

STANDARD SPECIFICATIONS  
 JANUARY 1990  
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**CITY OF CONCORD**  
**STANDARD SPECIFICATIIONS**

**January 1990**

THE LATEST EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL APPLY UNLESS MODIFIED OR SUPPLEMENTED IN THESE SPECIFICATIONS

All reference to measurement and payment does not apply. These specifications are supplemented by City Standard Plans, State Standard Plans, CCCSD Standard Plans and Specifications and the plans for the specific project being constructed.

The following are modifications, clarifications or changes to the State specifications.

**SECTION 1**

**DEFINITIONS**

1-1.10 Contractor.--Shall mean the developer or permittee responsible for the work.

A contractor must have a valid State of California Contractors license to work in the Public Right-Of-Way.

1-1.13 Department.--Shall mean the City of Concord.

1-1.15 Director.--Deputy City Manager Public Works and Community Development.

1-1.18 Engineer.--Shall mean the City Engineer or his designated representative.

1-1.265 Manual of Traffic Controls.--The Federal Highway Administration publication entitled, "Work Zone Traffic Control" Standards and Guidelines.

1-1.39 State.--City of Concord.

1-1.49 CCCSD.--Central Contra Costa Sanitary District

1-1.50 Concord Municipal Code.--The provisions of the City's Municipal Code governing all improvements within the public Right-Of-Way are Article IV, Chapter 4 - Subdivision Of Land; and Article VII, Chapter 2 - Street Encroachment.

**SECTION 2**

**PROPOSAL REQUIREMENTS AND CONDITIONS**  
(Does Not Apply)

**SECTION 3**

**AWARD AND EXECUTION OF CONTRACT**  
(Does Not Apply)

**SECTION 4**

**SCOPE OF WORK**  
(Sections 4-1.03 through 4-1.05 Do Not Apply)

**SECTION 5**

**CONTROL OF WORK**

**5-1.04 Coordination and Interpretation of Plans and Specifications.**--The following order will govern in case of any discrepancy:

- (1) Project Plans
- (2) City Standard Plans
- (3) These Specifications
- (4) State Standard Specifications
- (5) State Standard Plans
- (6) CCCSD Standard Plans and Specifications for sewer work.

The approved plans shall be supplemented by such working drawings as are necessary to control the work adequately. No changes shall be made in any plan or drawing after it has been approved by the City Engineer, except by a City approved revised plan.

**5-1.07 Lines and Grades.**--The Developer's engineer will set stakes and furnish cut sheets to the City a minimum of twenty-four (24) hours prior to the start of any work.

**5-1.08 Inspection.**--The City shall be notified at least twenty-four (24) hours before any work is commenced or resumed and before each phase of work is to be inspected.

**5-1.13 Final Inspection.**--Upon completion of work, the Contractor shall submit a letter stating that all the improvements have been completed in accordance with the approved plans and request that the City accept these improvements. No final inspection will be made until all fees are paid.

5-1.15 **Hours of Work.**--Work within the public Right-Of-Way is restricted to 7:00 a.m. to 6:00 p.m. on weekdays. Work that encroaches into the driving lane on a major street is restricted to 9:00 a.m. to 3:30 p.m. unless written authorization is obtained from the Engineer.

No work will be allowed within the public Right-Of-Way on Saturday, Sunday or legal holidays without written permission from the Engineer.

Different hours may be specified in the encroachment permit.

## SECTION 6

### CONTROL OF MATERIALS

6-3.02 **Identification of Materials.**--All materials shall be adequately marked to identify that they are those that were tested and specified in the specifications. Materials not properly marked may be rejected.

6-3.03 **Request for Testing.**--Adequate notice shall be given for testing of materials, the following times shall be considered minimum notice:

1. Compaction tests-24 hours.
2. Aggregate sampling-3 days.
3. Asphalt plant inspection-3 days.
4. Concrete plant inspection-3 days.
5. Material from non-commercial plants-4 days.
6. Lime treated base-7 days.

The cost of all retesting and all testing in addition to the normal City practice shall be borne by the Contractor.

## SECTION 7

### LEGAL REGULATIONS AND RESPONSIBILITY

7-1.01E **Trench Safety.**--The Contractor shall provide his annual trench and/or excavation permit issued by the State Division Of Occupational Safety and Health.

7-1.11 **Preservation of Property.**---The contractor shall preserve all property corners, monuments, bench marks, and other survey points. Any damaged points shall be reset by a licensed land surveyor at the Owner's/Contractor's expense.

7-1.17        **Acceptance of Contract.**--The work will not be accepted until a 15% maintenance bond has been provided, all fees have been paid and cleanup has been completed.

The following Subsections of Section 7 shall not apply:

Subsection 7-1.01A(1)	"Hours Of Labor"
Subsection 7-1.01A(2)	"Prevailing Wages"
Subsection 7-1.01A(2)(a)	"Travel and Subsistence Payments "
Subsection-7.01A(3)	"Payroll Records"

## SECTION 8

### PROSECUTION AND PROGRESS

8-1.03        **Beginning of Work.**--No work will be permitted to proceed until:

1. Plans are submitted and approved by the City.
2. All fees are paid, permits and licenses are issued.
3. Bonds and insurance are submitted and approved.
4. Easements and permits to enter upon private property are obtained.
5. Preconstruction meeting has been held.

8-1.04        **Progress Schedule.**--Does not apply.

8-1.05        **Temporary Suspension of Work.**--The City may suspend work if:

1. The Developer, Contractor, job Engineer, or other Owners representative fails to comply with these specifications, the Municipal Code, or specific instructions of the Engineer.
2. Traffic is improperly controlled.
3. A hazardous condition exists.
4. Defective materials or work are not corrected.
5. Dust problems are not corrected.

8-1.06  
thru        Do Not Apply  
8-1.09

8-1.10        **Utility Facilities.**--The Contractor shall notify Underground Service Alert (USA) to have existing utilities marked prior to starting excavation. No materials or obstructions shall be placed within fifteen (15) feet of a fire hydrant.

**8-1.10A Installation Of Utilities.**--In new streets, all underground installations, including sewers, shall be completed and tested to the satisfaction of the Owners before asphalt concrete is placed.

**8-1.11** Does not apply

## **SECTION 9**

### **MEASUREMENT AND PAYMENT**

(Does Not Apply)

## **SECTION 10**

### **DUST CONTROL**

The Contractor shall control dust to the satisfaction of the Engineer. If the Contractor fails to do so, the work will be suspended and corrective action taken. The cost of the corrections will be charged to the owner of the project. Haul routes to and from the site shall be kept clean. If they are not the City may have them cleaned and bill the project owner.

The Contractor shall have a water truck on the site during any and all grading operations.

## **SECTION 11**

### **MOBILIZATION**

(Does Not Apply)

## **SECTION 12**

### **CONSTRUCTION AREA TRAFFIC CONTROL DEVICES**

**12-1.01 Description.**--The Federal Highway Administration book, "Work Zone Traffic Control" standards and guidelines is to be used. It shall be the Contractor's responsibility to notify all affected public bodies such as, but not limited to, police, fire districts, school districts, public transit systems, etc. as to construction schedules and, he shall keep a current list or diagram of limited access areas.

**12-1.02 Lane Widths.**--At least two ten-foot wide lanes shall be open to the public at all times. Additional lanes may be required.

12-2.01 **Flaggers.**--The Contractors shall furnish flaggers to give adequate warning to the public.

12-2.02 **Flagging Costs.**--Flagging costs will not be paid by the City.

12-3.03 **Flashing Arrow Signs.**--A flashing arrow board is required on arterial street lane closures.

12-3.12 **Roadway Widening.**--Where widening occurs adjacent to a traffic lane that is in use, the excavation shall be sloped at 4:1 to provide for public safety. The material used for this slope shall be completely removed, as the structural section is being constructed, to allow proper compaction and to tie the existing baserock and the new baserock together. The 4:1 slope will be required until the rock is 0.5 feet below the existing pavement surface.

If temporary K railing is used, the 4:1 slope will not be required.

A pedestrian access walkway (4' minimum width) is required at all times through the construction area.

**SECTION 13 and 14  
(BLANK)**

**SECTION 15**

**EXISTING HIGHWAY FACILITIES**

15-2.02A **Obliterating Roads and Detours.**--The asphalt shall be removed from the worksite. If landscaping is to be installed, the base rock shall be removed also.

15-2.04 **Salvage.**--Salvaged materials shall be delivered to the City yard at the end of Hotel Way. The Engineer shall be given at least twenty-four (24) hours notice prior to delivery of material to the City yard.

15-2.05A **Manhole Adjustments.**--Only a total of one (1) manhole adapter ring will be allowed to adjust to grade. It shall be attached by set screws or welding so it does not move under heavy truck traffic. The top of the structure must be reconstructed if it does not fit the finished pavement grade within 0.01 ft.

Manholes to be reconstructed shall conform to the City Standard Plans for new construction.

A false bottom shall be constructed to keep debris from falling into the sewer pipes.

**15-2.05C Mailboxes.**--Access shall be maintained to mailboxes during construction. Refer to U.S. Postal Service regulations.

**15-2.05D Signs.**--All signs shall be kept in full view during the progress of the work.

**15-5.01 Pavement Planing Before Resurfacing.**--Only cold planing methods are allowed. Equipment shall not produce dust, fumes or smoke. The cutting chamber shall be enclosed and equipped with a fog spray system.

Materials shall be completely removed from the pavement, gutters and sidewalks each day.

Damaged pavement shall be replaced prior to resurfacing.

## **SECTION 16**

### **CLEARING AND GRUBBING**

**16-1.03 Construction.**--All trees are to be protected unless the Engineer marks each tree for removal. If the contractor damages a tree it shall be replaced. The cost to maintain the new tree until it is the size of the damaged tree shall be paid to the City.

Tree stumps and roots over 4" in diameter shall be completely removed and the ground recompact to 90%.

The Contractor shall have a water truck on the site during the Clearing and Grubbing phase.

**16-1.04 Removal and Disposal of Materials.**--All materials shall be removed from the public Right-Of-Way.

## **SECTION 17**

### **WATERING**

(Shall Apply Without Modification)

## **SECTION 18**

### **DUST PALLIATIVE**

(Shall Apply Without Modification)

## SECTION 19

### EARTHWORK

19-2.03 **Blasting.**--Blasting will not be allowed within the City Limits.

19-3.02 **Excavation for Culverts.**--The embankment shall be constructed to two (2) feet above the top of pipe or to subgrade before excavating the trench. Trench excavation shall conform to City Standard Plan S-17.

19-3.025A **Special Bedding.**--Special bedding is required for all sewer pipes, corrugated plastic, and metal drainage pipes. (See Standard Plan S-17)

19-3.025B **Sand Bedding.**--Sand bedding will only be allowed if required by the utility company that is responsible for the conduit.

19-3.06 **Structure Backfill.**--Structure backfill for pipe trenches shall conform to Standard Plan S-17. Aggregate base shall be Class 2 with 3/4" maximum grading. Aggregate subbase shall be Class 2.

Ponding and jetting will not be allowed.

19-5.03 **Relative Compaction.**--The limits of the 95% relative compaction requirement shall be from back of curb to back of curb in the public Right-Of-Way.

## SECTION 20 EROSION CONTROL AND HIGHWAY PLANTING (Shall Apply Without Modification)

## SECTION 21 (BLANK)

## SECTION 22

### FINISHING ROADWAY

22-1.01 **Description.**--Offsite facilities including pipes, gutters and streets shall be cleaned of any materials that are related to the project being constructed.

## SECTION 23 (BLANK)

**SECTION 24**

**LIME TREATMENT**  
(Shall Apply Without Modification)

**SECTION 25**

**AGGREGATE SUBBASES**

**25-1.02A Aggregate Subbase.**--Shall conform to the grading and quality requirements shown in the Table for Class 2 Aggregate Subbase.

**25-1.05 Compacting.**--The surface of the subbase shall not be higher than the grades established by the Engineer. Low areas shall be filled with aggregate base during the spreading operation for aggregate base.

**SECTION 26**

**AGGREGATE BASES**

**26-1.02B Class 2 Aggregate Base.**--Aggregate base shall conform to the grading and quality requirements shown in the Table for Class 2, 3/4" maximum aggregate base.

The aggregate base under the gutter shall be spread and compacted at the same time as the roadway aggregate base.

**26-1.05 Compacting.**--The surface of the aggregate base shall not be higher than the grade established by the Engineer. Low areas shall be filled with asphalt concrete during the spreading operation for the base course of asphalt concrete.

**SECTION 27**

**CEMENT TREATED BASES**  
(Shall Apply Without Modification)

**SECTION 28**

**LEAN CONCRETE BASE**  
(Shall Apply Without Modification)

**SECTION 29**

**TREATED PERMEABLE BASES**  
(Shall Apply Without Modification)

**SECTION 30-35**  
(BLANK)

**SECTION 36**

**PENETRATION TREATMENT**  
(Shall Apply Without Modification)

**SECTION 37**

**BITUMINOUS SEALS**  
(Shall Apply Without Modification)

**SECTION 38**  
(BLANK)

**SECTION 39**

**ASPHALT CONCRETE**

**39-1.01 Description.**--Asphalt concrete shall be supplied by an approved materials supplier. The supplier is required to submit mix designs and certificates of compliance to the City, for approval, on a yearly basis.

**39-2.01 Asphalts.**--Paving asphalt shall be Grade AR4000.

**39-2.02 Aggregate.**--The aggregate for the surface course shall conform to the grading and quality requirements of 1/2" maximum, medium grading, Type B asphalt concrete.

The aggregate for the base course shall conform to the grading and quality requirements of 3/4" maximum, medium grading, Type B asphalt concrete.

**39-4.01 Subgrade.**--All utility trenches and underground work shall be completed and tested prior to paving.

**39-4.02 Prime Coat and Paint Binder.**--Prime coats will not be required.

**39-4.04 Base Failure Repair and Pavement Reconstruction.--**  
This work shall consist of removing existing base and bituminous surfacing to a nine inch depth where shown on the plans, or as directed by the Engineer. Resulting holes and depressions shall be backfilled with Type B asphalt concrete to the lines and grades established by the Engineer. The material removed shall be disposed of outside the highway Right-Of-Way .

**39-4.04A** All excavations for base failure shall be backfilled during the same day on which the excavation is performed. If necessary, excavations shall be temporarily filled to the existing pavement level overnight and excavated the next working day. No excavation will be permitted to remain unfilled overnight.

**39-4.04B Backfilling Base Failures.--**Prior to backfilling the areas with asphalt concrete, the subgrade shall be compacted.

Asphalt concrete shall be spread and compacted in accordance with Section 39-6, "Spreading and Compacting". The base course, not to exceed 0.40 foot, shall be Type B, 3/4 inch maximum, medium grading asphalt concrete. The final two lifts shall be Type B, 1/2 inch maximum, medium grading asphalt concrete. SS-1 asphaltic emulsion shall be applied as paint binder to the edges of the existing asphalt concrete before any asphalt concrete is placed.

#### **39-6 Spreading and Compacting**

**39-6.04 Trench Paving.--**The existing paving shall be sawcut prior to placing the asphalt concrete. If the trench is within two (2) ft. of the gutter or the edge of the roadway the narrow width of paving shall be replaced also. Paving four (4) ft. wide or greater within the roadway requires an approved spreader box.

A steel wheel roller is required on all areas larger than twenty (20) sq. ft. of pavement.

Vibrating plate compactors are allowed only on small areas.

**39-7.02 Seal Coat.--**A fog seal coat shall be applied to the surface of all Type B asphalt concrete a minimum of five (5) calendar days after paving is completed and before acceptance of the work.

### **SECTION 40**

#### **PORTLAND CEMENT CONCRETE PAVING (Shall Apply Without Modification)**

**SECTION 41**

**PAVEMENT SUBSEALING AND JACKING**  
(Shall Apply Without Modification)

**SECTION 42**

**GROOVE AND GRIND PAVEMENT**  
(Shall Apply Without Modification)

**SECTION 43-48**  
(BLANK)

**SECTION 49**

**PILING**  
(Shall Apply Without Modification)

**SECTION 50**

**PRESTRESSING CONCRETE**  
(Shall Apply Without Modification)

**SECTION 51**

**CONCRETE STRUCTURES**

51-1.02 Minor Structures.--Minor concrete structures shall be cast in place.

**SECTION 52**

**REINFORCEMENT**

52-1.02A Bar Reinforcement.--Welded wire fabric shall not be substituted for reinforcing bars.

**SECTION 53**

**AIR BLOWN MORTAR**  
(Shall Apply Without Modification)

**SECTION 54**

**WATERPROOFING**

(Shall Apply Without Modification)

**SECTION 55**

**STEEL STRUCTURES**

(Shall Apply Without Modification)

**SECTION 56**

**SIGNS**

**56-2.02B Wood Posts and Braces.**--Wood posts are not allowed.

Roadside signs shall be installed on 2" diameter galvanized steel pipe posts. Relocated signs shall be installed on new posts. Posts in the Downtown Area shall be black iron pipe and painted "Todos Santos Blue".

**56-2.04 Sign Panel Installation.**--Sign panels shall be approved by the Engineer prior to installation. Backs of sign panels, in the Downtown Area shall be painted "Todos Santos Blue".

**SECTION 57**

**TIMBER STRUCTURES**

(Shall Apply Without Modification)

**SECTION 58**

**PRESERVATIVE TREATMENT OF LUMBER, TIMBER AND PILING**

(Shall Apply Without Modification)

**SECTION 59**

**PAINTING**

**59-3.03 Painting.**--Street light and signal poles, signal heads, mast arms, back plates, pedestrian heads, controllers and service cabinets, hardware, sign posts and backs of signs shall be painted "Todos Santos Blue" in the Downtown area.

**SECTION 60**

**(BLANK)**

## SECTION 61

### CULVERT AND DRAINAGE PIPE JOINTS (Shall Apply Without Modification)

## SECTION 62

### ALTERNATIVE CULVERTS

62-1.02D **Asbestos-Cement Pipe.**--Will not be allowed.

62-2.01 **Polyvinyl Chloride Pipe (PVC).**--This work shall consist of furnishing and installing polyvinyl chloride storm drain pipe in diameters of 12" through 36" as shown on the plans.

62-2.01A **Materials.**--The pipe and fittings shall be manufactured in accordance with the following ASTM Specifications:

ASTM D3034	(12"-15")	Series 46	(SDR 35)
ASTM F794	(18"-36")	Series 10	
ASTM D2241	(18"-27")	Series 14	(SDR 51)
ASTM F679	(18"-27")	Series 46	(SDR 35)

The series of pipe shall be in conformance with the manufacturer's requirements.

Only Series 46 PVC will be allowed within the public Right-Of-Way.

62-2.01B **Joints.**--The pipe shall be of the bell and spigot design for push on assembly. The elastomeric gaskets shall be manufactured to conform with the requirements of ASTM F477.

62-2.01C **Installation.**--The pipe shall be installed with the bell end up grade. The pipe shall not be exposed to the sun's rays.

Pipe shall be installed within 120 days of manufacture.

Approved material shown on the plans shall be used for end sections.

The minimum allowable cover is 30" below finish grade. A cover slab is required for pipes less than 30" below finish grade.

62-2.01D **Backfill Requirements.**--Bedding material is required under the pipe and shall consist of 4" of material conforming to the requirements for Class 2, 3/4" maximum aggregate base.

Backfill material shall be placed equally on each side of the pipe in lifts not to exceed eight (8) inches in depth.

Compaction and backfill shall conform to City standard plans.

**62-3.01 Corrugated Polyethylene Pipe (CPEP).**--This work shall consist of furnishing and installing corrugated polyethylene storm drain pipe in diameter of 12" through 36" as shown on the plans.

**62-3.01A Materials.**--Only Corrugated Polyethylene pipe which has a smooth interior lining which provides for increased hydraulics and additional stiffness will be allowed.

The pipe and fittings shall be manufactured in accordance with AASHTO M-294. Minimum stiffness at 5% deflection per ASTM D-2412 shall be as follows:

12" dia. = 45	24" dia. = 34
15" dia. = 42	30" dia. = 28
18" dia. = 40	36" dia. = 22

**62-3.01B Joints.**--The pipe joints shall be made with split ring couplings corrugated to match the pipe corrugations and shall engage at least 4 corrugations.

Neoprene gaskets are to be used to reduce leakage.

Curves and bends shall be made using factory fittings.

**62-3.01C Installation.**--The minimum allowable cover is 30" below finish grade. A cover slab is required for pipes less than 30" below finish grade.

**62-3.01D Backfill Requirements.**--Bedding material is required under the pipe and shall consist of 4" of material conforming to the requirements for Class 2, 3/4" maximum aggregate base.

Backfill material shall be placed equally on each side of the pipe in lifts not to exceed eight (8) inches in depth.

Compaction and backfill shall conform to the City Standard plans.

## SECTION 63

### CAST-IN-PLACE CONCRETE PIPE

**63-1.04 Excavation.**--Cast-in-place concrete pipe shall have a minimum of 36" cover in paved areas.

63-1.07 Backfill.--Backfill of cast-in-place concrete pipe shall conform to the requirements of the City's Standard Plans. Trench compaction shall not commence until the concrete has attained 2,400 psi as per Section 90-9", "Compressive Strength".

#### SECTION 64

##### ASBESTOS-CEMENT PIPE

64-1.01 Description.--The use of asbestos-cement pipe shall not be allowed.

#### SECTION 65

##### REINFORCED CONCRETE PIPE

65-1.02A Circular Reinforced Concrete Pipe.--Concrete pipe shall meet the minimum strength requirements of Class III pipe in accordance with the requirements of AASHTO Designation: M170, unless a stronger class of pipe is shown on the plans.

Non-reinforced precast concrete pipe shall not be used in the public Right-Of-Way.

65-1.03 Earthwork.--Excavation, backfill and culvert bedding shall conform to the provisions of Section 19-3 of these Specifications and of the requirements of the City's Standard Plans.

#### SECTION 66

##### CORRUGATED METAL PIPE

66-1.04 Earthwork.--Excavation, backfill and bedding shall conform to the provisions of Section 19-3 of these Specifications and of the requirements of the City's Standard Plans.

#### SECTION 67

##### STRUCTURAL METAL PLATE PIPE (Shall Apply Without Modification)

#### SECTION 68

##### SUBSURFACE DRAINS (Shall Apply Without Modification)

## SECTION 69

### OVERSIDE DRAINS

(Shall Apply Without Modification)

## SECTION 70

### MISCELLANEOUS FACILITIES

(Shall Apply Except As Modified Herein)

70-1.02L **Excavation and Backfill.**--Excavation and backfill of miscellaneous facilities shall conform to the provisions of Section 19-3, of these Specifications and of the requirements of the City's Standard Plans.

## SECTION 71

### SEWERS

(Shall Not Apply)

71-1.01 **Description.**--Sanitary sewer facilities shall conform to the requirements of the latest edition of the Central Contra Costa Sanitary District Specifications including any and all amendments issued by Central Contra Costa Sanitary District, except as modified in these specifications.

71-1.02 **Excavation and Backfill.**--Excavation and backfill shall conform to the provisions of Section 19-3 of these Specifications and to the requirements of the City's Standard Plans.

71-1.03 **Manhole Covers.**--Manhole covers shall be marked "CITY OF CONCORD" as shown on Standard Plan S-4. The 25" diameter cover and frame (CCCSD Sec. 32-19) is allowed if the street is not a bus or truck route and the traffic index is five (5) or less.

71-1.04 **Sewer Taps**--Taps of existing sewer mains shall conform to City Standard Plan S-23. Taps shall be made by the contractor and inspected by the City prior to backfilling.

71-1.05 **Cleanouts**--Property line sewer cleanouts are required on all sewer systems and shall conform to City Standard Plan S-37.

## SECTION 72

### SLOPE PROTECTION

(Shall Apply Without Modification)

## SECTION 73

### CONCRETE CURBS AND SIDEWALKS

73-1.05 Curb Construction.--Weakened plane joints shall conform to City Standard Plans. Premolded expansion joint fillers are not allowed.

73-1.05B Extruded or Slipformed Curb Construction.--Weakened plane joints shall conform to City Standard Plans.

73-1.06 Sidewalk, Gutter Depression, Island Paving, Wheelchair Ramp, and Driveway Construction.--Weakened plane joints shall conform to City Standard Plans. Premolded expansion joints fillers are not allowed.

## SECTION 74

### PUMPING PLANT EQUIPMENT (Shall Apply Without Modification)

## SECTION 75

### MISCELLANEOUS METAL

75-1.02 Miscellaneous Iron and Steel.--Drainage inlet frames and grates shall be galvanized in accordance with the provisions of Section 75-1.05, "Galvanizing".

## SECTION 76-79 (BLANK)

## SECTION 80

### FENCES (Shall Apply Without Modification)

## SECTION 81

### MONUMENTS

81-1.02 Materials.--Survey marker disks, frames and covers for survey monuments shall conform to the dimensions and details shown on the City's Standard Plans.

All materials shall be supplied by the Contractor.

81-1.03 Construction.--Survey monuments shall be cast-in-place and shall conform to the dimensions and details shown on the City's Standard Plans.

Surplus excavated materials remaining after the monuments have been constructed shall be disposed of outside the Highway Right-Of-Way.

## SECTION 82

**MARKERS AND DELINEATORS**  
(Shall Apply Without Modification)

## SECTION 83

**RAILINGS AND BARRIERS**  
(Shall Apply Without Modification)

## SECTION 84

**TRAFFIC STRIPES AND PAVEMENT MARKINGS**  
(Shall Apply Without Modification)

## SECTION 85

**PAVEMENT MARKERS**  
(Shall Apply Without Modification)

## SECTION 86

### SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS

86-1 General.--The provisions of Section 86 - Signals, Lighting and Electrical Systems shall apply except as modified or supplemented by the latest edition of the City of Concord, "Traffic Signal and Lighting Specifications".

86-6.10 Street Lighting Within the Public Right-Of-Way and Subdivisions.--This subsection shall apply to all LS-2C street light installations required in new developments.

86-6.10A Foundations.--Foundations are to be cast-in-place only and constructed as per P.G.&E. Standard Plan 015136, Sheet 12.

86-6.10A(1)Poles.--Galvanized steel poles shall conform to the dimensions and details shown on the P.G.&E. Standard Plan 015136, Sheet 7. The mounting height shall be twenty-eight (28) feet with a six (6) foot mast arm.

**86-6.10B Heads.**--Heads shall be cobra-type G.E. M-150 or equal for use with high intensity discharge (HID) lamps, 120 VAC system.

**86-6.10B(1)Lamps.**--Lamps shall be high pressure sodium, 70 watts, with internal lumens of 5,800, and a rated life of 24,000 hours and suitable for use on 120 VAC system, with built-in normal power factor reactor-type ballast with twist lock receptacle, wired for 120 VAC operation. The lamp is to be G.E. LU70/BD or equal.

In multiple street lighting, each head is to be under individual photo cell control.

**86-6.10C Conduit.**--Conduit shall be 1-1/2 inch minimum and be as specified in Section 86-2.05, "Conduit". All conduits in street areas shall be rigid metal. All conductors shall be run in conduit. No direct burial shall be allowed. Excavation and backfill shall conform to City Standard Plan S-17.

**86-6.10D Wiring.**--System shall be 3-wire, 1-phase, 120/240 Volt.

Internal Wire, #10 solid copper, PVC, 600 Volt.

Ground Wire, #6 bare solid copper.

Before installing grounding connections on foundation-mounted poles, thoroughly clean the contact surfaces in order to obtain good electrical connections.

**86-610E Service.**--A 13" x 24" splice box, at service point, must state "P.G.&E." on lid and must have box extension when conduit is used.

A pedestal mounted service disconnect shall be installed at the service point and shall be fused.

**SECTION 87  
(BLANK)**

**SECTION 88**

**ENGINEERING FABRICS**  
(Shall Apply Without Modification)

**SECTION 89**

**LIGHTWEIGHT PORTLAND CEMENT CONCRETE**  
(Shall Apply Without Modification)

**SECTION 90**

**PORTLAND CEMENT CONCRETE**

**90-1.01 Description.**--Portland Cement concrete shall be supplied by an approved materials supplier. Mix designs and certificates of compliance shall be sent to the City, for approval, on a yearly basis by the suppliers.

**90-4.04 Required Use of Chemical Admixtures and Calcium Chloride.**--The use of calcium chloride shall not be allowed unless approved, in writing, by the Engineer.

**SECTION 91**

**PAINT**

(Shall Apply Without Modification)

**SECTION 92**

**ASPHALTS**

(Shall Apply Without Modification)

**SECTION 93**

**LIQUID ASPHALTS**

(Shall Apply Without Modification)

**SECTION 94**

**ASPHALTIC EMULSIONS**

(Shall Apply Without Modification)

**SECTION 95**

**EPOXY**

(Shall Apply Without Modification)