrapped to 6 inches above finished grade.

2.08 ELECTRICAL AND WIRING SERVICE

- A. High voltage
1. Contractor is to coordinate with the local electrical company for connection to electrical service and/or installation of conduit, electrical wiring, and meter pedestal at the location shown on the drawings. Minor changes in location caused by actual site conditions should be made at no cost to the City. The City's Representative shall approve all changes to the plans
 2. Electrical equipment installed outside building shall be NEMA 4 type, waterproofed for exterior installation.
 3. All connections between electrical services and equipment shall be in rigid galvanized electrical conduit, with conduit and wiring size as required.
 4. Electrical requirements to automatic controllers - (120 v) To be complete in every respect to local Electrical Code, ready for use and in accordance with manufacturer's requirements. Provide separate power shut-off switch at panel for each controller. All wiring in galvanized conduit and fittings from source provided under the electrical section. No running threads accepted; use nipples. Conduit system shall be 660 volt insulation; NEC standard annealed copper wire and shall be minimum AWG #12 TW or RW. Protect each controller by a code approved ground connection. Supply to meet the electrical requirements of the irrigation controller. Use only galvanized steel fasteners in securing controllers in position. Install new controller as detailed on drawings.

5. All high voltage electrical work shall require separate electrical permits and inspection.

B. Low Voltage

1. Connections between controller and remote control valves shall be made with direct burial AWG-UF, 600 volt wire, insulation thickness 3/64 inch, utilizing low density high molecular weight polyethylene insulation. Control wires shall be a different color for each automatic controller.
2. Splices, where permitted, shall be waterproofed using Rain Bird, Pen-Tite Connectors or fusible heat shrinking tubing and house in a box.
3. Wire sizing shall be according to manufacturer's recommendations, in no case less than no. 14.
4. Ground wires shall be white in color with a different color stripe for each automatic controller. Each controller shall have an independent common wire.
5. Three continuous spare control wires, blue in color, shall be installed with all pressurized main line from the controller enclosure to the end of the main line.

2.09 WATER SERVICE

- A. The Contractor shall be responsible for connection to the existing irrigation mains. Minor changes in location caused by actual site conditions should be made at no cost to the City. The City's Representative shall approve all changes to the plans
 1. Connections to existing mains: Contractor is to connect to an existing main, at the location shown on drawings. Irrigation drawings are based on a review of existing conditions and, when available, as-built irrigation drawings. Existing conditions may differ in the field from what is shown on as-built drawings. Therefore, Contractor is to review existing site conditions prior to any installation. Changes in existing piping size that may require different fittings shall be made at no additional cost to the City.

2.10 GATE VALVES

- A. 2-1/2 inches and smaller, (unless otherwise noted on Drawings): ASTM B62 brass body, 150 pound saturated steam rated; with screwed joints; non-rising stem; screwed bonnet, solid disc. Provide with hand-wheel.
- B. 3 inches and larger (unless otherwise noted on Drawings): ASTM A126 Class B, cast iron body 150 pound O.W.G. with flanged joints, non-rising stem, bolted bonnet, and double disc, equipped with a 2" square operating nut. A thrust block should support body.
- C. Class 312 stainless steel nuts and bolts shall be used to connect all flanged connections.

2.11 QUICK COUPLING VALVES

- A. Two piece type brass body, 150 pound class, with 3/4 inch female threads opening at base, permitting operation with a special connecting device (coupler) designed for this purpose.
 - 1. Coupler threads: lug type
 - 2. Hinge cover: Provide with rubber-like vinyl cover.

2.12 CHECK VALVES

- A. Anti-drain valve: plastic construction, with soft composition disc, stainless steel internal parts, and with spring tension adjustable from 4 p.s.i. To 15 p.s.i.

2.13 REMOTE CONTROL VALVES

- A. As per drawings

2.14 SMALL SHRUBBERY SPRINKLER HEADS

- A. Sprinkler shall be similar in all respects to type noted on Drawing.
- B. Body shall be equipped with a built-in check valve.

2.15 VALVE BOXES

- A. Valve boxes shall be fabricated from a durable plastic material resistant to weather, sunlight and chemical action of soils. They shall be green in color. The cover shall be green in color and be secured with a stainless steel bolt mechanism. The cover shall be capable of sustaining a load of 1500 PSI. Valve box extensions shall be by the same manufacturer as the valve box. All valve boxes shall be as manufactured by Ametek, Carson, or an approved equal.
 - 1. Quick coupling valve boxes shall be round, sized to fit equipment. The cover shall be heat branded with the letters "QCV", 2" high
 - 2. Gate valve boxes shall be round, sized to fit equipment. The cover shall be heat branded with the letters "GV", 2" high
 - 3. Remote control valve boxes shall be sized to fit equipment. The cover shall be heat branded with the letters "RCV" and the valve number in characters 2" high.
 - 4. Splice boxes shall be sized to fit equipment. The cover shall be heat branded with the letters "SB", 2" high.
 - 5. Valve boxes for moisture sensing stations shall be sized to fit equipment. The cover shall be heat branded with the letters "MSS", 2" high.
- B. Traffic area boxes, sized to fit equipment: concrete with cast iron lid designed for vehicular traffic use.

2.16 OPERATING AND MAINTENANCE TOOLS

- A. Deliver the following items to the City when work is completed and prior to final acceptance of work.
1. Two wrenches for disassembly and adjustment of each type of sprinkler head.
 2. Two keys for each automatic controller.
 3. 6 quick coupler keys and matching hose swivels with globe valves.
 4. 2 keys for opening valve boxes.
- B. Drip system spare parts: Upon completion of the installation, turn over the following spare parts and specialty tools to the City's authorized representative. Include with the following quantities of items a list of each part with appropriate part number (for ordering replacement products) and local supply store of where these parts can be purchased.
1. One (1) Plastic handled punch.
 2. Ten (10') of dripper tubing for each dripper interval and discharge rate.
 3. Six (6) barbed couplings.
 4. Six (6) barbed 90° elbows fittings.
 5. Six (6) barbed tee fittings.
 6. Six (6) 180° 2-way adapter tees.
 7. Six (6) male adapters w/ 3/4" FPT.
 8. One (1) spare filter element of the mesh size indicated on the irrigation legend
 9. One (1) line flushing valve.
 10. Six - (6) dripper plug rings

2.17 DRIP SYSTEM

- A. Techline: Continuously Self-Flushing, Pressure-Compensating Dripperline: The dripperline shall consist of nominal sized one-half inch low density, linear polyethylene tubing, housing internal pressure compensating, continuously self-flushing, integral drip emitters. The tubing shall be brown in color and conform to an outside diameter (O.D.) of 0.67 inches, and an inside diameter (I.D.) of 0.57 inches. The emitters shall have the ability to independently regulate discharge rates, with an output pressure of seven (7) to seventy (70) psi, at a constant flow and with a coefficient of variability (Cv) of 0.03. The emitter discharge rate shall be 0.92 gallons per hour (gph), utilizing a combination turbulent flow/reduced pressure compensation cell mechanism and a diaphragm to maintain uniform discharge rates. The emitters shall continuously clean themselves while in operation. The dripperline shall be available 18 inch spacing between emitters.

1. Techline 17 mm (0.57") Fittings: All Techline connections shall be made with approved Techline 17 mm (0.57") insert fittings.
2. Line Flushing Valves: All Techline systems shall utilize Netafim Automatic Line Flushing Valves at the end of each independent zone or dripperline (maximum flow per valve; 15 gpm). This valve shall be capable of flushing one gallon of water at the beginning of each irrigation cycle. The valves shall be Netafim model TL050MFV-1, with 1/2" MPT connection.
3. Air/Vacuum Relief Valves: Each independent irrigation zone shall utilize a Techline Air/Vacuum Relief Valve, model TLARV, at the zone's highest point(s). The purpose of the valve is to evacuate air from the zone at start-up, and to relieve vacuum at zone shut down.
4. Disc Filter: The filter shall be a multiple disc filter with color-coded filter elements indicating the mesh size of the element being used. The discs shall be constructed of chemical resistant thermoplastic for corrosion resistance. The filter shall be a Netafim model as indicated on plans.

PART 3.00 - EXECUTION

3.01 UTILITY SERVICES

- A. Contractor shall connect to the existing irrigation mains at the location indicated on the drawings and make any minor changes in location necessary due to actual site conditions as a part of this contract.
 1. Connections to existing mains: Contractor is to connect to an existing main, at the location shown on drawings. Irrigation drawings are based on a review of existing conditions and, when available, as-built irrigation drawings. Existing conditions may differ in the field from what is shown on as-built drawings. Therefore, Contractor is to review existing site conditions prior to any installation. Changes in existing piping size that may require different fittings shall be made at no additional cost to the City.
- B. Connect to existing electrical service. Make minor changes in location as necessary due to actual site conditions as part of this work.

3.02 SITE REVIEWS

- A. Before any work commences; a conference shall be held with the City's Representative and Contractor regarding general requirements of this work.
- B. Contractor's responsibility:
 1. Notify the City's Representative for the following reviews, with 48 hours minimum notice.
 - a. Pressure supply line installation and testing
 - b. System layout

- c. Coverage tests
 - d. Final review
 - 2. Provide "walkie-talkie" equipment and/or personnel to maintain communication from review area to automatic controllers.
 - 3. Provide up-to-date as-built drawings at each review.
 - 4. In the event Contractor schedules any review and the system is not fully ready, record drawings are not current, or required corrective work has not been completed, the Contractor shall be responsible for reimbursing the City at the current hourly rate plus all travel expenses. No further reviews will be conducted until this charge is paid.
- C. Examine surfaces for conditions that will adversely affect execution, permanence and quality of work.
- 1. Verify that grading has been completed and the work of this section can properly proceed.
 - 2. Exercise extreme care in excavating and working near existing utilities. Contractor is responsible for damages to utilities, which are caused by his operations or neglect. Check existing utility drawings for locations.
- D. Notify the City's Representative in writing, describing unacceptable conditions.
- E. Do not proceed with work until unacceptable site conditions are corrected or existing utilities are located.

3.03 LAYOUT

- A. All piping or equipment shown diagrammatically on drawing outside of planting areas shall be installed inside planting areas whenever possible.
- B. Lay out each sprinkler head and make any minor adjustments required due to differences between actual site conditions and the Drawings. Minor adjustments shall be maintained within the original design intent.
- C. Lay out each system using staking method as approved by City's Representative. Maintain and protect approved staking layout.

3.04 TRENCHING

- A. Excavate trenches to required depths. Follow approved layout for each system.
- B. Trench bottom shall be flat to insure piping is supported continuously on an even grade.
- C. Where lines occur under paved areas, considers dimension to be below the subgrade.
- D. Provide minimum coverage as follows:

1. Pressure supply lines, non-pressure lines and control wires under roadways: 36 inches
2. Pressure supply lines (2-1/2 inches and smaller): 18 inches
3. Pressure supply lines (larger than 3 inches): 24 inches
4. Non-pressure lines: 12 inches
5. Control wire: same as pressure supply line

3.05 LINE CLEARANCES

- A. Provide not less than 4 inches clearance between each line and not less than 6 inches clearance between lines of other trades, unless otherwise noted.
- B. Do not install parallel lines directly over any other line.

3.06 BACKFILLING

- A. Initial backfill: clean, fine granular material as approved by City's Representative
- B. Compact trench backfill to a dry density equal to adjacent undisturbed soil. Restore to adjacent grade, free of dips, depressions, humps or other irregularities.
 1. Where acceptable soils exist, the City's Representative may authorize flooding in lieu of tamping.
 2. Compacting by truck or other vehicle is not permitted.
- C. Replace and restore all surfaces to original condition with new sod.

3.07 INSTALLATION

- A. All plastic pipe and fittings shall be installed in complete accord with manufacturer instructions for it.
- B. Provide mechanical joint restraints at each change of direction and at all terminal points of all rubber gasket piping. Install mechanical joint restraints in accord with manufacturer's instructions.
- C. Steel pipe protective covering (buried only):
 1. Clean all pipe and fitting surfaces, removing all foreign substances and film.
 2. Coat all surfaces with adhesive primer.
 3. Wrap pipe, conduit and fittings with three layers of polyvinyl chloride tape. Overlap each layer approximately 2/3 of the width of tape without stretching.
 - a. Total wrap thickness not less than 10 mil over all surfaces, with any voids.

- D. Install backflow assemblies in shrub areas at minimum height permitted by local code.
- E. Routing of pressure supply lines as indicated on Drawings is diagrammatic. Install lines (and various assemblies) to conform to details on plan.
- F. Install all specified assemblies in accordance with the Drawings. Pipe upstream of irrigation assemblies (remote control valves, gate valves, backflow preventer, etc.) is equal in diameter to downstream piping of irrigation assemblies. If necessary add reduced bushing to bring piping diameter to irrigation assemblies size.
- G. Brass pipe and fittings: Assemble using Teflon tape applied to male threads only.
- H. Plastic pipe and threaded fittings: Assemble using Teflon tape applied to male threads only.
- I. Tape all open ends of pipe during installation to prevent entry of any foreign matter into the system.
- J. Quick coupling valves: Unless otherwise indicated, locate valves within 12 inches of hardscape.
- K. Tree irrigators: Locate at each tree; install as indicated on Drawings, including vents, filter, etc.
- L. Backflow prevention unit and controllers: Verify exact location with City's Representative prior to any installation.
- M. Sprinkler heads:
 - 1. Shrub heads shall be installed as noted on Drawings.
 - 2. Elevate full heads in lawn areas to a minimum of 3 inches above grade.
 - 3. Elevate heads along curbs, walks, paving, etc., 1/2 inch above grade in lawn areas.
 - 4. Lower raised heads within 10 days after notification by the City.

3.08 PIPING BENEATH PAVEMENT

- A. Piping under pavement shall be installed within a p.v.c. Schedule 40 sleeve. The sleeve shall have a minimum 1" clearance from the main line and shall extend a minimum of 3 feet beyond such pavement. In-line fittings, including couplings, shall not be permitted under paved surfaces except where the length of the line under paving is 20 feet or greater. The end of sleeve shall be capped hand tight until piping is laid.
- B. Sleeves under existing pavements may be installed by jacking, boring or by hydraulic driving, except as otherwise specified or directed.
 - 1. Secure City's Representative's permission prior to cutting or breaking existing pavements.

2. Make completely clean cuts using power saws, at approved locations only.
 3. Replace and restore all surfaces to original condition, including grade and landscaping.
 - a. Restoration work shall match the original work in every respect, including type, strength, texture and finish.
- C. Sleeves shall be installed a minimum of 24" beneath the bottom of the roadway pavement subgrade and at least as deep as piping requires.
 - D. Provide and backfill a minimum of 6" over and under all sleeves located under paved areas. A compaction test is required to confirm 95% relative density.
 - E. Coordinate installation of piping and wires under paved areas with other trades.
 - F. If the only piping installed is over 20 feet long; pressure testing is required for that section at the time of installation. Upon completion of piping installation, the entire system must be tested.
 - G. Control wires located beneath paved areas shall be installed in a separate schedule 40 p.v.c. sleeve.
 1. If wire under paved areas cannot be continuous, all splices shall be enclosed in an approved box.

3.09 VALVES AND VALVE BOXES

- A. Valves and valve boxes shall be installed as shown on the drawings and details. The top of the valve boxes shall be 2" above finish grade in ground cover areas and 1" above finish grade in lawn areas. Install each remote control valve and quick coupling valve in a separate valve box and allow at least 24" between valve boxes.
- B. Fill area under box with minimum of 3 cubic feet of pea gravel before box is installed.
- C. Common bricks shall be placed beneath each corner of rectangular valve boxes for stabilization.
- D. Identification:
 1. Attach identification tag showing valve number on each solenoid "pigtail"
 2. Follow the same procedure when using moisture sensing units, adding "MS" or letters noting the type of equipment.
 3. Tags shall be manufactured of polyurethane Behr Desopaid, or approved equal, yellow in color with black letters 2-3/4 inches by 2-1/4 inches.

3.10 LOW VOLTAGE WIRING

- A. Place wiring in the same trench and along the same routing as the pressure supply lines unless otherwise approved.

1. Install wiring prior to main line whenever possible.
 2. When more than one wire is placed in a trench, tape wires together at a maximum 12 feet on center.
- B. An expansion curl shall be provided within three (3) feet of each wire connection. Expansion loop shall be of sufficient length at each splice connection, at each electrical control valve so that in case of repair the valve bonnet may be brought to the surface without disconnecting the control wires.
1. An expansion curl shall be provided every 100 feet in runs of more than 100 feet in length. Provide looped slack at valves and changes in direction of 90 degrees.
- C. Use a continuous wire between controller and remote control valves.
1. Except as otherwise approved, do not splice wire at any point.
 2. All approved splices shall be enclosed in an acceptable box.
- D. Each controller shall be provided with separate ground wire.

3.11 SYSTEM FLUSHING

- A. After all sprinkler pipe lines and risers are in place and connected, and prior to installation of sprinkler heads, thoroughly flush all lines with a full head of water.
- B. Do not install sprinkler heads until lines have been flushed to the satisfaction of the City's Representative

3.12 SYSTEM ADJUSTMENT

- A. Valves: Adjust flow control for proper operation.
- B. Heads: Adjust for alignment and coverage.
- C. If it is determined that coverage can be improved by a nozzle change, make such changes or arrange with the manufacturer to have changes made, as part of the work of this Section.
 1. Make changes prior to any planting.

3.13 PRESSURE TESTS

- A. Provide all equipment necessary to test systems, including force pump.
- B. Perform all hydrostatic tests in presence of the City's Representative
- C. Test all pressure supply lines under hydrostatic pressure of 150 p.s.i. for a period of 2 hours, unless otherwise approved.
- D. Do not backfill over any line more than is necessary for testing, until it has been inspected, tested and approved.

- E. Do not install remote control valves, quick couplers or any other valve assembly until testing is completed and approved.

3.14 COVERAGE TESTS

- A. Perform coverage tests after sprinkler system is completed, but prior to any planting, in the presence of the City's Representative
- B. Test system to assure that all planting areas are watered completely and uniformly.
- C. Make all necessary adjustments, including realignment of heads, to provide required coverage as directed by City's Representative

3.15 EXISTING TREES

- A. Where it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to trees and tree roots. Excavation in areas where 2 inch and larger roots occur shall be done by hand. Roots 2 inches and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped in burlap, to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts through. Roots 1 inch and larger in diameter shall be painted with two coats of Tree Seal, or equal. Trenches adjacent to trees would be closed within 24 hours. Where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.

3.16 OPERATING INSTRUCTIONS

- A. Train the City's Maintenance personnel in proper operation of all major equipment, including recommended winterization procedures.
- B. Provide this training at the City's Representative's convenience.
- C. Submit written evidence that training has been successfully completed.

3.17 CLEANUP

- A. Upon completion of the work, restore ground surfaces to required elevations and remove excess materials, debris and equipment from the site to satisfaction of City's Representative

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide all products and execute all labor to achieve soil preparation, complete as shown and as specified.
- C. Related Work in Other Sections:
 - Irrigation System - Section 02810
 - Lawns and Grasses - Section 02930
 - Trees, Shrubs, and Ground Covers - Section 02950
 - Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Applicable Standards: General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
- B. Provide certificates of inspection required by law for transportation with invoice. File copies of certificates with Agency's Authorized Representative after acceptance of material. Inspection by governmental officials at point of origin does not preclude rejection of materials at project site.

1.03 SUBMITTALS

- A. Samples and Product Data: Prior to delivery to site, submit samples and manufacturer's literature to the Agency Authorized Representative for the following items:
 - 1. Organic Amendments: One (1) pint for each type
 - 2. Topsoil: One-half (2) pound
 - 3. Soil Mixes: One-half (2) pound for each type
 - 4. Sand: One-half (2) pound
 - 5. Chemical Additives: One (1) pint for each type
- B. Test Data: Submit all laboratory test data for all materials.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish standard products in unopened manufacturer's standard containers bearing original labels showing quantity, analysis and name of manufacturer.
- B. Storage: Store products with protection from weather or other conditions which would damage or impair the effectiveness of the product.

1.05 ANALYSES OF SAMPLES AND TESTS

- A. Sampling: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Furnish samples upon request by Agency's Authorized Representative.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense.
- C. Testing: Pay cost of testing of materials not meeting specifications.

1.06 PRE-PLANT REVIEW

- A. Acceptance: Work will be accepted by the Agency's Authorized Representative upon satisfactory completion of all soil preparation work.
- B. Notification: Notify Agency's Authorized Representative forty-eight (48) hours in advance for review of soil preparation prior to proceeding with planting operations.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. General Qualifications:
 - 1. Composition: Use only fertile, friable, well-drained soil, of uniform quality, free of stones over 1 in. diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials, as a planting medium for the project.

2. Testing:

- a. Parasites: Test all soils which have been previously used for agriculture forenmatodes. It shall be acceptable if the parasites nematode population is less than two hundred (200) per five (5) cubic centimeters of soil. Do not artificially dry soil prior to testing.
 - b. Herbicide: Perform a radish/reygrass growth trial if herbicide contamination is suspected. Consult with Agency's Authorized Representative prior to testing.
- B. Existing Soil to be Amended: Inspect existing soil and do all work necessary to bring it to standards specified under "General Qualifications" above. Amend as specified herein.

2.02 ORGANIC AMENDMENTS

- A. Nitrogen-Treated Sawdust: Derived from redwood, fir, or cedar sawdust.

1. Physical Properties:

<u>Percent Passing</u>	<u>Sieve Size</u>
95-100	6.35 mm (1/4")
80-100	2.38 mm (#8,* mesh)
0-30	500 micron (#35, 32 mesh)

2. Chemical Properties:

Nitrogen Content (dry weight basis):

Wood of Redwood - 0.4-0.6%

Wood of Fir/Cedar - 0.56-0.84%

Iron Content (dry weight basis):

Minimum 0.08% iron as metallic

Soluble Salts: Maximum 3.5 millimhos/am twenty-five (25) degrees Celsius as determined by saturation extract method.

Ash (dry weight basis): 0.6.0%

3. Wettability:

- a. The air-dry product shall, when applied to a cup or smaller beaker of water at seventy (70) degrees Fahrenheit in the amount of 1 teaspoon, become completely wet in a period not exceeding two (2) minutes.
- b. Guarantee all wetting agents added to accomplish this to be non-phytotoxic at rate used.

2.03 COMMERCIAL FERTILIZERS

- A. Pre-Plant Fertilizer: Mixed by a commercial fertilizer supplier and consisting of the following percent by weight:

Six (6) Percent	Nitrogen
Twenty (20) Percent	Phosphorus
Twenty (20) Percent	Potash

2.04 CHEMICAL ADDITIVES

- A. Ground Limestone: Agricultural limestone containing not less than eighty-five (85) percent of total carbonates, ground to such fineness that fifty (50) percent will pass #100 sieve and ninety (90) percent will pass #20 sieve.
- B. Dolomite Line: Agricultural grade mineral soil conditioner containing thirty-five (35) percent minimum magnesium carbonate and forty-nine (49) percent minimum calcium carbonate, one hundred (100) percent passing \$65 sieve. "Kaiser Dolomite 65 AG" as manufactured by Kaiser, Inc., Mineral Products Department, or equal.
- C. Gypsum: Agricultural grade product containing eighty (80) percent minimum calcium sulfate.
- D. Iron Sulfate: (Ferric or Ferrous): Supplied by a commercial fertilizer supplier, containing twenty (20) percent to thirty (30) percent iron and thirty-five (35) percent to forty (40) percent sulphur.
- E. Sulfate of Potash: Agricultural grade containing (50) percent to fifty-three percent of water-soluble potash.
- F. Single Superphosphate: Commercial product containing approximately twenty (20) percent to twenty-five (25) percent available phosphoric acid

- G. Ammonium Sulfate: Commercial product containing approximately twenty-one (21) percent ammonia.
- H. Ammonium Nitrate: Commercial product containing approximately thirty-four (34) percent ammonia.
- I. Calcium Nitrate: Agricultural grade containing fifteen and one-half (15-1/2) percent nitrogen.
- J. Urea Formaldehyde: Granular commercial product containing thirty-eight (38) percent nitrogen.
- K. I.B.D.U. (iso Butyldiene Diurea): Commercial product containing thirty-one (31) percent nitrogen.
- L. Soil Sulfur: Agricultural grade sulfur containing a minimum of ninety-six (96) percent sulfur.
- M. Iron Sequestrene: Geigy Iron Sequestrene 330 Fe.

2.05 WATER

- A. Clean, fresh and potable, furnished and paid for by Agency.

PART 3 - EXECUTION

3.01 SOIL PREPARATION

- A. General:
 - 1. Moisture Content: Do not work soil when moisture content is so dry that dust will form in air that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content of tilling and planting.

B. Preparation of Existing Soil:

1. Verification of Existing Grades: Verify that grades are within plus or minus one tenth of one foot of the required finished grades. Report all variations immediately to the Agency's Authorized Representative.
2. Cultivation: Rip or cultivate all planting areas to a depth of six (6) inches immediately prior to amending existing soil, except for slope areas 2:1 or greater.
3. Cleaning of Debris: After installing trees, shrubs and finish grading, but prior to the installation of the turf clear areas of stones $\frac{3}{4}$ " inches diameter and larger from the surface. Also, remove all weeds, debris and other extraneous materials prior to amending existing soil.
4. Trees to Remain: Hand cultivate within the drip line of existing trees to remain. Depth of cultivation shall not exceed two (2) inches. Cultivate immediately prior to amending existing soil.
5. All rocks and debris generated in the preparation of soil shall be disposed of in a legal manor by the contractor at the contractors expense.

3.02 SOIL CONDITIONING

A. Amending of Existing Soil (all areas less than 2:1 slopes):

1. Application: Incorporate per one thousand (1,000) square feet:

6 cu. yd. Nitrogen-treated Sawdust
15 lbs. 12-12-12 Commercial Fertilizer
10 lbs. Urea Formaldehyde
2. Intent: The above amendments and quantities are approximate and are for bidding purposes only. Following five (5) on-site topsoil analysis by an approved Soils and Plant Laboratory, composition of amendments may change. Contract price will be adjusted accordingly.
3. Areas to Receive Hydroseeding: Delete pre-plant fertilizer.
4. Incorporation of Amendments: Incorporate thoroughly within top six (6) inches of soil layer and bring amended soil to finish grades and elevation shown on drawings. Do not work soils under muddy conditions.

B. Backfill Mix for On-Grade Plant Pits:

1. Composition:

Sixty (60) percent Native Soil excavated from plant pit
Forty (40) percent Nitrogen-treated sawdust
One (1) lb. 12-12-12 cubic yard of mix
Two (2) lbs. Iron Sulfate per cubic yard of mix
One (1) lb. Urea Formaldehyde per cubic yard of mix

2. Intent: The above amendments and quantities are approximate and are for bidding purposes only. Following two (2) on site topsoil analysis for agricultural suitability (paid for by Contractor) by an approved Soils and Plant Laboratory, composition of amendments may change. Contract price will be adjusted accordingly.

3.03 DRAINAGE OF PLANTING AREAS

- A. Surface Drainage: All planting areas shall have positive drainage towards drains and/or street curbs. Contractor shall verify that no standing water will occur.

B. Detrimental Drainage, Soils, and Obstructions:

1. Notification: Submit in writing all soils or drainage conditions considered detrimental to growth of plant materials. State condition and proposal and cost estimate for correcting condition.
2. Correction: Submit for acceptance a written proposal and cost estimate for the correction before proceeding with work.

3.04 CLEAN-UP

- A. Keep all areas of work, clean, neat and orderly at all times.
- B. Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance to the satisfaction of the Agency's Authorized Representative.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide lawns, complete as shown on drawings and as specified.
- C. Related Work in Other Sections:
 - Irrigation System - Section 02810
 - Soil Preparation - Section 02920
 - Trees, Shrubs, and Ground Covers - Section 02950
 - Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Certificates of Inspection: Provide as required by law for transportation of each shipment of seed along with invoice. Submit copies of certificates after acceptance of material. Inspection by Federal or State Governments at place of growth does not preclude rejection at proper site.
- B. Applicable Standards: Apply standards for seed and sod as described in the following:
 - 1. General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
 - 2. Hortus III - Latest edition, Bailey Horatorium, Cornell University.

1.03 SUBMITTALS

- A. Samples and Product Data: Submit samples and manufacturer's literature for the following items:
 - 1. Seed Mix(es): One half (2) pound for each type.
 - 2. Mulch: One half (2) pound
 - 3. Soil Stabilizer: One half (2) pound
 - 4. Mulch and Soil Stabilizer: One half (2) pound
- B. Test Data: Submit all laboratory test data for all materials.
 - 1. Seed Varieties: Guaranteed statement of composition, mixture and percentage of purity and germination of each variety.

1.04 WORK SCHEDULE

- A. Proceed with the work as rapidly as the site becomes available, consistent with normal seasonal limitations for planting work.

1.05 SELECTION AND ORDERING OF PLANT MATERIAL

- A. Documentation: Submit documentation within fifteen (15) days after award of contract that all seed has been ordered.
- B. Unavailable Materials: If proof is submitted that any seed specified is not obtainable, a proposal will be considered for use of the nearest equivalent variety with corresponding adjustment Contract price. Substantiate such proof in writing no later than fifteen (15) days after award of contract.
- C. Special Conditions: The above provisions shall not relieve contractor of the responsibility for obtaining specified seed in advance if special growing conditions or other arrangements must be made in order to supply specified materials.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Seed:
 - 1. Delivery: Furnish standard seed in unopened manufacturer's standard containers bearing original certification labels showing quantity, analysis and name of manufacturer.
 - 2. Storage: Store seed with protection from weather or other conditions which would damage or impair the effectiveness of the project.
- B. Mulch: Store with protection from weather or other conditions which would damage or impair the effectiveness of the product.

1.07 ANALYSES OF SAMPLES AND TESTS

- A. Samples: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense. Pay cost of testing of materials not meeting specifications.

1.08 MAINTENANCE PERIOD AND FINAL ACCEPTANCE

- A. See Section 02970 - Landscape Maintenance.

1.09 WARRANTY PERIOD

- A. Time Period: Warrant that all lawns and grasses shall be in a healthy and flourishing condition of active growth six (6) months from date of Final Acceptance.
- B. Appearance During Warranty: Lawns shall be free of dead or dying patches, and all areas shall show foliage of a normal density, size and color.
- C. Delays: All delays in completion of planting operations which extend the planting into more than one planting season shall extend the Warranty Period correspondingly.
- D. Coverage: Warrant growth and coverage of hydroseeded planting to the effect that one hundred (100) percent of the area planted shall be covered with specified planting after one growing season with no bare spots.

- E. Exceptions: Contractor shall not be held responsible for failures due to neglect by the Agency, vandalism, etc., during Warranty Period. Report such conditions in writing.

1.10 REPLACEMENTS

- A. Unacceptable Workmanship: Lawn areas exhibiting conditions which are determined as unacceptable workmanship shall be repaired and/or replaced at no additional cost to the Agency.
- B. Replacements: Replace, without cost to Agency, as soon as weather conditions permit, all lawn not in a vigorous, thriving conditions, as determined by Agency's Authorized Representative during and at the end of Warranty Period.
- C. Matching: Closely match all replacement seed with adjacent areas of lawn or grass. Apply all requirements of this Specification to all replacements.

PART 2 - PRODUCTS

2.01 LAWN SEED

- A. Composition: Fresh, clean, certified, new crop seed of the following varieties mixed in the proportions as shown:

<u>Marathon II</u>	or	<u>Triple Crown Dwarf</u>
Marathon	52%	Empress Dwarf 34% or equal
Mustang	22%	Pixie Dwarf 33% or equal
Rebel	11%	Pixie Dwarf 33% or equal
Olympic	15%	El Dorado Dwarf 33% or equal

or equal approved by Agency's Authorized Representative.

- B. Weed Seed: Do not exceed twenty-five one hundredths percent (0.25%).

2.02 ORGANIC AMENDMENTS:

- A. See Section 02920 - Soil Preparation

2.03 TOP-DRESS FERTILIZER

- A. Complete fertilizer, fifty (50) percent of the nitrogen to be derived from natural organic sources or urea-form. Available phosphoric acid shall be from superphosphate, bone or tankage. Potash shall be derived from muriate of potash containing sixty (60) percent potash:

Sixteen (16) percent	Nitrogen
Six (6) percent	Phosphorus
Eight (8) percent	Potash

2.04 HYDROSEED MULCH

- A. General:

1. Composition: Green-colored, fibrous, virgin wood cellulose mulch containing no growth or germination-inhibiting factors.
2. Dispersion in Slurry: Mulch shall be manufactured in such manner that after addition to and agitation in slurry tanks with fertilizer, seed, water and other approved additives, fibers in the material will become uniformly suspended to form a homogeneous slurry.
3. Absorption Capacity: When hydraulically sprayed on the ground, the material will form a blotter-like ground cover impregnated uniformly with seed which will allow the absorption of moisture and allow rainfall to percolate to the underlying soil.

- B. Specifications:

1. Weight: Weight Specifications of this material from suppliers, and for all applications, shall refer only to air dry weight of the fiber material. Absolute air dry weight is based on the normal standards of the Technical Association of the Pulp and Paper Industry for wood cellulose and is considered equivalent to ten (10) percent moisture.
2. Labeling: Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

2.05 SOIL STABILIZER

- A. Composition: Totally organic substance, supplied in power form and at least 90% of which is ninety-two (92) percent pure muciloid derived from ground plantago ovata-insularis husks. Stabilizer shall be water-soluble, non- toxic hydrophillic and shall not inhibit germination.
- B. Product: "Ecology Controls M-binder" as distributed by Stover Company, Los Angeles, CA, or equal approved by Agency's Authorized Representative.

2.06 HYDRAULIC EQUIPMENT FOR HYDROSEEDING

- A. Mixer: Use a commercial type hydro-seeder for the application of slurry. Equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix slurry.
- B. Distribution Lines: Large enough to prevent stoppage and to provide even distribution of the slurry over the ground.
- C. Pump Capacity: One hundred fifty (150) psi at the nozzle.
- D. Slurry Tank: Minimum capacity of one thousand (1,000) gallons shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded so as to provide uniform distribution without waste.

2.07 WATER

- A. Potable water is furnished by the Agency. Transport as required.

2.08 HYDROSEEDING MIX PER ACRE

- A. Lawn Areas: Marathon II, Triple Crown Dwarf or equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Areas to Receive Hydroseeding: All turf areas.

3.02 SOIL PREPARATION

- A. Refer to Soil Preparation - Section 02920/

3.03 HYDROSEEDED LAWN

- A. Turf Area Preparation: Culti-pak or roll all hydroseeded turf areas prior to hydroseeding so as to settle soil. Re-grade low areas and re-roll.
- B: Weed Abatement Prior to Hydroseeding Lawn: Begin watering immediately to activate fertilizer and chemicals.
1. Water all areas thoroughly and uniformly. Continue watering at the frequency and duration necessary to germinate all residual weed seeds, and as directed by the Agency's Authorized Representative.
 2. Unless otherwise directed, maintain watering for not less than three (3) weeks.
 3. If perennial weed appear, apply approved contact herbicide over affected areas. Apply in accord with manufacturer's instructions.
 4. If annual weeds appear, apply approved contact herbicide over affected areas. Apply in accord with manufacturer's instructions.
 5. Do not water affected areas for a period of four (4) days minimum, following application of contact herbicides.
 6. Follow manufacturer's instructions relating to time required for chemicals to effectively destroy weed growth.
 7. Resume watering, and continue for a period of three (3) weeks.
 - a. A shorter watering period may be permitted by the Agency's Authorized Representative, as determined by project conditions.

8. Discontinue watering for one (1) day prior to second application of herbicide spraying.
 - a. Reapply straight contact weed killer in accord with manufacturer's instructions.
 - b. Do not water treated areas for a period of four (4) days minimum following application of herbicide.
9. Remove all desiccated weeds from the slopes to the finish grade.
10. Water planting areas thoroughly and continuously for three (3) consecutive days. Saturate upper soil layers.
11. Allow soil surface to dry for one (1) day immediately prior to hydroseeding.
 - a. Exercise care not to allow the soil surface to become over-saturated with water prior to hydroseeding; do not permit soil to become bone dry.
 - b. The top quarter (1/4) inch of soil surface shall show evidence of residual moisture at time of hydroseeding.

C. Preparation: Do all slurry preparation at the job site.

1. Water: Add water to tank when the engine is at half throttle. When the water level has reached the height of the agitator shaft, establish good recirculation and add seed.
2. Seed: Do not allow seed to remain more than thirty (30) minutes in slurry.
3. Fertilizer: Add fertilizer, followed by the mulch. The mulch shall only be added to the mixture after the seed, and when the tank is at least one third (1/3) filled with water.
4. Mixing: Open the engine throttle to full speed when the tank is half-filled with water. Add all the mulch by the time the tank is two-thirds (2/3) to three-fourths (3/4) full. Commence spraying immediately when the tank is full.

D. Application:

1. General: Apply specified slurry mix in a sweeping rate. Keep hydroseeding within designated areas and keep from contact with other plant materials.
2. Unused Mix: Do not use slurry mixture which has not been applied within four (4) hours of mixing. Promptly remove from the site.
3. Protection: After application, do not operate any equipment over the hydroseeded areas.
4. Reseeding: Reseed all areas and parts of areas which fail to show a uniform stand of lawn until areas are covered with a satisfactory stand of lawn.

3.04 CLEAN-UP

- A. General: Keep all areas of work clean, neat and orderly at all times. Keep all paved areas clean during planting operations.
- B. Overspray: Immediately after application, thoroughly wash off any plant materials, planting areas, or paved areas not intended to receive slurry mix.
- C. Debris: Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this section.
- B. Work Included: Provide planting of trees, shrubs, and ground covers, complete as shown and specified.
- C. Related Work in Other Sections:
 - Irrigation System - Section 02810
 - Soil Preparation - Section 02920
 - Lawns and Grasses - Section 02930
 - Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Certificates:
 - 1. Provide certificates of inspection required by law for transportation of each shipment of plants along with invoice.
 - 2. File copies of certificates after acceptance of material. Inspection by Federal or State Government at place of growth does not preclude rejection of plants at project site.
- B. Applicable Standards: Apply standards for plant materials as described in the following:
 - 1. General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
 - 2. "American Standard for Nursery Stock", latest edition, American Association of Nurseyman, Inc.
 - 3. Hortus III - Latest edition, Bailey Horatorium, Cornell University.

1.03 SUBMITTALS

- A. Samples and Product Data: Prior to delivery to site, submit samples and manufacturer's current literature for the following items:
 - 1. Tree and Shrub Planting Fertilizer: Four (4) tablets each.
 - 2. Mulch: One (1) pint
- B. Test Data: Submit all laboratory test data for all materials.
 - 1. Mulch: One (1) pint

1.04 WORK SCHEDULE

- A. Proceed with the work as rapidly as the site becomes available, consistent with normal seasonal limitations for planting work.

1.05 SELECTION, TAGGING AND ORDERING OF PLANT MATERIAL

- A. Documentation: Submit documentation within fifteen (15) days after award of Contract that all plant materials have been ordered. Arrange procedure for review of plant materials at time of submission.
- B. Review: Submit a written list and request for review of tagged plant materials and quantity at place of growth at least ten (10) working days prior to shipment to site. Agency's Authorized Representative reserves the right to refuse review at this time, if, in his judgment, a sufficient quantity of plants is not available.
- C. Transportation: Contractor shall provide transportation for review of plant materials from Agency's Authorized Representative's Office to the nursery. The Agency's Authorized Representative will review the tagged plants at place of growth and upon delivery for conformity to specifications.
- D. Distant Material: Submit photographs with a person adjacent to plants for preliminary review. Such review shall not impair the right of review and rejection during the progress of the work.

- E. Unavailable Material: If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size of variety with corresponding adjustment of contract price. Substantiate such proof in writing no later than fifteen (15) days after award of contract.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish standard products in manufacturer's standard containers bearing original labels legibly showing quantity, analysis, genus/species and name of manufacturer/grower.
- B. Storage: Store products with protection from weather or other conditions which would damage or impair the effectiveness of the product. Protect metal containers from sun during summer months with temperatures above eighty (80) degrees Fahrenheit.
- C. Handling: Do not lift or handle container plants by tops, stems or trunks at any time. Do not bind or handle plants with wire or rope at any time.
- D. Anti-Desiccant: At Contractor's option, spray all evergreen or deciduous plant material in full leaf immediately before transporting with anti-desiccant. Apply an adequate film over trunks, branches, twigs and foliage.

1.07 ANALYSES OF SAMPLES AND TESTS

- A. Sampling: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Furnish samples upon request.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense. Pay cost of testing of materials not meeting specifications.

1.08 MAINTENANCE PERIOD AND FINAL ACCEPTANCE

- A. See Section 02970 - Landscape Maintenance.

1.09 WARRANTY PERIOD

- A. Warranty: Warrant that all trees, planted under this Contract will be healthy and in flourishing condition of active growth one year from date of Final Acceptance. Similarly warrant shrubs, and ground covers for a period of 90 days after Final Acceptance.
- B. Delays: All delays in completion of planting operations which extend the Warranty Period correspondingly.
- C. Condition of Plants: Plants shall be free of dead or dying branches and branch tips, with all foliage of a normal density, size and color.
- D. Replacements: As soon as weather conditions permit, replace, without cost to the Agency, all dead plants and all plants not in a vigorous, thriving condition, as determined by Agency's Authorized Representative during, and at the end of Warranty Period.

1.10 REPLACEMENTS

- A. General:
 - 1. Plant materials exhibiting conditions which are determined as being unacceptable due to workmanship by the Contractor shall be repaired and/or replaced at no additional cost to the Agency.
 - 2. Closely match replacements to adjacent specimens of the same species. Apply all requirements of this Specification to all replacements.
- B. Replacement Quantities: Contractor shall be held responsible for a maximum of two (2) replacements for each tree, shrub, and same area of ground cover planting during warranty period.
- C. Warranty: All replacement plants shall be warranted per (1.09) above.

PART 2 - PRODUCTS

2.01 PLANT MATERIALS

A. General:

1. Growing Conditions: Plants shall be nursery-grown in accordance with good horticultural practices under climatic conditions similar to those or project for at least two years unless otherwise specifically authorized by the Agency's Authorized Representative.
2. Appearance: All plants shall be symmetrical, tightly knit, so trained or factored in development and appearance as to be superior in form, number of branches, compactness and symmetry.
3. Vigor: Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pest, eggs, or larvae. They shall have healthy, well-developed root systems. Plants shall be free from physical damage or adverse conditions which would prevent thriving growth.
4. Container Stock: Verify that all container stock has been in the containers in which they were delivered for at least six (6) months, but not over two (2) years. Samples must prove to be free of kindled, circling or girdling roots and with no evidence of a pot-bound condition. Do not install container plants that have cracked or broken balls of earth when taken from container. Do not install bottom of container box for trees smaller than 36" box, we will not accept the planting of the trees with bottom of the box on trees that are 36" or smaller. Planting of trees that are 36" or larger with bottom of container box will be at the discretion of the City Field Inspector.

B. Measurements:

1. General: Measure plants when branches are in their normal upright position. Height and spread dimensions specified refer to main body of plant and not branch tip to tip. Take caliper measurement at a point on the trunk six (6) inches above natural ground line for trees up to four (4) inches in caliper and at a point twelve (12) inches above the natural ground line for trees over four (4) inches in caliper.

2. Size Range: If a range of size is given, do not use plant materials less than the minimum size. The measurements specified are the minimum size acceptable and are the measurements after pruning, where pruning is required. Plants that meet the measurements specified, but do not possess a normal balance between height and spread shall be rejected by the Agency's Authorized Representative.
 3. Substitutions: Plants shall be true to species and variety, and shall conform to measurements specified except that plants larger than specified may be used if accepted by Agency's Authorized Representative. Use of such plants shall not increase contract price. If larger plants are accepted, increase the ball of earth in proportion to the size of the plant.
- C. Pruning: Do not prune plants before delivery. For pruning after installation, see Section 02970 - Landscape Maintenance.
- D. Condition: Trees which have multiple leaders, unless specified, or damaged or crooked leaders, will be rejected. Trees with abrasions of the bark, sun-scalds, disfiguring knots, or fresh cuts of limbs over three-quarters (3/4) inches which have not completely calloused, will be rejected by the Agency's Authorized Representative.

2.02 BACKFILL MIX FOR PLANT PITS

- A. See Section 02920 - Soil Preparation.

2.03 COMMERCIAL FERTILIZERS

- A. Top-dress Fertilizer: Complete fertilizer, fifty (50) percent of the nitrogen to be derived from natural organic sources or urea-form. Available phosphoric acid shall be from super phosphate, bone or tankage. Potash shall be derived from muriate of potash containing sixty (60) percent potash:

Sixteen (16) percent Nitrogen
 Six (6) percent Phosphorus
 Eight (8) percent Potash

- B. Tree and Shrub Planting Fertilizer: "Agriform" twenty-one (21) gram tablets with 20-10-5 (N-P-K) Formula as manufactured by Sierra Chemical Co., Milpitas, California, (408) 263-8080, or equal approved by Agency's Authorized Representative.

2.04 STAKING MATERIALS

- A. Tree Stakes: Lodgepole Pine two (2) inch diameter; ten (10) feet long) with ten (10) inches. Tapered driving point and chamfered top, treated with copper naphthanate or pentachlorophenol to heartwood, green color, as manufactured by C & E Lumber Company, Pomona, CA., Tel. (909) 626-3591, or equal approved by Agency's Authorized Representative.
- B. Ties: Wonder tree-tie or other tie as accepted by Agency's Authorized Representative.

2.05 GUYING MATERIALS

- A. Deadmen: Cedar or redwood, with one (1) three-quarter (3/4) inch x four (4) inch galvanized eyebolt centered and secured on its side; screw-type galvanized steel ground anchor, or Universal ground anchors, as manufactured by Laconia Malleable Iron Company, Laconia, New Hampshire.
- B. Hardware:
 - 1. Guying Cable: 1 x 19 Aircord, size as specified.
 - 2. Turnbuckles: Galvanized or dip-painted and weldless.
 - 3. Cable Clamps: Galvanized or copper, size as required.
 - 4. Plastic Guy Covers: One half (2) inch diameter x four (4) to five (5) foot long white PVC SCH. 40 piping.

2.06 ROOT BARRIERS

- A. Barriers to deflect tree roots downward shall be installed When the tree is planted within five (5) feet of City improvements (i.e. sidewalks, curb & gutter, storm drain structures, wall structures...).
- B. Root barriers shall be Deep Root Corp. or equal.

2.07 WATER

- A. Clean, fresh and potable, furnish and paid for by the Agency.
- B. Transport required.

2.08 ANTI-DESICCANT

- A. Anti-desiccants for retarding excessive loss of plant moisture and inhibiting wilt shall be sprayable, water insoluble vinyl-vinylethylene complex which will produce a moisture retarding barrier not removable by rain.
- B. Wilt-pruf Formula NCF as manufactured by Nursery Specialty Products, Greenwich, CN., or equal approved by Agency's Authorized Representative.

PART - EXECUTION

3.01 PREPLANT REVIEW

- A. General: Do not commence planting work prior to acceptance by Agency's Authorized Representative of soil preparation.
- B. Finish Grades: Finish grades for all planting areas shall have been established in another section. Verify that all grades are within one (1) inch plus or minus of required finish grade, and that all soil amendments have been installed as specified under Section on Soil Preparation.
- C. Notification: Submit written notification of all conditions inconsistent with specifications for soil preparation and mixing as described in Section 02920 - Soil Preparation.

3.02 DRAINAGE OF PLANTING AREAS

- A. Surface Drainage: Maintain positive surface drainage of planted areas as established under Section 300-11 Finish and Rough Grading.
- B. Discrepancies: Submit in writing, all discrepancies in the Drawings or Specifications, obstructions on the site, or prior work done by others, which Contractor feels precludes maintaining proper drainage; include description of all work required for correction or relief of said discrepancies.
- C. Detrimental Drainage, Soils and Obstructions:

1. Notification: Supply written notification of all conditions detrimental to growth of plant material. State condition and submit proposal and cost estimate for correcting condition.
2. Testing: Test drainage of twenty (20) plant beds and pits identified in field by Agency's Authorized Representative by filling with water twice in succession. Notify Agency's Authorized Representative of conditions where retention of water in planting beds occurs for more than twenty-four (24) hours.
3. Correction: Submit for acceptance a written proposal and cost estimate for the correction before proceeding with work.

3.03 LAYOUT AND EXCAVATION OF PLANTING AREAS

- A. Layout and Staking: Lay out plants at locations shown on Drawings. Stake each tree location with lath, color coded for each species. Outline shrub and ground cover beds with lime. Agency's Authorized Representative will check location of plants in the field and shall adjust to exact position before planting begins. Agency's Authorized Representative reserves the right to refuse review at this time, if in his opinion, a sufficient quantity of plants is not available.
- B. Plant Pits: Excavate container-grown tree, shrub, and vine pits to the following dimensions:

	<u>Width</u>	<u>Depth</u>
Boxed Trees	Two (2) times box width	One and one half (1-1/2) times box height + six (6) inches
Canned Trees	Two (2) times diameter	One and one half (1-1/2) times can height + six (6) inches
Canned Shrubs	Two (2) times diameter	Can + six (6) inches

3.04 PLANTING OPERATIONS

A. General:

1. Protect plants at all times from sun or drying winds.
2. Keep plants that cannot be planted immediately upon delivery in the shade, well-protected and well- watered.

B. Handling of Plant Materials:

1. Remove canned stock carefully after cans have been cut on two sides with accepted cutter. Do not use spade to cut cans.

C. Installation:

1. Positioning: After removing plant from container, scarify side of rootball to prevent root-bound condition and position plant in planting pit.
2. Backfilling: Use backfill mix to backfill plant pits. Set each plant plumb and brace rigidly in position until planting soil has been tamped solidly around the ball and roots. When plant pits have been backfilled approximately two-thirds (2/3) full, water thoroughly and saturate rootball, before installing remainder of the backfill mix to top of pit, eliminating all air pockets.
3. Staking and/or Guying: Stake or guy as outlined in Section 3.06 below.
4. Fertilizer Tablets: Place evenly distributed in plant pits when backfilled two-thirds (2/3) to finish grade according to the following schedule.

Fifteen (15) gallon can - Three (3) tablets

- D. Adjustment: Adjust plants to that after full settlement has occurred, the natural grade at the base of the plants is one (1) inch above the adjacent planting finish grade.

- E. Watering Basin: Form saucer with four (4) inches high berm centered around tree and shrub pits twelve (12) inches wider than ball diameter. Do not form saucer around trees in lawn areas.

- F. Watering: Water all plants immediately after planting.
- G. Labels: Remove all nursery-type plant labels from plants.

3.06 STAKING AND GUYING

A. General:

1. Trees shall be able to stand upright without support, and shall return to the vertical after their tops have been deflected horizontally and released. Stake or guy trees which do not meet this qualification. All plant materials shall remain plumb and straight for all given conditions from installation through the guarantee period.
2. Use either staking or guying method per planting details and planting legend.

B. Staking:

1. Locate stakes in a line with trunk of tree, perpendicular to prevailing wind, and as close to the main trunk is practical, avoiding root injury. Drive stakes at least thirty (30) inches into firm ground.
2. Remove tree from nursery-supplied stake and tie to new stakes using four (4) accepted tree ties. Find proper height for point of tree ties and attach as follows:
 - a. Hold trunk in one hand, pull top to one side and release. Height at which trunk will just return to upright is Base Height. Attach tree ties to trunk approximately twenty-four (24) inches above Base Height.
 - b. Nail tree ties to stakes using two (2) galvanized roofing nails at each end of tie.

C. Guying:

1. Guy trees at points of branching with guys spaced equally around and outside perimeter of ball. Cover guys with rubber hose at points of contact with bark. Position guys at crotches and fasten to a deadman.

2. Install 2 x 3' or 4' or 5' SCH. 40 P.V.C. pipe or approved white coated wire.
3. Guys: Provide one turnbuckle for each guy. Use two (2) cable clamps at each cable connection.

3.07 PRUNING

See Section 02970 - Landscape Maintenance

3.08 GROUND COVER PLANTING

- A. Planting: Plant ground cover plants at optimum depth for proper growth. Avoid air pockets. Equally space triangularly, at distances called for in the Drawings.
- B. Fertilizers: Apply top-dress fertilizer at the rate of five (5) pounds per one thousand (1,000) square feet.
- C. Watering: Water bed thoroughly after fertilizer application. Wash all fertilizer from leaves of plant materials.

3.09 CLEAN-UP

- A. Keep all areas of work clean, neat and orderly at all times.
- B. Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide Landscape Maintenance, complete as specified.
- C. Related Work in Other Sections:
 - Irrigation System - Section 02810
 - Soil Preparation - Section 02920
 - Lawns and Grasses - Section 02930
 - Trees, Shrubs, and Ground Covers - Section 02950

1.02 QUALITY ASSURANCE

- A. Applicable Standards: Apply as described in the following:
 - 1. General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
 - 2. Guide for Fertilizing Shade and Ornamental Trees.
 - 3. Pruning Standards for Shade Trees.
- B. Requirements of Regulatory Agencies:
 - 1. Perform all work in accordance with all applicable laws, codes and regulations required by authorities having jurisdiction over such work.
 - 2. Provide for all inspections and permits required by Federal, State, or local authorities in furnishing, transporting, and installing of all agricultural chemicals.
 - 3. The County Agricultural Commissioner's Office must by law, be given a monthly record of all herbicides, insecticides and disease control chemicals used.

C. Work Force:

1. Experience: The landscape maintenance firm shall have a full time foreman assigned to the job for the duration of the contract. He shall have a minimum of four (4) years experience in landscape maintenance supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification. HE MUST SPEAK ENGLISH FLUENTLY.
2. Labor Force: The landscape maintenance firm's labor force shall be thoroughly familiar and trained in the work to be accomplished and perform the task in a competent, efficient manner acceptable to the Agency.
3. Supervision: The foreman shall directly employ and supervise the work force at all times. Notify Agency of all changes in supervision.

1.03 SUBMITTALS

- A. Submit to Agency's Authorized Representative for approval, two (2) copies each of the following items:
1. Schedule of maintenance operations and monthly status report including list of all equipment and materials proposed for the job.
 2. Written application recommendation by a licensed agricultural pest control advisor for all weed, pest and disease controls restricted by the Director of Agriculture proposed for this work.
 3. All licenses and insurances required by the City of Fontana, the State or Federal government pertaining to this work.
 4. Monthly record of all herbicides, insecticides and disease control chemicals used for the project.

1.04 PROJECT CONDITIONS

- A. Site Visit: At beginning of maintenance period, visit and walk the site with the Agency's representative to clarify scope of work and understand existing project/ site conditions.

- B. Documentation of Conditions: Document general condition of existing trees, shrubs, ground covers and lawn, recording all plant materials which are damaged or dying, if any.
- C. Irrigation System: Document general condition of existing irrigation system, making sure that faulty electrical controllers, broken or inoperable sprinkler heads (or emitters) are reported.

1.05 SCHEDULING

- A. Perform all maintenance during hours mutually agreed upon between Agency and Contractor.
- B. Work force shall be present at the project site at least once a week and as often as necessary to perform specified maintenance in accordance with the approved maintenance schedule.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Fertilizers:

Sierra Chemical Company
1001 Yosemite Drive
Milpitas, California 95035
(408) 263-8080

- B. Herbicides:

Chevron Chemical Company
575 Market Street
San Francisco, California 94105
(415) 894-0880

Rhone-Poulenc Chemical Company
Agro Chemical Division
P.O. Box 125
Monmouth Junction, New Jersey 08852
(201) 297-0100

Ciba-Geigy Corporation
Agricultural Division
P.O. Box 1830
Greensboro, North Carolina 27419
(919) 292-7100

Elanco Products Company
740 S. Alabama Street
Indianapolis, Indiana 46285
(317) 261-3638

The Dow Chemical Company
P.O. Box 1706
Midland, Missouri 48640
(517) 636-0236

3M Company-Agri Chemicals Project
3M Center, Building 223-6SE
St. Paul, Minnesota 55144
(317) 261-3000

2.02 MATERIALS

- A. General: All materials and equipment, unless otherwise indicated, shall be provided by the Contractor.
- B. Water: Clean, potable and fresh, furnished and paid for by the Contractor.
- C. Fertilizers:
 - 1. Tightly-compressed, slow-release and long-lasting complete fertilizer tablets bearing manufacturer's label of guaranteed analysis of chemicals present.
 - 2. Balanced, once-a-season application controlled-released fertilizers with a blend of coated pills which supply controlled-release nitrogen, phosphorus and potassium, and phosphorus.
- D. Herbicides, Insecticides, and Fungicides:
 - 1. Obtain best quality materials with original manufacturer's containers, properly labeled with guaranteed analysis.
 - 2. Use non-staining materials.

- E. Lawn Seed for Reseeding: Match existing lawn mix.
- F. Replacement Tree Guys, Stakes, Ties and Wires: Match existing materials on the site.

PART 3 - EXECUTION

3.01 GENERAL

- A. Duration: Continuously maintain each plant and each portion of ground cover area after installation, during progress of work, and for a period of ninety (90) days after completion of all planting work until Final Acceptance by the Agency's Authorized Representative.
- B. Protection:
 - 1. Protect all planting areas from damage of all kinds from beginning of work until Final Acceptance by the Agency's Authorized Representative.
 - 2. Replacement plants shall be of a size, condition and variety acceptable to Agency's Authorized Representative.

3.02 TREES AND SHRUBS

- A. Watering Basins:
 - 1. Maintain all watering basins around plants so that enough water can be applied to establish moisture through major root zones.
 - 2. In rainy season, open basins to allow surface drainage away from the root crown where excess water may accumulate. Restore watering basins at end of rainy season.
 - 3. For supplement hand watering of watering basins, use a water wand to break the water force. Do not permit crown roots to become exposed to air through dislodging of soil and mulch.
- B. Resetting: Reset plants to proper grades or upright position.

C. Weed Control:

1. All areas between plants, including watering basins shall be weed free.
2. Use only recommended and legally approved herbicides to control weed growth.
3. Avoid frequent soil cultivation that destroys shallow roots and breaks the seal of pre-emergent herbicides.

D. Pruning:

1. Prune trees to select and develop permanent scaffold branches that are smaller in diameter than the trunk or branch to which they are attached, and which have vertical spacing of eighteen (18) inches to forty-eight (48) inches and radial orientation so as not to overlay one another.
2. Prune trees to eliminate diseased or damaged growth, and narrow V-shaped branched forks that lack strength. Reduce toppling and wind damage by thinning out crowns.
3. Prune trees to maintain growth within space limitations, maintaining a natural appearance and balancing crown with roots.
4. No stripping of lower branches ('raising up') of young trees will be permitted.
5. Retain lower branches in a "tipped back" or pinched condition to promote caliper trunk growth (tapered trunk). Do not cut back to fewer than six buds or leaves on such branches. Only cut lower branches flush with the trunk after the tree is able to stand erect without staking or other support.
6. Thin out and shape evergreen trees when necessary to prevent wind and storm damage. Do primary pruning of deciduous trees during the dormant season. Do not permit any pruning of trees prone to excessive "bleeding" during growth season.
7. Prune damaged trees or those that constitute health or safety hazards at anytime of year as required.

8. Make all cuts clean and close to the trunk, without cutting into the branch collar. "Stubbing" will not be permitted. Cut smaller branches flush with trunk or lateral branch. Make larger cuts (one (1) inch in diameter or larger) parallel to shoulder rings, with the top edge of the cut at the trunk or lateral branch.
9. Branches too heavy to handle shall be pre-cut in three stages to prevent splitting or peeling of bark. Make the first two (2) cuts eighteen (18) inches or more from the trunk to remove the branch. Make the third cut at the trunk to remove the resulting stub.
10. Do not prune or clip shrubs into balled or boxed forms unless specifically called for by design.

E. Staking and Guying of Trees:

1. Inspect stakes and guys at least one month to check for rubbing that causes bark wounds.
2. Conform to the recommended procedures of staking and guying as outlined in the University of California Publications AXT-311, "Staking Landscape Trees".

3.03 GROUND COVERS

A. Watering:

1. Check for moisture penetration throughout the root zone at least two (2) times a month.
2. Water as frequently as necessary to maintain healthy growth of ground covers.

B. Weed Control:

1. Control weeds, preferably with pre-emergent herbicides and with selective systemic herbicides.
2. Minimize hoeing of weeds in order to avoid plant damage.

3.04 LAWNS

A. Watering:

1. Water lawns at such frequency as weather conditions require, to replenish soil moisture to six (6) inches below root zone.
2. Provide a total of one and one-half (1-1/2) inches of water weekly during hot summer weather, in five (5) applications per week.
3. Water at night if irrigation system is electrically controlled. Otherwise watering shall be done during early mornings.

B. Weed Control For Weed Free Lawns:

1. Control broad leaf weeds with selective herbicides.
2. In areas where crabgrass has infested the lawn, apply a selective post-emergent herbicide as soon as possible and prior to flowering.
3. Apply pre-emergent herbicides such as Dacthal, Balan, or Betasan prior to crabgrass germination.
4. Do not irrigate for forty-eight (48) hours after application of all herbicide sprays.
5. Coordinate application of herbicides with thatch control and reseeding schedule as described below.
6. Weeds are defined as any plant that is not on the approved plant pallet list or within the hydroseeding mix.
7. All herbicides shall be applied by a licensed applicator per the manufacturer's instructions.

C. Mowing and Edging:

1. Mow lawns when they reach two and one-half (2-1/2) inches high.
2. Trim edges at least two (2) times per month or as needed for neat appearance. Vacuum clippings.

- D. Reseeding of Lawn Areas: Match existing seed mix of adjacent areas.
- E. Top Dress Fertilizer:
 - 1. See Section 02930 - Lawns and Grasses for type of fertilizer to be used.
 - 2. Contractor shall apply top dress fertilizer to all lawn areas in two (2) complete and separate applications during the 90-day Maintenance Period unless otherwise recommended by the fertilizer manufacturer or a certified horticulturist employed by the contractor.
 - 3. The first application shall take place no later than the end of the second week of the ninety (90) day period. The second application shall occur just prior to the end of the ninety (90) day Maintenance Period and Final Acceptance.

3.05 INSECTS, PESTS, AND DISEASE CONTROL

- A. Inspection: Inspect all plant materials for signs of stress, damage and potential trouble from the following:
 - 1. Presence of insects, moles, gophers, ground squirrels, snails and slugs in planting areas.
 - 2. Discolored or blotching leaves or needles.
 - 3. Unusually light green or yellowish green color inconsistent with normal green color of leaves.
- B. Personnel: Perform spraying for insect, pest and disease control only by qualified, trained personnel.
- C. Application: Spray with extreme care to avoid all hazards to any person or pet in the area or adjacent areas.

3.06 IRRIGATION SYSTEM

- A. General:
 - 1. Repair without charge to Agency all damages to system caused by Contractor's operations. Perform all repairs within one (1) watering period.

2. Report promptly to Agency all accidental damage not resulting from Contractor's negligence or operations.
3. Do not run the irrigation system during rainy periods. Set and program automatic controllers for seasonal water requirements.
4. Two (2) times a month, use a probe or other acceptable tool to check the rootball moisture of representative plants as well as the surrounding soil.

B. Cleaning and Monitoring the System:

1. Continually monitor the irrigation systems to verify that they are functioning properly as designed. Make program adjustments required by changing field conditions.
2. Clean pump filter and strainer as often as necessary to keep the irrigation systems free of sand and other debris.
3. Prevent spraying on windows, building walls, by balancing the throttle control on the remote control valves and the adjustment screws on the sprinkler heads. Do not allow water to atomize and drift.

C. Air Blow-Out:

1. Set automatic control stations to two and one half (2-1/2) minutes timing.
2. Attach hose from portable air compressor to one (1) inch air inlet installed on main line at backflow preventer.
3. Operate compressor at one hundred (100) cubic feet per second at 60-80 PSI.

D. Manual Drain Valves: Open manual drain valves located at low points on the main line to drain completely after air blow-out has been completed.

E. Backflow Preventer: Rotate backflow unit at unions and open pet cocks and drain. Reverse operation and tighten unions to resume irrigation.

3.07 THE NINETY (90) DAY MAINTENANCE PERIOD

- A. Preliminary Review: As soon as all plantings are completed per Contract Documents, hold a preliminary review to determine the condition of the work.
- B. Date of Review: Submit a written request to the Agency's Authorized Representative at least five (5) working days prior to anticipated date of review.
- C. Beginning of the Ninety (90) Day Maintenance Period: The date on which the Agency's Authorized Representative issues a letter of Preliminary Acceptance to the Contractor. By this date, all plant materials shall be planted and all areas requiring hydroseeded lawns shall be completed.

3.08 PRE-FINAL AND FINAL ACCEPTANCE

- A. Conditions for Pre-Final Acceptance of Work at End of Maintenance Period:
 - 1. Each plant shall be alive and thriving, showing signs of growth and no signs of stress, disease, or any other.
 - 2. All plants not meeting these conditions shall be replaced and a Ninety (90) Day Maintenance Period commenced for such plants.
 - 3. Lawn areas shall be 100% weed free unless otherwise approved by the Agency's Authorized Representative.
 - 4. Lawn areas shall have 100% germination and establishment of turf.
- B. Corrective Work:
 - 1. Work requiring corrective action or replacement in the judgement of the Agency's Authorized Representative shall be performed within ten (10) calendar days after the Pre-Final Review.
 - 2. Perform corrective work and materials replacement in accordance with the Drawings and Specifications and shall be made by the Contractor at no cost to the Agency.
 - 3. After corrective work is completed, the Contractor shall again request a Pre-Final Review for Pre-Final Acceptance as outlined above.

4. Continue maintenance of all landscaped areas until such time as all corrective measures have been completed and accepted by the Agency's Authorized Representative.
- C. Final Acceptance: Final approval and acceptance of the work will be given when the following conditions, as determined by the Agency's Authorized Representative have been met:
1. At completion of the ninety (90) day maintenance period, and when one hundred (100) percent germination and plant establishment is obtained.
 2. All planting areas shall be weed free unless otherwise approved by the Agency's Authorized Representative.
 3. After final inspection and acceptance by the Agency's Authorized Representative.
 4. The Agency's Authorized Representative reserves the option to extend the maintenance period beyond (90) days specified, if they determined that further maintenance is necessary to provide the one hundred (100) percent establishment required by the Contract Documents.
 5. Approval and acceptance for operation and maintenance will be given in writing by the Agency's Authorized Representative.

3.09 WARRANTY PERIOD AND REPLACEMENTS OF PLANT MATERIALS

- A. Specific Requirements: Refer to the following sections:
1. Lawns and Grasses - Section 02930
 2. Trees, Shrubs, and Ground Covers - Section 02950

END OF SECTION

January 26, 2010

Electrical Specifications
Fontana Campus Parking
Fontana, CA

Prepared By:
Reedcorp Engineering, Inc

TABLE CONTENT

PART I: GENERAL	1
1.01 DESCRIPTION.....	1
1.02 WORK IN DIVISION 16.....	1
1.03 PERMITS AND FEES.....	1
1.04 REGULATIONS AND CODES	1
1.05 KNOWLEDGE	2
1.06 CONFLICTS	2
1.07 LISTING AND APPROVAL.....	2
1.08 DRAWINGS AND SPECIFICATIONS.....	2
1.09 SHOP DRAWINGS.....	2
1.10 SUBMITTALS - AFTER AWARD OF THE CONTRACT	2
1.11 SPARE PARTS	3
1.12 INFORMATION TO MANUFACTURERS.....	3
1.13 AS BUILT DRAWINGS.....	3
1.14 LOCATIONS AND ACCESSIBILITY	3
1.15 CLEANING OF EQUIPMENT, MATERIALS AND PREMISES	3
1.16 OPERATION AND MAINTENANCE INSTRUCTIONS.....	3
1.17 OBSERVATION, TESTING AND ADJUSTMENT	3
1.18 FINAL OBSERVATION AND ACCEPTANCE	4
1.19 GUARANTEE	4
1.20 PROPOSED SUBSTITUTIONS AND APPROVED EQUALS:	5
1.21 PROTECTION OF EXISTING SITE IMPROVEMENTS	5
PART II: GENERAL MATERIALS	5
2.01 FINISHES	5
2.02 WIRE AND CABLE CONDUCTORS.....	6
2.03 TIME SWITCHES/PHOTO CELL AND LIGHTING CONTROL (SEE PLANS)	9
2.04 CONTACTORS AND RELAYS	9
2.05 FUSES (IF SHOWN ON PLANS).....	9
2.06 PANEL BOARDS	9
2.07 CONDUIT.....	10
2.08 BOXES	11
PART III: LIGHTING FIXTURES/LAMPS/BALLASTS	13
3.01 GENERAL.....	13
3.02 LAMPS:	13
3.03 BALLASTS.....	14
3.05 LENS AND DIFFUSERS.....	14
PART IV: GENERAL INSTALLATION	14
4.01 DESCRIPTION.....	14
4.02 EXCAVATION AND BACKFILLING	14
4.03 PULL WIRES	15
4.04 JOINTS AND CONNECTIONS	15
4.05 TERMINATION OF CONDUITS	15
4.06 RUNNING OF EXPOSED CONDUIT	15

ELECTRICAL GENERAL PROVISIONS

PART I: GENERAL

1.01 DESCRIPTION

Division 16 includes everything necessary for and incidental to executing and completing electrical work, except as hereinafter excluded.

1.02 WORK IN DIVISION 16

Furnish and install all materials, labor and equipment necessary for complete and working electrical systems except as noted otherwise. The following list shall not be considered as a complete and detailed list of work and materials to be supplied, but shall be used as a guide.

- A. Panel boards, distribution and branch circuit wiring for lighting and power systems.
- B. Lighting fixtures, lamps, poles, outlets, wiring devices, and connection of all equipment.
- C. Conduit and wiring, including final connections and all control systems.
- D. Misc. Items:
 - Tests required by the Inspector/Engineer.
 - Materials List and Shop Drawing submittals.
 - Lighting pole foundations and excavation for pole foundations
 - Spare parts.
 - Submittal of work schedule.
 - Record drawings and guarantee.
 - Cut, repairs and cleaning as necessary.
 - Excavation, backfill and compaction for pull boxes, trenches, and equipment.
 - Disposal of excess earth and debris shall be off-site or as directed by City.
 - Provide approved shoring, lights and barricades during construction.
 - Repair all damage to all existing improvements caused by this work including landscaping, irrigation systems and walkway/curbs.
 - Empty conduits for future.
 - Obtain all necessary permits and Building Department inspections and include fees in this bid.

1.03 PERMITS AND FEES

Secure and pay for all necessary permits (and testing per Paragraph 1.17).

1.04 REGULATIONS AND CODES

All work and materials shall conform to the latest edition of amendments thereto of the following Codes where specified.

- National Electrical Code, 2005 Edition or latest adopted addition.
- National Electrical Manufacturer's Association (NEMA).
- Underwriter's Laboratories, Inc. (UL).

- Requirements of the serving utility companies.
- Requirements of Federal, State, or County agencies having jurisdiction.
- Specifications for Public Works, latest edition (Herein referred to as "Standard Specifications").

1.05 KNOWLEDGE

It is anticipated and required that the Electrical Subcontractor be thoroughly familiar with national and local electrical codes and regulations. Every attempt has been made to eliminate unnecessary redundancy and duplication of requirements for materials and installation methods already contained in existing codes and regulations.

1.06 CONFLICTS

When Drawings or Specifications call for materials or work different than, but not in conflict with, requirements of governing codes provide and install these materials or work. If there are any apparent conflicts between Drawings and Specifications and prevailing Codes and regulations, verify with City and Engineer. Do not proceed with any related work until such clarification has been made. Nothing in these Drawings or Specifications is to be construed to permit work in violation of governing codes.

1.07 LISTING AND APPROVAL

All materials installed on this project shall be listed or approved by Underwriter's Laboratories, Inc. (UL) and shall bear the label thereof where applicable. Under certain conditions, such as when UL has not established testing procedures, no listing or approval is available. In these cases, obtain prior approval from local authorities and review with City and Engineer.

1.08 DRAWINGS AND SPECIFICATIONS

Electrical Drawings are diagrammatic in many respects. Sizes and locations of equipment and wiring are shown to scale where possible but may be distorted for clarity on the Drawings to show all necessary bends, offsets, pull boxes and obstructions. Contractor shall install the Work to conform to the structure, preserve headroom and keep openings and passageways clear.

1.09 SHOP DRAWINGS

Provide equipment and materials conforming to the Drawings and Specifications. Manufacturer's Shop Drawings will be reviewed by the City and Engineer as a service to the Contractor to assist him in obtaining equipment that is in compliance with Drawings and Specifications. However, Shop Drawings will not be accepted for review by the City and Engineer until the Contractor has reviewed them, signed as complete, and is satisfied that the equipment he is proposing to furnish will be in compliance with these Specifications and Drawings.

1.10 SUBMITTALS - AFTER AWARD OF THE CONTRACT

- A. Submittals. Within 7 days after award of Contract, submit six (6) sets of Shop drawings for the following items.
1. Panel boards, lighting and power panel boards, and other related items of equipment.
 2. Wiring devices and plates.
 3. Lighting fixtures, including installation details.
 4. Lamp/Ballast information per Par. 3.02.
 5. Special systems as specified in this Contract.

6. Pole suppliers, Pole drawings (include order and delivery schedule).
7. Items listed in Par. 3.02 (lamps).

1.11 SPARE PARTS

Provide spare parts per:

1. Switchboard and distribution panel fuses (see 2.01, f) if fuses shown on plans.
2. 3-spare lamps of each type specified.

1.12 INFORMATION TO MANUFACTURERS

Furnish to the various equipment manufacturer copies of Drawings and Specifications relating to their products.

1.13 AS BUILT DRAWINGS

Provide the City with one set of complete electrical "as built" drawings at the completion of the job, showing actual conduit locations and dimensions, circuits and changes.

1.14 LOCATIONS AND ACCESSIBILITY

Contractor shall fully inform himself regarding peculiarities and limitations of spaces available for installation of work and materials furnished and installed under this Division. Drawings indicate location and arrangement of conduit, equipment, and other items, and are to be followed as closely as possible. Work specified and not clearly defined by Drawings shall be installed and arranged in a manner satisfactory to the Engineer. In the event changes in indicated locations and arrangements are deemed necessary by the City, they shall be made by the Contractor without any additional charge provided that change is ordered before the work is installed and no extra materials or labor is required. The City/ Engineer shall reserve the right to move any outlet or device, or pole six feet without additional charges by the Contractor prior to the rough-in.

1.15 CLEANING OF EQUIPMENT, MATERIALS AND PREMISES

Clean equipment and materials thoroughly. Leave surfaces to be painted smooth and clean, ready for painter. Clean entire premises of unused materials, rubbish, debris, and dirt created by work under this Division.

1.16 OPERATION AND MAINTENANCE INSTRUCTIONS

Fully instruct and demonstrate to the City's operating personnel the performance, operation and maintenance of equipment.

1.17 OBSERVATION, TESTING AND ADJUSTMENT

- A. Covering of Uninspected Work - Notification for Inspection.
 1. Contractor shall notify the City/Engineer 48 hours (two working days) prior to observation for City/Engineer and Building Dept.
- B. Tests
 1. The Contractor shall make all tests required by the Engineer, the Electrical Inspection Division of the Building Department, or other authorities having jurisdiction.
 2. (Not Used)
 3. The cost of all tests, the replacing and/or repairing of any damage resulting from these tests and any other work necessary to replace materials, etc. not in accordance with the Electrical Ordinance, Safety

Orders, Specifications and accompanying Drawings, shall be borne by the Contractor.

4. Should the Contractor refuse or neglect to make any tests necessary to satisfy the Engineer or his representative that he has carried out the true intent and meaning of the specifications and the accompanying drawings, the City may make such tests and charge the expense thereof to the Contractor, to be retained out of final payment.
5. Ground Tests
 - a. Provide insulation resistance test for all 120V through 208V wiring. In each conduit, insulation resistance shall be measured between each combination of two conductors including neutrals, metallic conduit or ground wire in case of non-metallic conduit.
 - 1) Test shall be made before wiring connections to utilization equipment (lights, transformers, motors, etc.).
 - 2) Testing shall be performed at either 500V D.C. for ten (10) seconds or at 1,000V D.C. for (1) second (3 seconds maximum). Test equipment shall be Associated Research, Biddle, Hitachi or Stichel.
 - 3) Minimum acceptable insulation resistance is 10 meg-ohms. Measurements below this value are usually due to faulty or damaged insulation and must be replaced. For runs over 500 feet, consult with the Engineer for lower acceptable values or insulation resistance.
 - b. Electrical ground test: The main electrical service ground bus shall be tested with grounding connections completed.
 - 1) Testing shall be performed with either a three or four point ground tester such as manufactured by Associated Research or Biddle
 - 2) The total resistance measured between the main service ground bus and the earth shall not exceed 25 ohms under dry ground conditions.
 - c. Ground fault protection receptacle test: Each ground fault circuit protection receptacle shall be tested by the Contractor to insure proper operation, verify that the receptacles are installed in accordance with the manufacturer's instructions, including terminal connections secure.

1.18 FINAL OBSERVATION AND ACCEPTANCE

After all requirements of Drawings and Specifications have been completed, representative of the City and Engineer will observe the Work. If requested by the City, the Contractor shall provide competent personnel to demonstrate the operation of any item or system involved.

1.19 GUARANTEE

- A. The Contractor shall furnish to the City a written warranty to guarantee all work under this contract to be free from defects of workmanship and materials for a period of one (1) year from date of acceptance of work and contract, and he shall guarantee to repair or otherwise make good at his own expense any defects developing within that period of time. Work shall be performed within 48 hours after receiving notice from the City. Notice may be by phone or letter.

- B. Warranty shall include all lighting ballast's and H.I.D. lamps.
- C. Warranties for equipment furnished that have warranties greater than one year shall be extended to the City (in writing).

1.20 PROPOSED SUBSTITUTIONS AND APPROVED EQUALS:

- A. Equipment and wiring shown on Plans is for materials as specified. Should equipment of other manufacturers be approved and used, the Contractor shall make all changes in other equipment, conduit, wiring, or location of equipment, as approved by the City without charge to the City.
- B. All requests for substitutions shall be submitted in writing to Engineer ten (10) days prior to bid date. Engineer shall respond within two (2) working days as to acceptance. It shall be the Contractor's responsibility to show that all products proposed for substitution are equal to the item specified, by submitting sufficient information to permit a comparative check, including three (3) copies of a complete materials list with brochures showing all substituted equipment. Materials list shall be indexed with job title. Material must be submitted with bid. Proposed substitutions submitted after bid will not be accepted. Submitting a catalog number and manufacturer's name and stating that the item will be furnished to meet specifications will not be acceptable.
- C. The term "or approved equal" shall mean the product or this specified item used shall have equivalent or more performance, longevity, ease of maintenance and replacement based on the value of the item set forth in the specifications or plans, and then only after a submittal in writing, by the Contractor and written approval received. If, after installation substituted equipment is found not to be equal to material specified, it shall be replaced with approved material at no cost to the City.
- D. The Engineer reserves the right to charge the Contractor \$200.00/hour (minimum of \$400.00) for review of substitution.
- E. If requested by the Engineer provide a sample of any lighting fixture proposed as a substitution for a specified fixture. Sample fixture shall be delivered to the Engineer's office for review and shall be picked up within (10) working days after review comments have been received; any samples left over this time will be discarded by the Engineer. Decision of the Engineer regarding acceptability of any fixture is final.

1.21 PROTECTION OF EXISTING SITE IMPROVEMENTS

Restore disturbed turf, landscaped areas, irrigation, concrete, AC paving, etc. Repair damaged equipment and turf caused by Contractor to like-new condition including backfill and re-sodding of trench surface per instruction of the City. Repairs to the irrigation system and other existing underground utilities shall be made in accordance with the Standard Specifications for Public Works Construction, latest edition and included in contract. Materials shall be as designated by the City or Engineer.

PART II: GENERAL MATERIALS

2.01 FINISHES

- A. Metal Surfaces shall be cleaned by means of a process equivalent to "Parkerizing" and given a rust-inhibiting coat, such as zinc chromate, prior to application of finish paint.
- B. Surface-Mounted Equipment, such as panel boards, switch- boards, motor control centers, gutters, pull and junction boxes and cabinets for control, and signal systems, including telephone, and like items shall have a nameplate

showing pertinent information. Nameplates shall be engraved, laminated bakelite or aluminum, with white letters on black background. Attach with 6 x 32 self-tapping machine screws. Card holders, plastic tape or other means of attachment are not acceptable. Do not use abbreviations.

- C. Exterior surface mounted cabinets mounted to side of switchboard shall be painted same color as switchboard.

2.02 WIRE AND CABLE CONDUCTORS

Wire and cable conductors shall be copper No. 12 AWG minimum unless specifically noted otherwise on Drawings. Type of wire shall be as follows:

- A. Type THW or THWN (or dual rated THHN/TWLN) 600-volt insulation may be used for all wiring and shall be used for all underground wiring (wet location).
- B. Type THHN-2, 600 Volt insulation shall be used for all branch circuit conductors installed in conduit above grade, outside of air conditioned spaces and other hot locations. (THHN not approved for underground). THHN shall also be used in light fixtures for feed-through wiring and in wire gutters.
- C. All conductors to be copper only.
- D. Cable Markers.
 - 1. Lettering is to be black on a white background.
 - 2. Lettering is to be typed.
 - 3. Lettering shall be either: a white tape that is applied directly to the cable and then covered with a clear heat-shrinkable material or typed directly on heat-shrinkable material.
- E. Conductors for General Wiring: Thermoplastic insulated rated for 600V manufactured in accordance with UL 83 and listed by an acceptable independent testing laboratory.
 - 1. Provide 3/4 hard drawn copper conductors. Provide solid conductor for #12 AWG and smaller. Provide stranded conductors for 10 AWG and larger.
- F. Flexible Cords and Cables: Jacketed Type SO, suitable for use outdoors with thermoplastic insulated conductors rated for 600V and manufactured in accordance with UL62 and listed by and acceptable independent testing laboratory.
- G. Conductor Connectors for General Wiring:
 - 1. Sizes No. 14 to No. 8: Splice with insulated spring wire connectors.
 - a. Ideal No. 451, 455, and 453.
 - b. Minnesota Mining: Types Y, R, G and B.
 - c. Buchanan No. B1, B2, and B4.
 - 2. Sizes No. 6 or Larger, Copper: Splice and terminate with compression or pressure type connectors and terminal lugs.
- H. Provide connector-sealing packs for splices that require complete protection from dampness and water where indicated.
 - 1. Copper conductor splices and taps of #8 AWG and smaller shall be made with waterproof wire nut connectors. King safety products #621, #622 or #623 which are three sizes (or equal). These wire nuts are U.L. listed for "wet" locations and contain a sealant paste.

2. Copper conductor splices of #6 AWG and larger shall be made with split-bolt connectors such as Burndy "Servit" (or equal) with double wrapped "Scotch" #33 + all weather vinyl plastic electrical tape or with "E-Z Seal" #2200 vinyl insulating pads by 3M, or with Sierra/Tomic #4000 vinyl seal pads.
- I. Conductors for General Wiring
1. Minimum 75 degree C temperature rated insulation on conductors, except where required due to high ambient temperature or otherwise indicated.
 2. Conductors #4 and larger shall be THW, unless otherwise indicated.
 3. Where installed in raceway exposed to direct sunlight outside buildings or conduit just under or within roofing material or boiler rooms, provide minimum 90 degree C temperature rated insulation.
 4. Where located in fixtures installed in continuous rows, provide conductors with RHH or AVA insulation unless the fixture is rated for carrying branch circuit conductors.
 5. Stranded conductors at motors and other applications where subject to vibration.
 6. Minimum size conductors for power and lighting #12 AWG, except where noted.
 7. Minimum size conductors for control circuits #14 AWG stranded with THHN/THWN insulation.
- J. Use flexible cords and cables for connection of special equipment as indicated. Length not to exceed 72 inches.
- K. Ground Conductors
1. Provide an insulated green ground conductor for all branch circuit wiring where indicated.
 2. Bare copper conductor may be used.
 - a. Install ground conductors in all non-metallic conduits as required by code. Install ground conductors in all motor branch circuits and all feeders. Where ground conductor size is not indicated, provide size as required for an equipment ground conductor by the National Electrical Code.
 - b. Install ground conductors in all flexible metal conduits exceeding 72 inches in length unless conduit 'approved' for ground with UL label.
- L. Inspection
1. Check conduit system for damage and loose connections. Replace damaged sections.
 2. Check for caps at conduit openings. Make sure that inside of conduit is free of dirt and moisture.
 3. Pull mandrel, one size smaller than the conduit, through entire length of all underground conduits prior to conductor installation.
- M. Installation
1. Conductors for General Wiring:

- a. Color code conductors insulation as follows:

CONDUCTOR	SYSTEM VOLTAGE	
	208Y/120	480Y277
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow

Different switch leg and traveler color-coding may be utilized, but coding shall be consistent and unique for the various voltage systems. Project Record Drawings shall be provided noting the color coding system utilized.

- b. For conductors #6 AWG or larger, permanent plastic colored tape may be used to mark conductor in lieu of coded insulation. Tape shall cover not less than 2 inches of conductor insulation within enclosure.
- Provide color tape on each end and at all terminal points and splices on wire enclosed in conduit.
 - Provide color tape every 3 feet on wire enclosed in a listed wireway.
- c. When pulling conductors do not exceed manufacturer's recommended values.
- d. Use polypropylene or nylon ropes for pulling conductors.

N. Insulate splices with plastic electrical tape: Scotch No. 33+, Tomic No.1T, or equal.

O. Terminate all control wires with terminal lugs on terminal boards not designed with pressure plates. If splices are needed, use same procedure, installing a terminal board in a junction box for protection.

P. Vertical cable supports shall be O.Z. Gedney, type M or equal.

Q. Identification

1. Feeders: Identify with the corresponding circuit designation at over-current device and load ends, at all splices and in pull boxes.
2. Branch Circuits: Identify with the corresponding circuit designation at the overcurrent device and at all splices and devices.
3. Control Wires: Identify with the indicated number and/or letter designation at all terminal points and connections.
4. Alarm and Detection Wires: Identify with the indicated wire and zone numbers at all connections, terminal points and coiled conductors within cabinets.
5. Conductors Terminated By Others: Indicate location of opposite end of conductor, i.e., Pull Box-Room 101.
6. For identification of conductors use plastic coated self-sticking markers such as Thomas & Betts E-Z Code.
7. Circuit designation is construed to mean panel designation and circuit number, i.e., LA-13.

R. Splices, Joints and Taps.

1. For wire in sizes No. 8 AWG and smaller, use Ideal "Wire-Nuts" or 3M "Scotchlocks".
 2. For Copper Wire in sizes No. 6 AWG and larger, use Bundy split-bolt type connectors.
 3. Make Splices, joints and taps, and connections to motors and related equipment with approved solderless lugs sized for the wire or conductor size involved.
- S. Tagging of Conductors
1. Tag branch circuits in panel boards, in gutters, and in junction boxes where unused circuits terminate for purpose of identifying various circuits.
 2. Tag feeders and mains in switchboards.
 3. Tag with adhesive type of marker manufactured by Brady as distributed by Graybar Electric Co.
- T. Branch Circuit and Feeder Wiring for all systems shall be continuous from switch to terminal or farthest outlet. No joint shall be made except in pull junction or outlet boxes, or in panel or switchboard gutters.
- U. Installation. Thoroughly clean conduit and wire-ways and ensure all parts are perfectly dry before pulling wires. Do not install permanent wiring, without special permission from the City, until plastering is done and dirt removed. Wire shall be neatly arranged and laced together.

2.03 TIME SWITCHES/PHOTO CELL AND LIGHTING CONTROL (See Plans)

2.04 CONTACTORS AND RELAYS

- A. Electrically operated, magnetically held as required with coil contacts, no overload, 250 volt or 600 volts AC as required. Amperage and number of poles as indicated. Mount contactors on sound absorbing rubber mounts, Siemons, SQ-D or approved equal.
- B. Relays for control of individual night-lighting circuits as specified on plans.

2.05 FUSES (If Shown on Plans)

- A. Fuses shall be class "R" Type as indicated on Drawing, as manufactured by Bussman. No substitutions allowed. Furnish to the City two extra fuses of each size and type used in main switchboard in metal hinges type box, size as required. All box mount in electrical room. All fuses shall be type required by plans (i.e., LPN-RK, KTN-RK, etc.). NOTE: Pull out "T" type fuses will be allowed where indicated on plans.

2.06 PANEL BOARDS

- A. General Construction. Panels shall have hinged doors with pad lock hasps. NEMA 3R construction for outdoor panels.
- B. Panels shall contain thermal-magnetic trip (bolt-on type), QB circuit breakers rated for voltage as shown on drawings. Circuit breakers shall be per "fully rated" system and minimum 10,000A.I.C. (Ampere rating and number of poles are shown on panel schedules.)

- C. Bus Size shall be as indicated. Where not shown, size the bus to equal ampacity of feeder switch or circuit breaker. In no case shall bus ampacity be less than 100 amperes.
- D. Finish. Where panels are mounted flush with wall, the trim and door shall be given a primer coat, to be finished painted by others. Where panels are surface mounted, all exposed surfaces shall be finished as specified previously.
- E. Nameplates. Panel nameplates shall be engraved and show panel name, voltage, phase and number of wire. Example:

PANEL 2A
120/208V
3Ø, 4W

- F. Circuit Directory. Each circuit shall be identified by a card mounted on inside of panel door with following information neatly typed. Number and type of outlets on circuit, location of outlets and load in volt-amps per phase.
- G. Panel boards shall be same manufacture as switchboard components (when new switchboard specified) including devices in panel board.
- H.

2.07 CONDUIT

- A. Rigid conduit shall be used when installed in concrete slabs, in concrete or masonry walls, exposed on exterior or exposed in interior wall below 4 feet above floor.
- B. Concrete Encasement. If concrete encasement of underground conduit is called for on plans, conduit shall be encased 3 inches on all sides with red mixed concrete envelope. Concrete mix shall be 5.5 sack, using pea gravel as aggregate. Use PVC SCH. 80 conduit only.
- C. (Not Used.)
- D. EMT (Interior Use Only)
- E. Flexible conduit: Use where indicated on drawings and in other locations due to structural conditions as permitted by code and with review of the City. Other locations permitted by N.E.C. and/or local Codes.
- F. Use of conduit and fittings not specified shall not be used without prior review of Engineer.
- G. Seal-tite flexible conduit shall be used for all final connections to motors and in wet, damp or outdoor areas where drawings indicate use of flexible conduit.
- H. Terminate conduit runs to rotating, adjustable, or moveable equipment with flexible connections.
- I. Install flexible isolating connections in conduit runs between building structure and air-conditioning equipment, transformers or other equipment transmitting vibration or noise.
- J. (Not Used)
- K. Do not use threadless conduit couplings for rigid conduit except for connections requiring union.
- L. Rigid conduit shall be terminated with metallic bushings.
- M. Terminate underground conduit stub-outs from building (or switchgear as indicated) into a 12" x 18" pull box flush in grade.

- N. Conduit shall not be embedded in concrete slab less than 4 inches thick and conduit +1-1/4 inches and larger shall not be installed in slab. Install conduit embedded in concrete slabs not on grade between reinforcing bars and bottom of slab. For slabs on grade, install conduit below slab as specified.
- O. Non-metallic conduit (PVC SCH. 40) shall be installed underground and in duct banks. Bends and risers shall be PVC SCH. 80 with out of grade risers to be rigid-steel conduit. Risers shall terminate at panels and pull boxes with double locknuts and insulated grounding bushing. Bare copper ground wire shall be installed in conduit runs between panels and pull boxes and connected to ground busing at each end. Ground wire shall be code sized or as indicated on drawings. Where installed below floor slabs or below grade, conduits shall be separated by a minimum of 3" between identical systems.
- P. Non-metallic conduit in duct banks shall be installed as described in Concrete Encasement (if indicated on plan).
- Q. Provide secure mounting facilities for conduits. Wire or plumber's tape shall not be used for hanging suspended conduit. Conduits shall not be secured to suspended ceiling hanger wires or to suspended ceiling structure.
- R. Provide junction or pull boxes where required for pulling conductors due to excessive numbers of bends or lengths of conduit runs.
- S. Provide expansion couplings wherever conduits cross expansion or seismic joints or for continuous straight runs in excess of 100 feet except when embedded in concrete. Expansion fittings shall have bonding jumper or be of grounding type.
- T. Re-route conduit where necessary to clear structural and mechanical obstructions.
- U. Bury underground conduit except under buildings to depth of not less than 24 inches below finish grade. Bury runs smaller than 1-1/4 inches to minimum depth of 6 inches under floor slabs and provide 3 inch concrete encasement. For conduit 1-1/2 inch and larger, trench sufficiently under floor slabs to provide a minimum buried depth of 36 inches below finish grade. Minimum depths are to top of conduits.
- V. Install long-radius bends in underground service conduits and in other long underground runs in excess of 100 feet. Do not flatten or kink bends.
- W. Conduits installed in concrete, wet locations, exposed to weather, or underground shall have threads filled with red lead and oil before screwing into couplings and threaded fittings.
- X. Run conduits in spaces above suspended ceilings parallel to walls and floors.
- Y. Where more than two conduits are installed in one common concrete envelope, separate conduits with conduit spacers.

2.08 BOXES

- A. Outlet Boxes:
 1. Pressed Steel Boxes: Knockout type, hot-dipped or electro-plate galvanized.
 2. Cast Iron Boxes: Hot-dipped or electro-plate galvanized with threaded hubs.
 3. Cast Iron Conduit Bodies: Hot-dipped or electro-plate galvanized with threaded hubs.

4. Cast copper free aluminum conduit bodies with threaded hubs.
 5. Covers for Pressed Steel Boxes: Hot-dipped or electro-plate galvanized.
 6. Outlet boxes manufactured in accordance with UL 514.
 7. Pre-Cast Concrete Pull Boxes: As manufactured by Brooks or Associated Concrete Products and shown on drawings.
 8. High impact resistant PVC boxes: As manufactured by Carlon, Sedco, or R&G Sloan.
- B. Cabinets: Sheet metal, prime coat and final coat of manufacturer's standard enamel or lacquer finish. Manufactured in accordance with UL 50.
1. Control Cabinet: NEMA 1 enclosure, door with butt hinges and flush handle latches.
 - a. Provide with removable steel back panel.
 2. Terminal Cabinets: NEMA 1 enclosure, door with concealed hinges and spring catch type flush cylinder locks. Key locks alike, provide two keys with each lock, with lock number etched in key.
 3. Provide engraved plastic nameplates with 1/4" minimum height letters indicating designation of control and terminal cabinets as shown on the drawings.
- C. Pull and Junction Boxes:
1. Use sheet boxes NEMA Type 1 for indoor and NEMA Type 3R for outdoor installation, except as follows.
 - a. Use pre-cast concrete boxes for boxes flush in finish grade where requiring a nominal capacity greater than 144 cubic inches, where located in vehicular traffic areas, or where indicated.
 - b. Use polyvinyl chloride (PVC) boxes flush in finish grade where the nominal internal volume is less than or equal to 144 cubic inches or where indicated.
 - c. Use cast iron boxes for boxes flush in slab on grade.
 2. Where exposed to weather, provide rain-tight hubs for conduits entering the boxes, top and sides only.
 3. Pull boxes in Grade
 - a. Christy N9 (or as indicated on plans) concrete type for all lighting circuits in landscape areas. Provide bolt-down concrete lid in landscape areas and steel traffic lids in driving areas and walkways. All lids shall be engraved "electrical."
 - b. Set pullbox on compacted pea gravel base (minimum 12 inches of base material).
 - c. All splices inside pullbox to be wrapped and have waterproof compound applied around splice (Skotchguard). Conductors to be identified with circuit number.
- D. Installation
1. Provide 3/8" fixture studs in wall bracket and ceiling boxes.

2. Provide covers suitable for the fixtures or devices used.
3. Make outlet box covers flush with finished surfaces.
4. Close unused open knockouts with knockout seals.
5. Provide 1" deep plaster rings on recessed outlet boxes installed in areas where concrete will be exposed after construction is complete.
6. Where boxes are concealed in exposed concrete unit masonry, use square cornered types or boxes fitted with rings of sufficient depth for the box to be recessed completely within cavity of block or tile. Install box to insure that ring fits an opening sawed out of the masonry, so that no mortar is required to fill between ring and construction.
7. Provide a 6" base on compacted crushed rock under pre-cast concrete pull boxes.
8. Adjust floor boxes so they are level with top of finished floors.
9. Provide pull boxes junction boxes in all branch circuit and feeder runs as indicated. Do not provide pull boxes unless they are indicated or required by the Electrical Code.
10. Do not locate boxes in public view unless specifically indicated.
11. Multiple gang boxes containing 277 volt switches shall have a barrier between each switch unless where wire is 600V rated for each voltage.
12. Boxes shall not be mounted back to back in any wall. Provide a minimum offset of 6 inches between boxes in non-fire rated walls and 24" between boxes in fire rated walls.

PART III: LIGHTING FIXTURES/LAMPS/BALLASTS

3.01 GENERAL

- A. Provide light fixtures complete including lamps, ballasts, sockets, housings, ceiling trim rings for special ceilings, brackets, diffusers/lenses and outlet boxes.
- B. The catalog numbers included in the description of the various types of lighting fixtures shall be basically considered to establish the type or class of the fixture with a particular manufacturer only. The fixture length, number of lamps, component materials, accessories, mounting type and all other features required to fulfill the total description of the fixture based on all drawing and specification information shall be complied with regardless of whether or not the catalog number specifically includes these features. If any conflict exists between the catalog number and the description, the Contractor shall either resolve the conflict with the City prior to submittal of his bid or furnish the fixture to meet the intent as later interpreted by the City without change in contract price.
- C. Lighting fixtures shall be of types as indicated in fixture schedule on drawings.
- D. All fixtures of one type shall be of one manufacturer and of identical finish and appearance, unless indicated otherwise on drawings.

3.02 LAMPS:

- A. Submit certification letter from manufacturers of lamps and ballasts stating the specific lamp and ballast combination comply with manufacturer's approval for the combined use, shown on the drawings. Lamps manufactured 360 days prior to start of construction shall not be used.

- B. Submit manufacturers certified lamp and ballast test report data showing compliance with contract document.
- C. Provide complete manufacturers catalog data information for each light fixture, ballast and lamp.
- D. Lamps shall be new, of wattage indicated and shall be as manufactured by General Electric, Westinghouse (W&K trademark), Phillips or Sylvania. Each fixture or lighting outlet shall be supplied with the proper lamp.
- E. High pressure sodium and metal halide lamps shall be clear unless noted otherwise on drawings.

3.03 BALLASTS

- A. Metal halide and high pressure sodium, fixtures equipped with constant wattage, H.P.F. ballasts.
- B. Fluorescent ballasts shall be as indicated on Plans.
- C. Each ballast shall be independently fused within ballast compartment. Provide a label next to ballast cover reading: "Ballast is fused, check fuse prior to relamping". Provide an additional quantity of 10% spare fuses and deliver to the City.

3.04 LIGHT FIXTURES - GENERAL

- A. Lighting fixtures shall have all parts and fittings necessary to complete and properly install the fixture. All fixtures shall be equipped with lamps of size and type specified.
- B. Fixtures shall be wired from outlet boxes supplied with fixture to socket with #14 AWG Underwriters' Type BS1"AF" or "CF" fixture wire. Electrical 16000
- C. The fixture to bear Underwriter's label of approval for the wattage indicated.
- D. Light fixtures installed outdoors in damp or wet locations shall be UL labeled for said location.
- E. Lighting control system.

3.05 LENS AND DIFFUSERS

- A. Lens and diffusers shall be completely cleaned of all dust, dirt and fingerprints after the installation of the light fixtures.

PART IV: GENERAL INSTALLATION

4.01 DESCRIPTION

Installation requirements specified herein are general in nature and are not necessarily complete. All installation requirements listed may not be used.

4.02 EXCAVATION AND BACKFILLING

Excavation and backfilling required for electrical work shall be performed under this section, unless otherwise specified, and shall conform to requirements of applicable sections of these specifications and public authorities having jurisdiction.

- A. The contractor shall make all necessary excavations for footings and slabs and do any additional excavations necessary to provide ample room for installation of concrete forms where required. Sides of footings may be poured against undisturbed soil if Soils Engineer approves. Bottom of footing excavations shall be level, free from loose materials, and brought to the indicated or required grades in undisturbed earth. All excavations shall be kept free from standing water. The Contractor shall do all pumping or drainage that may be necessary in

carrying on the work. Should excavations for footings through error be excavated to a greater depth or size than indicated or required, such additional depth or size shall be filled with concrete as specified for footings at the Contractor's expense.

B. Backfilling:

- Select site material shall be used for backfill of trenches and shall be free from large stones and clods. Material shall be as approved by the Soils Engineer or City.
- Backfill shall be deposited in layers of maximum six (6") inch thickness.
- Layers of backfill shall be moistened with water, the amount to be rigidly controlled to insure optimum moisture conditions for the type of fill material used. Excess water causing saturated earth beneath footings, walks, and curbs will no be permitted.
- Backfill shall be compacted by suitable means to a minimum of ninety percent (90%).
- All trenches shall be backfilled in accordance with this section and may be tested at the discretion of the City.

C. Placement of Aggregate Base: (If indicated on Plans)

All subgrade work shall be completed, inspected, and approved prior to placements of aggregate base material. Aggregate base material shall be placed to the thickness matching existing and compacted to required density. Compaction tests shall be as required and approved by the Soils Engineer prior to placement of A.C. paving.

D. Dust and Noise Abatement:

During the entire period of construction, site areas shall be kept sprinkled as necessary to reduce dust in the air and annoyance to surrounding properties. Adhere to the requirements of the Local Ordinances for dust and noise control.

4.03 PULL WIRES

Provide a 1/8" size polypropylene pull wire in all empty conduits, including those for signal and telephone systems. Identify conduits at exposed ends with tags. Tags shall identify location of other end of conduit.

4.04 JOINTS AND CONNECTIONS

Cut conduit squarely and ream ends to remove burrs. Close open ends of conduit, unless in a closed box or cabinet, with approved conduit caps or closures as soon as installed and keep closed until ready to pull in conductors.

4.05 TERMINATION OF CONDUITS

Terminate conduits of 1-1/4" size and larger with insulated bushings, with grounding lugs where required, O.Z. Type BLG, or equal.

4.06 RUNNING OF EXPOSED CONDUIT

Run exposed conduit parallel or perpendicular to building structure. Bends for conduits used for telephone systems shall be long radius.

ORDINANCE NO. 1394

AN ORDINANCE OF THE CITY OF FONTANA APPROVING DEVELOPMENT CODE AMENDMENT #02-004, AN AMENDMENT TO UPDATE SECTION 30-302 OF THE DEVELOPMENT CODE: GENERAL LANDSCAPE REQUIREMENTS OF THE DEVELOPMENT CODE REGARDING INCREASED LANDSCAPING AND PLANTS IN THE NEWLY CONSTRUCTED RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT

ARTICLE X. GENERAL LANDSCAPE REQUIREMENTS

Sec. 30-302. Purpose.

This article establishes requirements and design guidelines for landscape development within the City. The requirements are intended to:

- Encourage harmonious landscape design;
- Ensure that all landscape development is responsive to the physical characteristics and nature of the site and its surrounding environment; and
- Ensure that the landscape incorporates xeriscape design.

(1) *Plans and specifications required.* The following are required:

- a. Landscape grading and drainage plan.
- b. Planting plan.
- c. Irrigation plan.
- d. Specifications and details.

Landscape improvements per approved plans and specifications shall be completed and final landscape inspection received prior to the issuance of the certificate of occupancy (C. of O.).

The C. of O. may be permitted by the Community Development Director or his/her designee on a case-by-case basis prior to final landscape inspection approval. Before issuance of the C. of O., a cash bond for each permitted building shall be posted to insure that the landscaping will be completed per approved plans and specifications. The cash bond will be calculated on the amount of landscape construction remaining.

(2) *View protection.* Specific selected views to be maintained will be identified prior to a detailed landscaping plan being approved for any project. General landscaping guidelines, which incorporate tree types and views, shall be part of planned development approvals in residential areas where views are an important design consideration.

(3) *Summer and winter landscape design.* Landscaping and building architecture shall be

designed to provide shade in the summer and sunlight in the winter.

(4) *Scenic open space.* Scenic open space adjacent to a project or to a street shall be integrated into the landscape concept.

(5) *Landscaping.* Landscaping of planted areas shall be used to frame, soften and enhance the quality of the environment to buffer units from noise or undesirable views and to break-up large expanses of parking. Trees and shrubs as well as turf and groundcovers shall be utilized in all planting areas.

- a. Landscaping shall be used alone or in conjunction with other features (e.g. open space buffer, topography) to reduce potential visual and light and glare conflicts.
- b. Landscaping shall be provided pursuant to the City's most current adopted standard specifications, which are available from the engineering division.
- c. Open spaces shall provide visual, harmonious and functional landscape design and access connection to the primary building entry.

(6) *Existing tree preservation.*

- a. Subject to the requirements and limitations of the Fontana Municipal Code, existing healthy major trees shall be preserved and incorporated into any new project landscaping. Structures shall be located outside the drip line of major trees, and disturbance to roots or ground elevation at the tree base shall be avoided. (Ch. 28, Article III, Sections 28-61 through 28-74, FMC).
- b. Grading shall not occur within the drip line of a tree (with a caliper size greater than ten inches at chest height) that merits preservation or within ten feet of the bank of a riparian corridor unless such grading is approved by a landscape architect and the City of Fontana Community Development Director or his/her designee.

(7) *Control management plan slopes.* All slopes equal to or greater than two to one shall require an erosion control management plan. The plan shall address soil stabilization, erosion control, drainage, irrigation system design and plant materials and the maintenance thereof. Slopes greater than two to one are not allowed unless otherwise approved by the City.

(8) *Slope areas.* All slopes greater than three to one shall be planted with groundcovers at 12 inches on center maximum, and one tree minimum of five-gallon per each 400 square feet

minimum of slope surface, and one shrub per 50 square feet of slope surface. Groundcovers, trees, and shrubs shall be selected with an emphasis on drought tolerance. Hydro-seeding is permitted. Square footage required for trees is governed by species selected. Residential slopes that do not have a total vertical height of four feet are not required to be landscaped. (Ref. Tree Table 30-307)

(9) *Irrigation system slopes.* Irrigation sprinkler heads used to water slopes greater than three to one shall have application rates which reduce the amount of run-off on slopes and shall be of a type which do not apply water in a fixed, steady stream. All landscaped areas shall be provided with an automatic irrigation system.

(10) *Backflow preventer.* Backflow protection per local code shall be required on all irrigation systems, which are supplied by a potable water system.

(11) *Irrigation system, automatic.* All landscaped areas shall be provided with an automatic irrigation system capable of complete coverage of the landscaped areas (head-to-head coverage). Water conservation techniques shall be incorporated into the design of the irrigation system and shall be designed to minimize run-off and other wasting of water. Projects are encouraged to incorporate gray water collection and reuse systems.

- a. An underground automatic irrigation system shall be installed unless otherwise approved by the City.
- b. Sprinkler heads shall have matched precipitation. Nozzles will be spaced at 50 percent of their diameter assuring 100 percent coverage.
- c. Water velocity through pipe shall not exceed 6.2 feet per second.
- d. Turf and shrub areas shall be valved separately.
- e. For residential developments, the main line shall be stubbed out and capped three feet beyond side yard fence with three control wires minimum and one common wire from irrigation controller. They shall be installed in a round, six-inch valve box.
- f. Pop-up irrigation heads are required in all planters that are adjacent to pedestrian traffic areas including, but not limited to; turf, sidewalks, and driveways. Fixed shrub spray raisers are only permitted when they are located against a wall, fence or structures which are not otherwise located adjacent to pedestrian traffic areas.

(12) *Planter areas.*

- a. Planters shall be a minimum of three feet wide (inside dimension) for residential developments, and a minimum of five feet wide (inside dimension) for commercial/industrial developments, unless otherwise approved by the Community Development Director or his/her designee.
- b. Concrete curbing of six inches minimum height shall be constructed to contain all landscape areas that abut to asphalt paving, except where decorative walls are provided.
- c. Asphalt paving and turf shall not abut buildings, structures, walls or fences unless otherwise approved by the City.
- d. Turf shall be separated from walls, fences, and/or structures by a minimum three-foot wide, fully landscaped planter(s) in residential development, and by a minimum five-foot wide, fully landscaped planter(s) in commercial and industrial development.

(13) *Plant materials.* Plant material known to have invasive or destructive root systems shall be avoided. Similarly, plants known to have messy and/or staining fruit and/or brittle limbs shall also be avoided. Native drought-tolerant plant material should be given preference.

(14) *Root barriers.* Root barriers shall be installed when trees are located within five feet of sidewalks, curbs, foundations, and/or walls.

(15) *Xeriscape.* While the City encourages xeriscape design and the use of plant materials that are able to tolerate low water conditions, the City discourages the use of desert plant materials in combination with decorative rock surfaces in commercial and industrial zones. These decorative hardscape features shall not exceed 15 percent of the entire landscape areas.

(16) *Drought tolerant plants.* Plant material to be used in any yard or setback area shall be able to tolerate low water conditions. Native drought-tolerant plant material should be given preference. All new developments providing landscaping shall conform to the Fontana Municipal Code, which pertains to water efficient landscape. (Landscape and water conservation ordinance Fontana Municipal Code.) Ch. 28, Article IV, Sections 28-91 through 28-115, FMC.

(17) *Street trees.* All new developments shall provide street trees spaced according to the growth characteristics of the species selected. Trees may be clustered. Each tree shall have a minimum size of 15 gallons. Tree species shall conform to the street tree guidelines established by the community development department. Wherever street trees cannot be planted due to

inadequate existing parkway width, driveways, or other constraint, the trees shall be planted in the abutting yard area.

(18) *Turf areas.* In all commercial/industrial zones, turf areas shall be planted by hydro seeding or with sod per approved City landscape standards and specifications. Sod shall be required in all residential areas per City standards and specifications.

- a. The seed must be delivered in sealed bags with tags attached that clearly identify the seed mix. The seed tags shall be presented to the City's Landscape Inspection Section.
- b. If evidence of seed germination is not visible in two weeks, all bare areas must be reseeded or sodded.

(19) *Groundcover.* Groundcover shall be planted in such a way to result in coverage of the area within one year of initial planting; such planting shall be done to the satisfaction of the Community Development Director or his/her designee.

(20) *Maintenance.* All landscaped and paved areas shall be maintained in a neat and orderly condition with healthy landscaping free of weeds and litter. Irrigation systems shall be maintained in a fully operational condition. All paved areas, walls and fences in landscaped areas shall be in good repair without broken parts, holes, potholes or litter, etc.

(21) *ADA (Americans with Disabilities Act).* ADA approved tree grates compatible with the project's architecture shall be provided in commercial sidewalk tree wells. These street trees are to be irrigated by a separate valve.

(22) *Property maintenance agreement.* A property maintenance agreement shall be entered into with the City of Fontana to maintain all landscaping, parking lot, drainage, lighting and paved areas within the project in accordance with the standards of repair, maintenance and cleanliness specified in the plans submitted and approved by the Community Development Director. If such landscaping, parking lot, drainage, lighting and paved areas are not maintained, such agreement grants to the City such rights of access, ingress and egress upon and across the project site as deemed necessary to undertake and complete corrective action and assess the actual City costs against the applicant/owner/tenant and against the property. The agreement shall also be incorporated by reference into the Covenants, Conditions and Restrictions (CC & R's) recorded against the property, if any, and recorded with the county recorder's office.

Sec. 30-302.1. Reserved.

Editor's note: Ord. No. 1394, § 4, adopted Feb. 4, 2003, renumbered § 30-302.1 as §§ 30-304.1 and 30-305.1. See the Code Comparative Table.

Sec. 30-303. Residential districts landscaping requirements.

(a) *General.* The following requirements shall apply in all residential districts.

(1) *Yard and setback areas.*

- a. Plants and sod shall be the primary materials used for required front yard setback areas. No more than 50 percent of the required front yard setback area shall be covered by non-decorative hardscape features (e.g. concrete, asphalt, gravel, driveways, sidewalks, porches, etc.). Of the remaining 50 percent, no more than 25 percent may be covered by decorative hardscape features (e.g., brick, stone, fountains, ponds, etc.). An automatic irrigation system shall be required for the front and side yard landscaped area(s). In the event that the original driveway apron exceeds 50 percent of the required front yard setback, no additional hardscape shall be permitted.
- b. With the exception of slopes of four feet or greater vertical height (which shall be planted and irrigated with an automatic irrigation system), rear yard areas, and side yard areas located behind a wall or solid fence, are not required to be landscaped. Landscaping of such areas, however, is recommended.

(2) *Side yard gate access.* All residential side yard gates shall have concrete access sidewalks from the driveway on the garage side. The access sidewalks shall be a minimum of three feet wide with a minimum 36-inch clear access, and end at the stoop to the side yard garage access door.

(3) *Residential model homes.* One of the models in every model complex shall be landscaped to demonstrate a xeriscape garden. Turf areas in such demonstration gardens shall not exceed 35 percent minimum of the total landscape area.

The xeriscape model home shall demonstrate, via signs and information, the principles of water efficient landscapes described in the Landscape and water conservation ordinance (Ref. Ch. 28, Article IV, Sections 28-91 through 28-115, FMC).

- a. Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as hydro zones, irrigation equipment and others, which contribute to the overall water efficient theme.

- b. Information shall be available to potential buyers about designing, installing, and maintaining water efficient landscapes.

(4) *Walls.* Any walls within a residential zone continuous for more than 50 feet along a collector or an arterial (as defined in the circulation element of the general plan) public street shall have a minimum ten-foot landscaped setback from the street right-of-way line. Any solid masonry wall within 15 feet of a front or side property line shall be screened with any suitable combination of shrubs, trees, vines, or ornamental groundcovers to the satisfaction of the Community Development Director or his/her designee.

(5) *Required landscape.* Landscaping shall be provided by the developer in all required front yards, and on corner lots including street parkway areas, as required by the community development department.

(6) *Plant size and numbers.* All required landscaping materials shall not be less than the following quantities and sizes:

- a. *Required trees.* Not less than two 15-gallon trees or larger shall be provided for each residential lot. One will be the City approved street tree and the other will be designated as the front yard tree. Corner lots will require additional street trees for each 30 linear feet of side yard.
- b. *Required shrubs.* One shrub shall be required for each nine square feet of planter area. Shrub sizes shall vary, with 50 percent being a minimum of five-gallon, and 50 percent being a minimum of one-gallon.
- c. *Lawns.* Lawn areas shall be sodded and shall cover the designated area.
- d. *Groundcover.* Groundcover shall be planted 12 inches on center so that coverage is achieved within one year of initial planting. Such planting shall be done to the satisfaction of the Community Development Director or his/her designee.

(7) *Adjacent to open space and/or high fire hazard areas.* Adjacent to identified high fire hazard areas and natural open spaces, two zones shall be established to protect structures from fire hazard. The zones shall be as follows:

- a. Zone 1 shall extend 30 to 50 feet from the building pad, driveways and similar surfaces and shall be planted with fire resistant vegetation.
- b. Zone 2 shall extend up to 100 feet from Zone 1. Fire resistant species are preferred, but native species may be maintained if the covering is thinned.

(b) *R-2 and R-3 districts.* All new construction in the R-2 and R-3 districts shall provide additional landscaping as follows:

1. *Trees.* One tree minimum for each 400 square feet of required yard area, including front yards, side yards, rear yards and common open space. Each tree shall have a minimum size of 15-gallon. Of the required trees, 40 percent shall be 24-inch box or larger (Ref. to Tree Table 30-307). City may require larger box trees at the discretion of the Community Development Director or his/her designee.
2. *Shrubs.* Three shrubs for each tree. Shrub sizes shall vary 50 percent five-gallon and 50 percent one-gallon.

(c) *Parking areas.* All parking areas in multi-family residential projects shall be designed and landscaped so as to break up a large single paved area to the satisfaction of the Community Development Director.

(d) *Screening of exterior equipment.* All mechanical equipment, ground mounted equipment, utilities, and storage, shall be screened from adjoining properties and public rights-of-way by a visual barrier such as a wall, a fence, or landscape material to the satisfaction of the Community Development Director or his/her designee. Where only landscaping is used for screening, it shall be planted with five-gallon (minimum size) shrubs spaced to provide a continuous dense screen.

Sec. 30-303.1. Boundary, parkway landscape.

(a) The minimum landscape boundary from the public right-of-way shall be pursuant to Tables 30-208.A. and 30-208.B. This does not include parkway landscape or sidewalk(s).

(b) Landscape buffers along streets within commercial and industrial areas shall incorporate undulating and variable height earth mounding, and/or low walls, and/or five-gallon shrubs (minimum of four feet on-center) incorporated into the design to provide visual relief, to the satisfaction of the Community Development Director. Maximum slope shall be three to one. Mounding may be undulating and/or vary in height.

(c) All block wall and wrought iron fencing shall be located behind landscape setback area(s).

(d) All parkways must be fully landscaped (planting and irrigation).

(e) Location of sidewalk(s) shall be determined by the Community Development Department, Engineering Division.

(f) All turf areas shall be separated from shrub areas by a four by six-inch concrete mow strip or two by four-inch redwood header board.

(g) Intersection sight distance must be maintained for all intersections (City standard drawing 140) taking into account plant height, elevation changes, monument walls, garden and retaining

walls. Total height shall not exceed 30 inches.

(h) Sufficient right-of-way shall be dedicated to provide for all primary and secondary landscaped entry statements (including trees) with consideration to intersection sight distance in accordance with City standards plans.

(i) Trees shall not be planted within the vehicle line of sight. Landscape plans submitted to the City shall show that safe sight distance standards are met. The plans shall show topographical information, shrub and tree species size and location, and also show the location of the irrigation controller and meter/backflow device.

Sec. 30-304. Commercial districts landscaping requirements.

The following requirements shall apply in all commercial districts:

(1) *Landscaped area.* All required yards and setback areas, and all other portions of a lot not paved or occupied by a structure, shall be landscaped with plant material. Decorative landscape features such as brick, stone, art, fountains, and ponds may be used within the landscaped area, provided such materials present an attractive setting consistent with the intent of these landscaping requirements. These decorative landscape features shall not exceed 15 percent of the entire landscape areas.

- a. Required trees. Tree size shall vary with 50 percent 15-gallon, 40 percent 24-inch box and ten percent 30-inch box or greater.
- b. Required shrubs. Shrub sizes shall vary 50 percent five-gallon and 50 percent one-gallon.
- c. Groundcover. Lawn shall be of sod or hydro seeding and shall cover the proposed area. Other groundcover shall be planted in such a way to result in coverage of the area within one year of initial planting (12-inch maximum on center spacing).
- d. A minimum of 15 percent of the total site area not including building area shall be landscaped to the satisfaction of the Community Development Director or his/her designee. Generally, landscaped areas shall be required to be planted so that shrubs and other plants present a dense appearance.
- e. The interior landscaping of parking lot areas shall be a minimum of 30 percent of the total 15 percent landscaping required for a project.
- f. All motels and hotels shall maintain an additional ten percent landscaped open space area in excess of the required 15 percent landscaping requirement, to the satisfaction of the Community Development Director or his/her designee.

(2) *Street trees.* All new developments shall provide at least one tree of not less than 24-inch box size for each 30 linear feet of street frontage. In parkways of inadequate width, street furniture, or driveways, the required street tree(s) shall be planted in the abutting yard area.

(3) *Landscape setback.* A landscape setback shall be required between the front property line and the building as described in Tables 30-208.A. and 30-208.B. This area shall be landscaped with one tree for each 20 linear feet minimum of street frontage and three shrubs for each tree. Clustering may be permitted on a case-by-case basis. (Ref. Tree Table 30-307)

- a. Landscape setbacks along public rights-of-way shall incorporate undulating and variable height earth mounding, and/or low garden walls, and/or five-gallon shrubs (minimum of four feet on-center) incorporated into the design to provide visual relief, to the satisfaction of the Community Development Director. The maximum slope shall be three to one.

(4) *Yard abutting residential district.* A landscaped strip shall be provided as a buffer along all yard areas abutting a residential district pursuant to Tables 30-208.A. and 30-208.B. This area shall contain a minimum of one tree for each 20 linear feet minimum of lot line and three shrubs for each tree. (Ref. Tree Table 30-308.A.)

(5) *Parking lots.* One tree shall be provided for each four parking spaces. These trees may be clustered, but a minimum of one cluster for each 120 feet of a row or double row of parking spaces shall be provided. Trees shall be provided in or bordering the parking areas and shall be of a species that provides visibility to signage and storefronts.

(6) *Parking structures.* An attractive landscaping strip ten feet wide shall be provided on all sides of the structure where applicable. One tree shall be provided for each 20 to 40 feet of perimeter of the structure based on species selected. These trees shall be distributed evenly throughout the subject landscape area and are subject to review by the Director of Community Development or his/her designee.

(7) *Miscellaneous landscape areas.* Not less than one tree shall be provided for each 800 square feet minimum of other required landscaped area on the lot. A minimum of eight shrubs shall be provided for each tree. (Ref. Tree Table 30-307)

Sec. 30-304.1. Parking areas.

- (a) *Screening.* Parking areas shall be screened from streets through combinations of mounding, landscaping, low profile walls and grade separations. Slope(s) shall not exceed three to one or exceed 36 inches in height measured from the parking lot.
- (b) *Perimeter planter.* A landscaped planter at least five feet wide, excluding overhang, curb and walkways, shall be provided wherever a parking facility adjoins a side or rear property line.
- (c) *Landscape protection.* All landscaping shall be protected by concrete curbs of at least six inches in height. Finger and end of aisle planters on the parking space side shall have a decorative 24-inch wide concrete surface measured from the face of curb. Finger aisle planters shall be a minimum of nine feet wide, and end of aisle planters shall be a minimum of seven feet wide.
- (d) *End of aisles.* All parking areas shall provide a landscaped planter of a minimum width of five feet at the ends of all parking aisles. All planting areas shall have round corners instead of 90 degree corners and be shaped to permit vehicle turn movements.
- (e) *Trees required.* One tree shall be provided for each four parking stalls. The trees may be clustered, but a minimum of one cluster shall be provided for each 120 feet of parking row. Trees may be of a species that provides visibility to signage and storefronts.
- (f) *Parking area setbacks.* Consistent with general plan goals to provide attractive streetscapes, parking areas shall be setback from the public right-of-way as specified in Table 30-208.B. The setback area shall be landscaped as required by the landscaping provisions of this article.
- (g) *[Alternate design.]* An alternate parking lot planter design may be approved if it exceeds the minimum criteria as specified herein, or otherwise meets the satisfaction of the Community Development Director or his/her designee.

Sec. 30-304.2. Boundary, parkway landscape.

- (a) The minimum landscape boundary from the public right-of-way shall be pursuant to Tables 30-208.A. and 30-208.B. This does not include parkway landscape or sidewalk(s).
- (b) Landscape buffers along streets within commercial and industrial areas shall incorporate undulating and variable height earth mounding, and/or low walls, and/or five-gallon shrubs (minimum of four feet on-center) incorporated into the design to provide visual relief, to the satisfaction of the Community Development Director. Maximum slope shall be three to one. Mounding may be undulating and/or vary in height.
- (c) All block wall and wrought iron fencing shall be located behind landscape setback area(s).
- (d) All parkways must be fully landscaped (planting and irrigation).

- (e) Location of sidewalk(s) shall be determined by the Community Development Department, Engineering Division.
- (f) All turf areas shall be separated from shrub areas by a four by six-inch concrete mow strip or two by four-inch redwood header board.
- (g) Intersection sight distance must be maintained for all intersections (City standard drawing 140) taking into account plant height, elevation changes, monument walls, garden and retaining walls. Total height shall not exceed 30 inches.
- (h) Sufficient right-of-way shall be dedicated to provide for all primary and secondary landscaped entry statements (including trees) with consideration to intersection sight distance in accordance with City standards plans.
- (i) Trees shall not be planted within the vehicle line of sight. Landscape plans submitted to the City shall show that safe sight distance standards are met. The plans shall show topographical information, shrub and tree species size and location, and also show the location of the irrigation controller and meter/backflow device.

Sec. 30-305. Industrial districts landscape requirements.

- (a) *Open space buffer.* Landscaped parkways, parking lots, and similar open space areas will be used to separate industrial uses from potentially incompatible uses. The width and treatment of the buffer will vary depending upon the types of potential conflicts to be resolved. To soften visual impacts, the buffer should include landscaping.
- (b) *Landscaped area requirement.* The total of all landscaped areas shall be no less than 15 percent of the total area of the property not covered by buildings, structures, or areas used for outside storage or loading. All required yards and setback areas, and all other portions of a lot not paved or occupied by a structure, or areas used for outside storage or loading, shall be landscaped with plant material. Decorative landscape features such as brick, stone, art, fountains, and ponds may be used within the landscaped areas, provided such materials present an attractive setting consistent with the intent of these landscaping requirements. These decorative landscape features shall not exceed 15 percent of the entire landscape area.
- (c) *Street trees.* All new developments shall provide at least one tree for each 20 to 40 linear feet of street frontage based on species selected. Tree size shall vary with 50 percent 15-gallon, 40 percent 24-inch box and ten percent 30-inch box or greater. The trees may be grouped. Street trees disallowed due to inadequate parkway width, street furniture, or driveways, shall be planted in the abutting yard area.
- (d) *Number of plants.* A minimum number of plants shall be provided as follows:

1. *Parking lots.* One tree shall be provided for each four parking spaces. Trees are not required for semi-truck parking. These trees may be clustered, but a minimum of one cluster for each 100 feet of a row or double row of parking spaces shall be provided. Trees shall be provided in or bordering the parking area and shall be of a species that provides visibility to signage and store fronts.
2. *Parking structures.* An attractive landscaping strip ten feet wide shall be provided on all sides of the structure where applicable. One tree shall be provided for each 20 to 40 feet of perimeter of the structure based on species selected. These trees shall be distributed evenly throughout the subject landscape area and are subject to review by the director of community development or his/her designee. Additionally, all sides of a parking structure shall be screened by vines or other decorative screening.
3. *Other yard areas.* Not less than one 15-gallon tree shall be provided for each 800 square feet of other required landscaped area on the lot. A minimum of eight shrubs shall be provided for each tree.

(e) *Plant size and number.* All the required landscaping materials shall be planted to give a dense appearance and not less than the following sizes:

1. Required trees and quantities. A minimum of 15-gallon, provided that any site with more than 100 feet of street frontage shall also provide one tree of not less than 24-inch box size for each 100 feet of street frontage.
2. Required shrubs. Shrub sizes shall vary 50 percent five-gallon and 50 percent one-gallon.
3. Open spaces shall be integrated into the vehicular and pedestrian circulation systems as a primary focus and destination.

Sec. 30-305.1. Parking areas.

(a) *Screening.* Parking areas shall be screened from streets through combinations of mounding, landscaping, low profile walls and grade separations. Slope(s) shall not exceed three to one, or exceed 36 inches in height measured from the parking lot.

(b) *Perimeter planter.* A landscaped planter at least five feet wide, excluding overhang, curb and walkways, shall be provided wherever a parking facility adjoins a side or rear property line.

(c) *Landscape protection.* All landscaping shall be protected by concrete curbs of at least six inches in height. Finger and end of aisle planters on the parking space side shall have a decorative 24-inch wide concrete surface measured from the face of curb. Finger aisle planters shall be a minimum of nine feet wide, and end of aisle planters shall be a minimum of seven feet

wide.

(d) *End of aisles.* All parking areas shall provide a landscaped planter of a minimum width of seven feet wide at the ends of all parking aisles. All planting areas shall have round corners instead of 90 degree corners and be shaped to permit vehicle turn movements.

(e) *Trees required.* One tree shall be provided for each four parking stalls. The trees may be clustered, but a minimum of one cluster shall be provided for each 120 feet of parking row. Trees shall be of a species that provides visibility to signage and storefronts.

(f) *Parking area setbacks.* Consistent with general plan goals to provide attractive streetscapes, parking areas shall be setback from the public right-of-way(s) as specified in Table 30-208.B. The setback area shall be landscaped as required by the landscaping provisions of this article.

(g) *[Alternate design.]* An alternate parking lot planter design may be approved if it exceeds the minimum criteria as specified herein, or otherwise meets the satisfaction of the Community Development Director or his/her designee.

Note: Formerly, section 3-302.1

Sec. 30-305.2. Boundary, parkway landscape.

(a) The minimum landscape boundary from the public right-of-way shall be pursuant to Tables 30-208.A. and 30-208.B. This does not include parkway landscape or sidewalk(s).

(b) Landscape buffers along streets within commercial and industrial areas shall incorporate undulating and variable height earth mounding, and/or low walls, and/or five-gallon shrubs (minimum of four feet on-center) incorporated into the design to provide visual relief, to the satisfaction of the Community Development Director. Maximum slope shall be three to one. Mounding may be undulating and/or vary in height.

(c) All block wall and wrought iron fencing shall be located behind landscape setback area(s).

(d) All parkways must be fully landscaped (planting and irrigation).

(e) Location of sidewalk(s) shall be determined by the Community Development Department, Engineering Division.

(f) All turf areas shall be separated from shrub areas by a four by six-inch concrete mow strip or two by four-inch redwood header board.

(g) Intersection sight distance must be maintained for all intersections (City standard drawing 140) taking into account plant height, elevation changes, monument walls, garden and retaining walls. Total height shall not exceed 30 inches.

(h) Sufficient right-of-way shall be dedicated to provide for all primary and secondary landscaped entry statements (including trees) with consideration to intersection sight distance in

accordance with City standards plans.

(i) Trees shall not be planted within the vehicle line of sight. Landscape plans submitted to the City shall show that safe sight distance standards are met. The plans shall show topographical information, shrub and tree species size and location, and also show the location of the irrigation controller and meter/backflow device.

Sec. 30-306. Off-street parking and loading regulations.

(a) *Percent coverage.* Ten percent of the total interior of the off-street parking area shall be landscaped as specified in the general landscape specification requirements for parking areas.

For landscaping purposes, parking area calculations shall include all aisles, access drives, stalls, and maneuvering areas, but shall not include any street setback areas otherwise required by this article.

(b) *Screening.* Parking areas shall be screened from public rights-of-way through combinations of mounding, landscaping, low profile walls and grade separations, to the satisfaction of the Community Development Director. Slope(s) shall not exceed three to one or exceed 36 inches in height measured from the parking lot.

(c) *Perimeter planter.* A landscaped planter at least five feet wide, excluding overhang, curb and walkways, shall be provided wherever a parking facility adjoins a side or rear property line.

(d) *Landscape protection.* All landscaping shall be protected by concrete curbs of at least six inches in height. Finger and end of aisle planters on the parking space side shall have a decorative 24-inch wide concrete surface measured from the face of curb.

(e) *End of aisles.* All parking areas shall provide a landscaped planter of a minimum of seven feet wide at the ends of all parking aisles. All planting areas shall have round corners instead of 90 degree corners and be shaped to permit vehicle turn movements.

(f) *Trees required.* One tree shall be provided for each four parking stalls. The trees may be clustered, but a minimum of one cluster shall be provided for each 120 feet of parking row. Trees shall be of a species that provides visibility to signage and storefronts.

(g) *Parking area setbacks.* Consistent with general plan goals to provide attractive streetscapes, parking areas shall be setback from the public right-of-way as specified in Table 30-208.B. The setback area shall be landscaped as required by the landscaping provisions of this article.

Table 30-307

Square Footage and Spacing Table for Trees

TABLE INSET:

Tree Category	Spread (feet)	Square Feet Required	Spacing (feet)
Small	10--15	225	20
Small-medium	16--20	400	25
Medium	21--30	750	30
Medium-large	31--40	1,300	40
Large	41 plus	1,600	40 plus

Note: Sunset Western Garden Book is used to determine tree category.

APPROVED AND ADOPTED this 4th day of February, 2003.

READ AND APPROVED AS TO LEGAL FORM

ITEM I – GUIDELINES & FEES

A. The following developments require submittal and approval of landscape plans (planting, irrigation details & specifications).

1. Commercial
2. Industrial
3. Multi-Family
4. Parking Lots
5. All Graded Slopes (4:1)
6. Maintenance Districts
7. Specific or Community Plans (Residential, Commercial, and/or Industrial).
8. Single Family Tracts Applies to 5 Units or More

B. Fees:

1. Park Development Fee – every residential developer or person who develops land for residential purposes shall dedicate a portion of such land, pay a fee, or a combination of both, at the option of the City for the purpose of providing park and recreational facilities according to the standards and formula contained in the Fontana Municipal Code.

- a. Land Dedication -5.0 acres per 1,000 persons
Consisting of -3.0 acres neighborhood parks
-2.0 acres community park

b. Park Fees:	Single Family Dwellings	\$6,500.00
	Condominiums	\$5,981.70
	Duplex & Apartment/each unit	\$5,139.37
	Mobile home/each unit	\$5,476.44

(Contact the Park Planning & Landscape Development Section of the Engineering Department for more information regarding standards and formulas – Ordinance No. 1061). Fees are subject to change by Council Resolution. [Art. V, Ch. 29 Section 29-38 thru 29-55, Fontana Municipal Code].

2. The Specific Plan Park Administration fee is an advance payment in the amount of one-half of 1 percent of the projects total Park Development requirement and is paid concurrently with the Specific plan deposit (Resolution #94-45). This advance fee is not in addition to the Park Development requirement.

3. Bonding per Conditions of Approval (Design Advisory Board/Planning Commission Conditions of Approval).
 - a. When a block wall is to be constructed adjacent to an existing public landscaped area the developer will post a bond for the estimated cost of replacing the landscape that will be damaged by the construction of the block wall.
 - b. Hydroseeded slopes within the public right-of-way will require a bond.

All landscaping other than single family residential shall be bonded or covered by cash deposit prior to issuance of the building permit.

- The cost of the bond will be based upon current development costs. The current rate is \$1.50 per square foot.
 - Bond shall be for one (1) year commencing on date of completion for Community Facilities Districts (CFD) projects and three (3) months for private projects.
 - The deposits will be refunded after one (1) year or three (3) months as appropriate if all landscaping appears healthy and is in accordance to original plans.
 - It is the responsibility of the principal owner of the bond to contact the City of Fontana regarding the scheduling of the Landscape Maintenance Bond inspections at the end of the specified maintenance bond period (Ordinance 1084) [Chapter 5, Section 5-10 thru 5-35, Fontana Municipal Code].
4. Landscape Improvement Plan Check Fees
 - A fee of \$ 400.00 per sheet is required for plan check of private and public landscape plans. (Specifications in booklets form count as one sheet; title sheet showing details and/or specifications will count as one sheet). Resolution #89-194.
 - Landscape and Water Conservation Documentation Package (Ordinance #1087) \$90.00 for 5 acres of landscape or less and an additional \$10.00 for each acre over 5 acres. Fees will be prorated for partial acres (Landscape areas of less than 2,500 square feet are not subject to this fee). [Chapter 28, Article IV, Section 28-91 thru 28-115] (Resolution #93-108).

- Appeal of Community Development
Director's Decision Concerning \$450.00
tree removal/relocation

Replacement of Heritage and significant trees and trees that are not Heritage and significant are detailed in Ordinance No. 1126 [Article III, Section I, Chapter 28, Section 28-61 thru 28-74 FMC].

Landscape Inspection Requirements

- 1) Obtain architect certification and sequence sheet from developer and set appointment
(We the inspector has up to 48 hrs to do walk thru).
- 2) Finish grade should be 1 ½ “ below surrounding hardscapes.
- 3) All heads should be 1 ½ “above the finish grade.
- 4) Valve pipes shall be sch 80 PVC or gray or brown U.V. pipe sch 40. No white pipe allowed.
- 5) Check and dig down to expose sleeves next to driveways and sidewalks.
- 6) When hydro seeding finish grade should be 1” below all hardscapes.
- 7) Any heads in swales need to be removed.
- 8) Check root-ball location on all trees, should be at ground level.
- 9) Valves should be 6” higher than the highest head, and should include Vacuum breakers, anti-siphon valve, and waterproof connections.
- 10) Main line should be a minimum of 18” deep.
- 11) Trees are required to have 4 ties each interlocking each other and every tree in the turf area must have an arbor guard.
- 12) Redwood header must be in place to separate turf from planters where applicable, and must be lower in swale areas to allow for water flow.
- 13) All boxes should be set to surrounding grade to allow for easy maintenance.
- 14) Controller must have power and must be mounted high on the wall to avoid kids tampering with them, also check for batteries in them for back up.
- 15) No fixed risers in any traffic area, only allowed against building and walls.
- 16) Contractors can use brown U.V. pipe on slopes (on top of the ground exposed) and staked in place with pins or rebar.
- 17) Trees on slopes (one for every 400sq foot area) Shrubs (one for every 100 sq foot area).
- 18) 5 gallon trees are allowed on slope areas only.

- 19) Gravel in all irrigation boxes.
- 20) Insure backyards are sloped for drainage and drains or swales are installed.
- 21) Make sure back yards are rid of any hazards that may pose a risk to a resident at any time.
- 22) Check plant material for any issues.
- 23) Inspect for concrete mow curbs where needed
- 24) Have developer perform a head to head coverage test on turf and check irrigation in planters and slopes when applicable on final walk thru.

SECTION E

The work to be done consists of the installation of traffic signals, and safety lighting, including but not limited to, installing conduits, pull boxes, cable, luminaires, performing all operations, furnishing materials, equipment, and traffic control, and all necessary appurtenant work for traffic signal and safety lighting installation at the following location (s):

PROJECT LOCATION

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

The project will include the installation of City Furnished Materials. See the Plans and Section E, E1 and E2 of the Special Provisions for additional information.

CITY FURNISHED MATERIALS

The City shall provide the Controller Equipment Package which consists of the following:

Type R Cabinet including the controller and all equipment contained herein
Terra detection cameras, mounts and cable
Opticom detectors, mounts and phase selectors
Signal poles and mast arms

The contractor or designee shall be required to sign a release form assuming liability of equipment when furnished by city.

CONTRACTOR SUPPLIED MATERIALS

The Contractor shall provide all other materials, including but not limited to: foundations, pull boxes, conduit, signal and pedestrian heads (including hardware, framework and mounts), LED signal and pedestrian indications, luminaires, reflective street name signs with mounts, all wiring and cable (excluding Terra detection cable, see video detection section) a 100A 240/120V type III BF service, and any other hardware necessary for the installation of the City furnished equipment as required. All contractor supplied materials shall be new and show no signs of previous use.

The Contractor shall provide transportation of all **City** furnished materials from City storage located at 16489 Orange Way.

The contractor or designee shall be required to sign a release form assuming liability of equipment when furnished by city.

NOTICE TO CONTRACTOR

This project shall conform to the requirements of the May 2006 edition of the Standard Specifications and the May 2006 edition of the Standard Plans as issued by the State of California Department of Transportation.

Pursuant to Public Contract Code Section 3400(b) the City of Fontana may make a finding that designates certain materials, products, things, or services by specific brand or trade name for statutorily enumerated purposes. As required by Section 3400(b) the City of Fontana has made such findings as further described in the Project Special Provisions. These findings, as well the materials, products, things, or services and their specific brand or trade names that must be used for the Project are found in Section E of these special provisions.

Upon delivery of all **City** furnished equipment, the Contractor or its designee shall take responsibility of all such equipment until Notice of Completion has been issued.

In the event that a pole gets hit or damaged as a result of a traffic collision, before completion and acceptance, the Contractor is responsible for refurnishing, reinstalling and reconstructing of the damaged material and damaged improvements.

SECTION E-I

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

CONSTRUCTION DETAIL

ORDER OF WORK

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

The FIRST order of work shall be to place, within a maximum of five (5) working days after the date of contract award, the order for the "contractor" provided traffic signal equipment (framework, signal heads, LEDs, street name signs, etc.) not being furnished by the CITY. The CONTRACTOR shall furnish the Project Manager with a statement from the vendor that the order for said equipment has been received and accepted by the vendor.

Delays in the delivery of equipment that are due to the CONTRACTOR not ordering the equipment in a manner to accommodate the progress of the construction schedule, shall not be justification for a Time Extension to the Contract Working Days.

The SECOND order of work shall be potholing of ALL areas where there are utility and/or drainage facilities to verify the necessary vertical and horizontal clearance required for installation of all underground construction.

CONSTRUCTION AREA SIGNS

The term "Construction Area Signs" shall include all temporary signs required for the direction of public traffic through and/or around the work during construction. Such signs are shown in or referred to in THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2006 EDITION, hereinafter referred to as the M.U.T.C.D.

Full compensation for the CONTRACTOR to furnish, erect, maintain and remove construction area signs shall be considered as included in the price bid for related items of work, and no additional compensation will be allowed therefore.

PUBLIC SAFETY AND CONVENIENCE

Attention is directed to Sections 7-10.1, "Traffic and Access," 7-10.4, "Public Safety," of the Standard Specifications for Public Works Construction and these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the CONTRACTOR from his responsibility as provided in Section 7-10 of the Standard Specifications for Public Works Construction.

Lane closures shall conform to the provisions in the section of these Special Provisions entitled "Traffic Control System for Lane Closure."

When entering or leaving roadways carrying public traffic, the CONTRACTOR equipment, whether empty or loaded, shall in all cases yield to public traffic.

The CONTRACTOR shall make every effort to keep commercial driveways open during work hours. After working hours, all driveways shall be accessible with smooth and safe crossings through the construction area as shown.

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

The CONTRACTOR shall notify City of Fontana, Engineering Department Inspector (909-350-7610) of his intent to begin work at least five (5) working days before work is begun. The CONTRACTOR shall cooperate with local authorities relative to handling traffic through the area and shall make his/or her own arrangements relative to keeping the working area clear of parked vehicles.

Whenever vehicles or equipment are parked on the shoulder within six (6) feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of thirteen (13) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) or W21-5 (Shoulder Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed as directed by the ENGINEER.

A minimum of one (paved) traffic lane for each direction of traffic, not less than 12-feet wide, shall be open for use by public traffic. The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays and designated legal holidays, and when construction operations are not actively in progress.

Designated legal holidays are: January 1st; the third Monday in January, the third Monday in February; the last Monday in May; July 4th; the first Monday in September; November 11th; Thanksgiving Day; and December 25th. When November 11th falls on Saturday, the preceding Friday shall be a designated legal holiday.

Minor deviations from the requirements of this section concerning hours of work may be permitted upon written request of the CONTRACTOR if, in the opinion of the ENGINEER, public traffic will be better served and the work expedited. Such deviations shall not be adopted until the Engineer has indicated his written approval.

Full compensation for maintaining traffic shall be considered as included in the price bid for related items of work, and no additional compensation will be allowed therefore.

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

A traffic control system shall consist of closing traffic lanes in accordance with the details shown on the plans, the provisions of Section 7-10.3, "Street Closures, Detours, Barricades," of the Standard Specifications for Public Work Construction and the provisions under "Maintaining Traffic" elsewhere in these Special Provisions.

Signs for traffic control system shall conform to the provision under "Construction Area Signs" elsewhere in these Special Provisions.

The provisions in this section will not relieve the CONTRACTOR from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-10, "Public Convenience and Safety," of the Standard Specifications for Public Works Construction.

Each vehicle used to place and remove components of a traffic control system on multi-lane highways shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining or removing said components. The sign(s) shall be controllable by the operator of the vehicle while the vehicle (s) is/are in motion. The flashing arrow sign(s) shall be in place before lane closure requiring its use is completed.

If any component in the traffic control system is damaged, displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the CONTRACTOR shall immediately replace said component and shall restore the component to its original location.

When the lane closures are made for work periods only, at the end of each work period all components of the traffic control system, except portable delineators placed along trenches or excavation adjacent to the traveled way, shall be removed from the traveled way, shoulder and auxiliary lanes. If the CONTRACTOR so elects, said components may be stored at selected central locations, approved by the ENGINEER, within the limits of the public right of way.

Full compensation for providing the traffic control system for lane closures, including signs and flagging, shall be considered as included in the contract prices bid for related items of work, and no separate payment will be made therefor

SECTION E-II

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

SIGNALS AND LIGHTING DESCRIPTION

TRAFFIC SIGNAL AND HIGHWAY LIGHTING SYSTEM

The furnishing and installing of traffic signals and highway lighting shall conform to the provisions of Section 86, "Signals and Lighting", of the Standard Specifications of the State of California, Department of Transportation, May 2006, (Caltrans Standard Specifications) and these Special Provisions.

CALTRANS STANDARD PLANS

Standard plans referred to on the signal plans and these Special Provisions for signal work shall be the Standard Plans of the State of California, Business and Transportation Agency, Department of Transportation (Caltrans), dated May 2006

EQUIPMENT LIST AND DRAWINGS

Equipment list and drawing of electrical equipment and material shall conform to the provision in Section 86-1.04, "Equipment List and Drawings", of the Caltrans Standard Specifications, and these Special Provisions.

RECORD DRAWINGS

The CONTRACTOR is required to submit to the Resident Engineer any and all changes and deviations from the contract plans such as location of poles, pull boxes and runs, number of conductors and other appurtenant work for future reference so the record drawings can be completed.

Failure to comply with this requirement may result with the City not accepting this project as complete.

MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS

Maintaining existing and temporary electrical systems shall conform to the provisions in Section 86-1.06, "Maintaining Existing and Temporary Electrical Systems," of the CALTRANS Standard Specifications, and these Special Provisions.

All existing Traffic Signal and Lighting shall remain operational until the new Traffic Signal and Lighting system is ready for operation. This includes existing street lighting. The CONTRACTOR shall install and maintain necessary temporary "overhead" wiring (including all required appurtenances) in order to continue the operation of the existing traffic signal and safety lighting system. This temporary overhead (minimum height 20 ft) wiring shall remain operational and shall be maintained by the CONTRACTOR until such time as the new system will be utilized.

If the existing signal and lighting system must be shut down during construction, the CONTRACTOR shall have all temporary overhead installations, completed prior to the shut down.

Full compensation for furnishing and installation of any and all temporary signal and lighting system (including all necessary appurtenances), maintaining and removing the temporary system, shall be included in the contract bid price for the Installation of the Traffic Signal and Lighting System, and no other compensation will be allowed therefore.

Traffic Signal and Lighting system shut downs shall be limited to periods between the hours of 9:00 a.m. and 3:00 p.m. The CONTRACTOR shall place "Stop Ahead" (in advance) and "Stop" signs that direct vehicle and pedestrian traffic through the intersection during traffic signal system shutdown.

Temporary "Stop Ahead" and "Stop" signs shall be removed when the system is turned on.

"Stop Ahead" and "Stop" signs shall be furnished by the CONTRACTOR and shall conform to the provisions in Section 12-3.06, "Construction Area Signs," of the Standard Specifications. Minimum size of "Stop" signs shall be 36 inches.

One "Stop Ahead" sign and one "Stop" sign shall be placed for each direction of traffic. For two lane approaches, two "Stop" signs shall be placed. Location of the signs shall be as directed by the ENGINEER.

Full compensation for furnishing, installing, maintaining and removing temporary "Stop Ahead" and "Stop" signs shall be considered as included in the contract price bid for the Installation of Traffic Signals and Lighting System, and no additional compensation will be allowed therefore.

FOUNDATIONS

Pole foundations shall conform to the provisions in Section 86-2.03, "Foundations," of the Caltrans Standard Specifications, City Standard Details and these Special Provisions.

The anchor bolts and studs for the 1A poles shall each be provided with 3 nuts (including 4" sleeve nuts) and washers in accordance with City standards.

Portland cement concrete shall conform to Section 90-10 and Section 51, "Minor Concrete," of the Standard Specifications and shall contain not less than 564 pounds of cement per cubic yard for pole foundations.

Foundations for the controller cabinet shall be constructed per City Standard Detail No. 4001, "Type P or R" Controller Foundation Detail".

In the event a traffic signal foundation is to be abandoned, the foundation is to be completely removed as per Standard Specifications Section 86-2.03. The resulting void shall be backfilled and compacted (see Special Provisions) to 90%, with the top 12" at 95% relative compaction.

Should the excavation for the foundation of all type 17 or larger signal poles exceed 10% of the required pile diameter, the contractor shall fill the excavation with 2 sack slurry 24 hours prior to auguring the base.

In addition, the CONTRACTOR shall, at the expense of the CONTRACTOR, arrange for the transportation of poles and equipment to be salvaged to the City of Fontana storage yard at 16489 Orange Way. The Contractor will be responsible for protecting the salvaged equipment after removal.

STANDARDS, STEEL PEDESTALS AND POSTS

The Contractor supplied standards, steel pedestals and posts shall conform to the provisions in Section 86-2.04, "Standards, Steel Pedestals and Posts", of the Caltrans Standard Specifications and these Special Provisions.

In addition to identifying each CITY provided pole shaft, the Contractor shall also identify each mast arm for all signals and luminaires.

All holes (unused tenons, illuminated street name sign holes, etc) shall be securely plugged or covered. All inadvertent holes created by the contractor shall be fitted with a welded plate and painted to match appropriately. Excessive length anchor bolts (over 1 inch) shall be cut and cold galvanized.

CONDUIT

Conduit shall conform to the provisions in Section 86-2.05, "Conduit", of the Caltrans Standard Specifications, and these Special Provisions.

All conduit shall be galvanized rigid steel. Non-metallic type conduit shall not be used, except conduit for electrical service shall be 3" PVC (Schedule 80) per Southern California Edison requirements. Rigid metal conduit to be used as a drilling or jacking rod shall be fitted with suitable drill bits for the size hole required.

Insulated bonding bushings will be required on all conduit.

When a standard coupling cannot be used for coupling metal type conduit, a UL or ETL listed threaded "Erickson" type union coupling shall be used. All couplings for metal type conduit shall be tightened to provide a good electrical connection throughout the entire length of the conduit run.

After conductors have been installed, the ends of conduits terminating in pull boxes, service and controller cabinet shall be sealed with "a duct seal" type of sealing compound.

Conduit runs are shown schematically in the desired locations. Field conditions at the time of construction may dictate minor changes to facilitate the contractor's work. Such minor changes will not constitute extra work. Actual installation shall be done in the most direct manner or as directed by the Engineer. After two failed attempts to bore or jack conduit, due to rock or other unavoidable obstructions, as verified by the Inspector; in lieu of installing conduit under existing pavement as specified in Section 86-2.05C of the Caltrans Standard Specifications, dated May 2006, the Contractor may use the following method when approved by the Engineer:

Earth Saw (rock wheel) Trenching, Installation of Conduit - Conduit shall be placed under existing pavement in a trench approximately 2 inches wider than the outside diameter of the conduit to be installed.

Conduit ends shall be sealed after installation to preclude water and dirt infiltration prior to pulling conductors.

The conduit shall be placed in the bottom of the trench and the trench shall be backfilled with two-sack slurry (if less than 15" of cover, the Engineer may require substitute backfill material) before the end of the work day, flush with the existing finish surface of the A.C.

No open trench will be allowed in the travel lane overnight.

Final Trench Repair shall be as per the following:

- 1) Removal of 0.10' minimum depth of existing asphalt twelve (12) inches wide on each side of the trench edges (24" total plus width of trench), with an abrasive type grinder specifically used for that purpose. Cuts shall be neat and true with no shatter outside the removal area.

2) Final asphalt concrete materials, distribution and spreading shall be as per Section 302-5 and 302-6 of the Standard Specifications for Public Works Construction.

3) Repair of the street must occur within 24 hours after trenching. If repair is not possible within 24 hours, the trenched area shall be filled with temporary asphalt or plated per City Standard Plan 1009.

Payment for trenching and final trench repair, including all materials, equipment, and labor shall be included in the contract lump sum price for related items of work and no additional compensation will be allowed therefore.

PULL BOXES

Pull boxes shall conform to the provisions of Section 86-2.06 "Pull Boxes" and 86-2.06C of the Caltrans Specifications dated May 2006, and these Special Provisions.

Recesses for suspension of ballasts will not be required. Plastic pull boxes are not acceptable.

Pull boxes installed in unimproved areas, which may be subjected to vehicular traffic, grading and/or dinking operations, shall be marked with type "L" markers and be installed similar to the traffic installations shown on Standard Plan ES-8, except that cover shall be set 2" above existing grade and the concrete surround shall be 12" thick and sloped from existing grade to the top of the pull box (traffic bearing). Unimproved areas are defined as not protected by curb and gutter.

Pull boxes installed adjacent to the controller cabinet shall be a 6E.

"Caltrans" cover marking per Standard Plan notes 4-a.5 and b.9 is not allowed.

All existing pull box locations to be used for the installation of a new pull box shall have any existing conduit (not to be used) uncovered and cut at the beginning of the sweep (45 or 90 degree bend) in order not to interfere with the installation of the new conduit installations.

Pull boxes shall not be located in or within 1' of a curb access ramp. Pull boxes shall be placed with their tops flush with surrounding finished grade, except as required by the engineer or designee.

The bottom of pull boxes shall be grouted with cement prior to conductor installation. The grout shall be between one-half inch and one inch in depth and shall be sloped towards a one inch in diameter drain hole.

CONDUCTORS AND WIRING

Conductors and wiring shall conform to the provisions in Section 86-2.08, "Conductors", Section 86-2.08D, "Signal Cable" and Section 86-2.09, "Wiring", of the Caltrans Specifications dated May 2006, and these Special Provisions.

Traffic Signal cable shall be used for all circuits in lieu of individual conductors. Conductors shall be solid copper of the gage shown on the plans, unless otherwise specified. **When installed within poles, the cable shall have the outer sheathing removed only at the 10' level terminal compartment (not up from the base of the pole).** Conductors for the pedestrian indications shall be 'jumpered' from the signal terminal block down to the pedestrian indication terminal block.

When new conductors are to be installed in a conduit with existing individual conductors (service wire excepted), all individual conductors shall be removed and replaced with multi-conductor cable. 'Slipping' of new cable into conduit with existing conductors is not allowed.

All temporary overhead circuit runs shall be cable. When exposed over the roadway, they shall be at least 20 feet above the finished roadway surface. Over the sidewalk and the roadside areas not open to vehicular traffic, they shall be at least 10 feet above the finished roadway surface.

Each conductor shall have clear, distinctive and permanent markings for identification in all locations, including pull boxes and shall conform to the State of California Standard Specifications.

Emergency vehicle preemption cable shall be 3M Model 138.

All conductors shall be "megged" by City technician before termination in the cabinet and signal heads. 20 mega-ohms or greater is the acceptable range. All conductor cables that fail the mega-ohm test will be replaced.

The **Contractor** is responsible to provide a level of workmanship for final inspection and cabinet wiring to the satisfaction of the **Engineer**. Acceptable cabinet wiring examples are demonstrated in the digital photos in appendix III. The City will perform an in-depth inspection after turn-on and prior to acceptance. The form used for this is provided in appendix III. The time and material required to attain desirable product shall be included in the overall bid prices and no additional compensation shall be allowed therefore.

SPLICING

Splicing shall conform to the provisions in Section 86-2.09D, "Splicing," of the Caltrans Standard Specifications, and these Special Provisions

No. 10 AWG conductors or larger shall be spliced by the use of compression connectors. Traffic signal conductors and Opticom cable shall not be spliced.

Splice insulation shall conform to the provisions in Section 86-2.09E, "Splice Insulation," of the Caltrans Standard Specifications dated May 2006, and these Special Provisions. Splices shall be installed by the "B" Method.

Fused splice connectors shall be installed in each pull box adjacent to each pole with a luminaire in accordance with section 86-2.095 of the Caltrans Standard Provisions dated May 2006.

VIDEO DETECTION

The contractor shall pull 6 pair #19 awg interconnect-type cable (City-supplied) for the Terra detection cameras. The length of cable provided is specific to the size/length of the constructed intersection. It is the responsibility of the contractor to install cable allotted without splicing. Should a shortfall occur, through contractor miscalculations, the contractor shall be responsible for providing the additional amount required. The Cable shall run from the controller cabinet to the base of each pole noted to have a camera installed. The contractor shall provide five feet of cable slack in the bases of the poles and inside of the controller cabinet. City staff will instruct the contractor on splice details in the hand hole at the base of each pole (a terminal block will be supplied for this) and in the cabinet.

The detection cameras shall be double-banded to the luminaire arm or pole shaft by the use of ¾" stainless steel Band-it C206 stainless steel type 201 band strap .030" thick. (See City Standard Plan 4004).

BONDING AND GROUNDING

Bonding and grounding shall conform to the provisions in Section 86-2.10 "Bonding and Grounding," of the Caltrans Standard Specifications, and these Special Provisions.

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box. Grounding jumper shall be visible after the cap has been poured around the foundation

The grounding rod in the controller pedestal shall be copper rod, minimum 5/8-inch diameter with 8-foot penetration into earth (approx. 11' total). Rod shall extend 1" above finish pedestal surface.

ELECTRICAL SERVICE

Electrical service shall conform to the provisions in Section 86-2.11, "Service," of the Caltrans Standard Specifications dated May 2006, and these Special Provisions.

The CONTRACTOR shall notify the Engineer in writing at least 15 calendar days in advance of the date on which he desires any electrical service connections or disconnects to be made. The CONTRACTOR shall be entitled to no extension of time or other compensation for any delay to this operation resulting from his failure to give the prescribed notification.

The service shall be a Tesco Model No. 28-105 Type III-BF 120/240 volt, or Myers Model No. MEUG16A-M100TS (MOD) 120/240 volt, or approved equal. With raw aluminum finish, service with a 100 amp main breaker, 50 amp metered signal circuit breaker, 30 amp un-metered safety lighting circuit, a 20 amp circuit breaker for fiber optic equipment and a 15 amp circuit breaker for the photocell control unit. The cabinet shall have an additional hasp welded to the cabinet door.

One Type V photoelectric control unit shall be provided for luminaires. A lighting contactor shall be provided for the safety lights. A test switch shall be provided for the luminaire circuit.

The service equipment enclosure shall include one inch self adhesive numbers for the address of the intersection as shown on the plans. Numbers shall be installed on the front upper panel of the cabinet, neat and visible to the satisfaction of the engineer or designee.

Compensation for the service shall include verification of the final installation location, coordination with utility companies, and all costs, including utility company, CITY and/or STATE inspection permits for all electrical connections for the traffic signal and lighting system.

VEHICLE SIGNALS

Vehicle signal faces, signal heads and auxiliary equipment, as shown on the plans, and the installation thereof, shall conform to the provisions in Section 86-4.01 to 86-4.04 and 86-4.06, inclusive of the Caltrans Standard Specifications dated May 2006, and these Special Provisions.

All signal head sections shall be Econolite 12" metallic three, four or five section as applicable.

Backplates and visors shall be provided and installed on the signals. Backplates and visors shall be premanufactured metallic and shall be one piece construction. Backplates shall have louvers. **The fasteners attaching the backplate to the signal head shall be stainless steel or steel with a zinc finish tek self-drilling/tapping hex head screws with integral or captive flat washer. The proper size is 12-14 x 3/4. Note: these are not provided by the signal manufacturer.**

All signal mounting hardware shall be steel, including pipe and fittings, with the following exceptions: the terminal compartments and M-2 (MAS) mounts shall be bronze. **The standpipe on all four and five section signal mounts shall be schedule 160.** This extra thickness is to prevent the standpipes from breaking in the wind.

PEDESTRIAN SIGNALS

Pedestrian signals shall conform to the provisions in Section 86-4.05, "Pedestrian Signal Faces," of the Caltrans Standard Specifications dated May 2006, and these Special Provisions.

All pedestrian heads shall be metallic one piece with integral aluminum clamshell mount.

SIGNAL AND PEDESTRIAN INDICATIONS

LED indications, as shown on the plans, and the installation thereof, shall conform to the provisions in Section 86-4.02 and 86-4.06, inclusive of the Caltrans Standard Specifications dated May 2006, and these Special Provisions.

All signal indications shall be provided with Gelcore Model No. RX-11 12" LED modules, or approved equal.

All pedestrian indications shall be provided with Gelcore Model No. PS7-CFF1-01A-18 countdown LED modules, or approved equal.

PEDESTRIAN PUSH BUTTONS

Pedestrian push button shall conform to the provisions of Section 86-5.02 "Pedestrian Push Buttons" of the Caltrans Standard Specifications dated May 2006, Americans with Disabilities Act, and these Special Provisions.

Pedestrian push button shall be in accordance with the above provisions except the push button shall be the Fortel 'Bumble Bee'. The button shall be high-visibility yellow and the bezel (button mount) shall be black.

Pedestrian push button signs shall be porcelain enameled metal.

LUMINAIRES

Luminaires shall conform to the provisions in Section 86-6.01, "High Pressure Sodium Luminaires", of the Caltrans Standard Specifications and these Special Provisions. The luminaire shall be GE Lighting Fixture No. MDCL25S7M22FMC32, or approved equal.

Luminaires shall be equipped with a 'shorting cap'. Electrical switching shall be by master photocell control located in the serving utility portion of the service cabinet.

CONTRACTOR will be responsible for masking to eliminate unwanted light spillover on to adjacent properties.

SIGNAL "TURN-ON"

Functional Testing shall conform to the provisions in Section 86-2.14C, "Functional Testing", of the Caltrans Standard Specifications and these Special Provisions.

CONTRACTOR shall notify the City in writing, five (5) working days prior to signal Turn-On and Functional Testing.

Turn-on of the new traffic signal system shall not be made on Monday or Friday or the day preceding or following a legal holiday.

Contractor shall provide a man-lift truck and technician to work with City technician to aim the image detectors a minimum of 48 hours prior to signal Turn-On.

The City will arrange to have a signal technician, qualified to work on the controller assembly present at the time the equipment is activated.

FINAL INSPECTION

Before project acceptance, City staff will perform a comprehensive inspection of all traffic signal(s) and safety lighting installed or modified per this contract and in accordance with the cities pre-acceptance signal checklist. The contractor shall complete all work to the satisfaction of the resident engineer.

MISCELLANEOUS

CONTRACTOR shall modify existing irrigation systems as necessary to direct spray away from the controller cabinet and electrical service pedestal. The irrigation system, as modified, shall provide full coverage of landscaped areas previously irrigated. Any new irrigation equipment required shall be the same as the existing equipment in use. Compensation for any necessary modifications to the irrigation systems shall be considered as part of the related items of work, and no additional compensation shall be allowed therefore.

PAYMENT

The contract lump sum price paid for Traffic Signal Installation shall include full compensation for furnishing all labor, materials, testing, tools, equipment and incidentals, and for doing all the work involved in constructing the traffic signals, complete in place, as shown on the Plans or directed by the Engineer.

SECTION E-III

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

MAST ARM/POLE MOUNTED STREET NAME SIGNS

Overhead street name signs shall be manufactured in accordance with these special provisions. Sign legends shall conform to the plans and these special provisions. Sign legends shall be the contractor's responsibility and shall be subject to the City's approval.

Warranty: Any sign delivered under this contract which does not conform to these specifications and the adopted City standard shall be replaced by the contractor at no cost to the City.

SIGN FACE AND LEGEND

The retroreflective sheeting shall be Type 11 Diamond Grade. The retroreflective sheeting shall have a smooth surface with a distinctive interlocking diamond seal pattern and orientation marks visible from the face. The street name sign legends will be included on the plans.

Sign panel length is either 6' or 8' depending on legend. Sign panel height shall be 20" to accommodate 12" upper case and 9" lower case lettering (refer to standard plan number 4005).

SIGN FRAME AND PANEL CONSTRUCTION

1. Framework:

The frame shall be aluminum channel extrusion, 1.25" x 1.25" x .125" wall thickness, Alloy 6063-T5. All joints of the aluminum channel shall be miter cut to form a 45 degree angle at each corner. A .040 thick aluminum corner bracket shall be used to reinforce all 8 corners on frame. 3 (each) 1" X 1/8" wall aluminum square tube vertical support shall be welded inside aluminum channel frame spacing at 31.75" on center. The frame shall be welded with an inert gas shielded-arc welding process using 4043 electrode filler wire in accordance with good shop practice. The width of the filler wire shall be equal to the wall thickness of the channel being welded.

2. Assembly:

A sign panel shall be fastened to both sides of the channel frame to make a double faced unit. Each sign panel shall be a continuous sheet with no vertical or horizontal splices.

The sign panels shall be affixed to the frame with 3/16" diameter blind pop rivets, alloy 5052, or a type approved by the City. The exposed face of the rivet shall be of similar shade and compatible with the face color of the finished sign. The rivets shall be placed through the face of the sign with the wall of the channel placed against the back of the sign panel. Rivets shall be placed no closer than 1/2" from the edge of the sign panel and a maximum of 8" apart from one another. All rivets must penetrate the web of the channel frame for proper grip strength between sign panel and frame.

3. Finish:

All finished signs shall have a smooth flat surface without defects or objectionable marks of any kind on either the front or back faces. All letters and designs shall be clearly cut and sharply defined.

The appearance of the sign face shall be uniform throughout and shall be free of wrinkles, gel, hard spots, streaks, extrusion marks, air bubbles or blemishes that may impair the serviceability, detract from the general appearance or color matching of the sign when viewed from a distance of twenty-five (25) feet.

The finished sign shall be clean and free from all burrs, sharp edges, loose rivets and aluminum marks.

Signs with any defects or damage that effect their appearance and serviceability will not be acceptable. All metal parts shall be fabricated in a uniform and quality workmanlike manner with all sign surfaces and edges free of defects. No repairs shall be made to the face sheet without the approval of the City's inspectors.

MOUNTING ASSEMBLIES

Sign mounting assemblies (brackets) shall be manufactured by Zap Manufacturing, Inc. The brackets shall be mounted directly to the signal mast arm or to the cantilever sign arm as shown in Standard Detail 4005. One ZAP SA-1000 (fixed length) bracket and one ZAP SA-1000 (adjustable length) bracket (for mounting on the signal mast arm) **or** two ZAP SA-1000 (fixed length) brackets shall be used (for mounting on the cantilever arm) per sign.

The base of each Zap bracket shall be bolted and spot-welded to the sign framework. No other type of bracket or component thereof shall be used.

Each bracket shall be double-banded to the signal or cantilever arm by the use of Band-it (or approved equal) C206 stainless steel band type 201 $\frac{3}{4}$ " wide and .030" thick. The Band-it buckles shall be Band-it C456 ear locked 316 stainless steel $\frac{3}{4}$ " or approved equal.

When installation of the sign to the mast arm is complete, the sign should swing freely 75 degrees in both directions when moved by the installer without any binding or hindrance felt. The sign will then move freely under normal weather conditions.

SECTION E-IV

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

COMMUNICATION SYSTEM

Signal Interconnect shall conform to the provisions in Section 86-2.08E "Signal Interconnect Cable" and these Special Provisions.

INTERCONNECT CABLE - COPPER

Signal Interconnect copper cable shall consist of 6 pair No. 19, voice grade solid core copper conductors. Each pair of conductors shall be twisted a minimum of 8 turns per foot, State Specifications PE-22.

Termination of conductors in the controller cabinet shall be through the use of a punch down tool to assure proper connection on a terminal bridge, which shall be furnished and installed by the CONTRACTOR.

The Color coding of the twisted pair for command and the twisted pair for readback shall be consistent throughout the system (i.e. blue/white, orange/white, green/white, brown/white, slate/white, and blue/red).

SECTION E-V

ARROW BOULEVARD AND LIBRARY WAY TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNING, STRIPING, MARKINGS AND MARKERS

Traffic signs, stripes, legends and raised pavement markers shall conform to the 2006 California Manual on Uniform Traffic Control Devices for Streets & Highways and these special provisions. Sign sizes shall be for conventional roadways unless otherwise specified on the construction plans. No Parking signs shall be 12" by 18".

All signing and striping shall be in place prior to the signal "turn on".

TRAFFIC SIGNING

SIGN MATERIALS, SIZES AND FABRICATION

Signs shall be high intensity grade reflectorized .080 aluminum with 3M 1160 or Avery Dennison OL1000 (or approved equal) anti-graffiti film.

Signs shall be secured to the post by a 3" by 5/16" course thread stainless steel bolt with a 2" zinc coated fender washer on top and a 3/8" drive rivet with 2" zinc coated fender washer on the bottom. The fender washer shall have a minimum thickness of .075"

Signs 36" or greater shall have a 30" back brace installed. Stop signs that face east and west shall have a 24" back brace installed.

POST MATERIALS

Square perforated steel tube posts with anchor shall be used for all traffic control and informational signs within the road right-of-way. The post shall be 2" square pre-punch and hot dipped galvanized inside and outside. The one-piece anchor shall be an "Anchormate" anchor (2.5" x 2.5" x 30" galvanized steel).

The number of posts required for sign installation shall be determined by the area of the sign or the combination of signs to be installed. A single post shall be used where both the length and width are 48" or less. Double posts shall be used where either the length or the width exceeds 48".

The anchor shall be driven until only 4" remains above ground level. In concrete, anchors may be cut to 20".

All dirt and concrete shall be removed from the inside top 10" min. of the anchor to allow for installation of the sign post.

The post shall be installed a minimum of 10" into the anchor and secured in place with one 3/8" drive rivet and one 3" x 5/16" coarse thread stainless steel bolt. The rivet shall be installed on the side facing traffic and the bolt installed parallel to traffic.

Installation according to these requirements is essential to maintain the break-away characteristics of the post system. Under no circumstances shall the anchor assembly be secured in concrete footings.

The bottom of the sign shall be a minimum of 7 feet above the finished surface.

The signpost shall be a minimum of 2 feet from the curb.

SIGN INSTALLATION ON STREET LIGHT OR TRAFFIC SIGNAL POLES

The sign shall be banded to the surface of the pole that best accommodates a 90 degree angle to oncoming traffic (or the curb) unless otherwise specified.

The band shall be tightened to a point at which it does not break, yet prevents movement by hand of the sign, band, or bracket.

All signs being banded to street light or traffic signal poles shall have no less than 2 bands (upper and lower).

The banding materials shall be:

- Band strap: Band-it C206 stainless steel type 201 or approved equal 3/4" wide by .030" thick.
- Buckles: Band-it C456 ear locked 316 stainless steel 3/4" or approved equal.
- Saddle Bracket: Band-it D001 or equal. 1 bolt straight leg stainless steel 3/4".

Under no circumstances shall the bands cover the identification tag on the pole.

TRAFFIC STRIPING, MARKINGS, AND MARKERS

MATERIALS:

Thermoplastic traffic striping and pavement markings shall conform to the provisions in Section 84-1 and 84-2 of the Caltrans Standard Specifications (latest edition), the State Specification PTH-02ALKYD and these special provisions. Thermoplastic applied to concrete shall have an epoxy binder.

Raised reflective pavement markers shall be of the prismatic reflector type (3M model 291-2Y yellow, 290-W white or equal) as outlined in Section 85-1.05 of the Caltrans Standard Specifications. Non-reflective pavement markers shall comply with the requirements outlined in Section 85-1.04A of the latest edition of the Caltrans Standard Specifications.

APPLICATION:

The contractor shall layout and cat track the alignment of the proposed striping at 15 foot intervals and "spot" the proposed pavement legends as called for on the striping plans. Striping shall vary no more than ½ inch in 50 feet from the specified alignment. Minor variations may be waived by the City Engineer.

The contractor shall not proceed with the installation of any pavement legends and/or striping until the cat tracking and spotting is checked and approved by the City Engineer.

Application of thermoplastic materials and glass beads shall conform to section 84-2.04 of the Caltrans Standard Specifications and these special provisions. Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.090 inch. Thermoplastic material for pavement markings (including crosswalks, arrows, legends and stop bars) shall be applied at a minimum thickness of 0.120 inch.

Asphalt and concrete surfaces shall be dry, clean and free of contaminants such as surface oils or existing road marking materials. Contaminants shall be removed by mechanical means. Grinding is not acceptable. Material shall be applied only with equipment which is specifically designed and capable of properly mixing at the point and time of application.

Any striping or pavement legends not shown on the approved plan, but deemed necessary by the City Engineer, shall be installed by the contractor prior to final acceptance of the street.

Newly installed striping and pavement legends shall be protected from damage by traffic or other causes until the thermoplastic is thoroughly hardened. Any newly applied striping or pavement legends which are damaged shall be replaced by the contractor.

Reflective pavement markers must be new and installed per the approved plan. Installation of reflective pavement markers shall be accomplished with the use of a bituminous type hot-melt adhesive suitable for bonding ceramic and plastic markers to Portland cement, asphaltic concrete and chip-sealed road surfaces. The composition of the material must be such that its properties will not deteriorate when heated to and applied at temperatures up to 425 deg. F using either air or oil jacketed melters.

Reflective pavement markers shall be placed at a location established by the applicable Caltrans striping detail as noted on the approved striping plan.

Existing traffic striping, pavement legends that do not conform to the approved plan shall be removed by wet sandblasting. Existing conflicting raised reflective pavement markings shall also be removed. Grinding or 'blacking out' is not permitted. Sandblasting of traffic striping shall be feathered out to irregular and varying widths. Pavement markings shall be removed by sandblasting a rectangular area so that the old markings cannot be identified. The contractor shall arrange to have a minimum of one sweeper on-site for immediate cleanup after the sandblast operation.

In the event final striping cannot be applied immediately after the removal process, temporary striping (paint only) shall be required. Temporary reflective markers may be utilized if approval is granted by the engineer or designee. Slurry tabs are unacceptable.

The contractor shall maintain all temporary applications prior to the final striping and markings being applied.

MEASUREMENT AND PAYMENT

Compensation for traffic signs, striping and markings shall be at the lump sum contract price bid for Signing and Striping installation.

Payment shall include full compensation for furnishing all labor, material (including adhesives, glass beads and paint), tools, equipment and incidentals; and for doing the work involved in installing traffic signs, striping and markers complete in place, including removal of existing stripes, raised pavement markers and salvaging and stockpiling existing obsolete signs and necessary traffic control, as shown on the plans and as specified in these Special Provisions and as directed by the ENGINEER, and no additional compensation will be allowed therefore.