



# **SPECIFICATIONS & SPECIAL PROVISIONS FOR DESIGN AND CONSTRUCTION**

CITY OF MONTCLAIR - ENGINEERING DIVISION

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## **SECTION 1 - STANDARD SPECIFICATIONS AND PLANS**

All material used in any work done pursuant to the provisions of this City of Montclair Specifications shall be new, first-class material and shall conform to, and the manner of construction of all work items shall be done in accordance with the “Standard Specifications for Public Works Construction,” and the “Standard Plans,” including latest amendments, that are both written and promulgated by Southern California Chapter of American Public Works Association and Associated General Contractors of America Joint Cooperative Committee herein called “Standard Specifications,” and “Standard Plans,” the City of Montclair Standard Drawings, attached hereto, insofar as the same may apply, and in accordance with the Special Provisions set forth in this City of Montclair Specifications. Traffic Signal and Lighting work shall be done in accordance with the applicable sections of the State of California Department of Transportation (Caltrans) Standard Specifications, dated May 2006, hereinafter called “Caltrans Standard Specifications,” and the Caltrans Standard Plans, dated May 2006.

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

Coordination and Interpretation of Plans, Standard Specifications and Special Provisions shall be in accordance with Part I, Section 2, of the Standard Specifications.

## **SECTION 2 - VARIANCES FROM PROVISIONS**

If a literal compliance with any engineering requirement of this Specification is impossible or impractical because of peculiar conditions in no way the fault of the person requesting an exception, and the purposes of this chapter may be accomplished and the public safety secured by an alternate construction or procedure and the City Engineer so finds, he/she may grant an exception permitting such alternate construction or procedure.

## **SECTION 3 - MATERIALS**

Attention is directed to Part I, Section 4, "Control of Materials," and to Part II, "Construction Materials," of the Standard Specifications for specifications covering concrete aggregates, concrete pipe, miscellaneous metal items, Portland cement, bituminous materials, and other materials to be incorporated into the work. Certificates of Compliance may be required on all pipe materials.

All materials furnished and all work performed shall be subject to inspection by the Engineer. The City will hold strictly to the true intent of the Specifications and Drawings in regard to quality of materials and workmanship. Such inspection may include mill, plant, shop or field inspection as required. The Engineer shall be permitted access to all parts of the work, including plants where materials or equipment are manufactured or fabricated, and he shall be furnished with such materials, information and assistance by contractors and any subcontractors and suppliers involved in building Public Works facilities. As is required to make a complete and detailed inspection.

Work done in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the City and used in the work thus removed, shall be borne by the party doing such work regardless of whether the work removed is found to be defective or not. Work covered up without the authority of the Engineer shall, upon order of the

Engineer, be uncovered to the extent required, and the party shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement as directed and approved by the Engineer.

#### **SECTION 4 - PERMITS AND LICENSES**

Unless otherwise specified, the parties involved in designing and constructing Public Works facilities shall procure all permits and licenses, including a business license to do business in the City of Montclair, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

#### **SECTION 5 - PUBLIC CONVENIENCE AND SAFETY**

The City may require construction progress schedules and a program for traffic maintenance that shall conform to the provisions in Section 6 and 7 of the Standard Specifications and that shall indicate order proposed to accomplish completion of the work allowing for public convenience and safety. If required, no work will start until these schedules have been approved by the City Engineer.

#### **SECTION 6 - SEWER SYSTEM**

**6-01 Sewer System Design:** The design of all new main line sewers, building laterals, and sewage pumping plants shall conform to provisions of this Section unless otherwise specifically excepted.

**6-02 Sewer Service for Large Parcels:** When a lot or parcel of land is of sufficient size the zoning regulations do not prohibit its division into smaller parcels, each of such possible parcels into which such lot or parcel of land legally may be divided, upon which one or more buildings containing plumbing facilities are or may be located, shall be considered as a separate parcel of land. Separate house laterals shall be designed and constructed to the main line sewer from each

of such parcels except as to variances permitted pursuant to the provisions of this Specifications and except when the lot or parcel of land is occupied by an industrial building. If the main line sewer does not extend to a point from which such parcels of land can be served, the property owner shall design and construct a main line sewer so that such parcels may adequately be served.

**6-03 Conformance of Work and Plans to Design Standards:** All plans required by the provisions of the Section for the construction of main line sewers and house laterals shall conform to the standards of design prescribed by the section.

**6-04 Main Line Sewer - Size:** Main line sewer pipe shall have an inside diameter of not less than eight (8") inches and shall have sufficient capacity to carry sewage from the area tributary thereto when computed upon the following basis:

- (a) For R-1 Zones, per acre 0.004 cubic feet per second;
- (b) For R-2 Zones, per acre 0.008 cubic feet per second;
- (c) For R-3 Zones, per acre 0.012 cubic feet per second;
- (d) For C Zones, per acre 0.016 cubic feet per second;
- (e) For light industrial areas, per acre 0.016 cubic feet per second; and
- (f) For heavy industrial areas, per acre 0.21 cubic feet per second.

Individual plant capacities shall be the determining factor when they exceed the coefficients set forth in this section.

The City Engineer shall determine the classifications set forth in this section and shall approve any modifications thereof.

**6-05 Main Line Sewer - Velocity:** A main line sewer shall be designed to provide a minimum velocity of two (2) feet per second for pipes flowing one-half (1/2) full except that the City Engineer may approve a gradient which will develop a lower velocity if he/she finds that a gradient which will develop a velocity of two (2) feet per second is obtainable.

**6-06 Main Line Sewer - Grades:** The slope of the sewers shall be shown on the plans in feet of fall per 100 feet of horizontal distance expressed as a percentage. Slopes used expressed in percentages shall be divisible, without remainder, by four (4). For example, 0.36% complies with the provisions of this section.

**6-07 Main Line Sewer - Location in Streets:** Main line sewers shall be located not more than five (5) feet from the center lines of streets or alleys except on major highways where separate sewers shall be located in roadway six (6) feet from either curb line.

Exceptions to the standard locations set forth in this section may be made only upon approval of the City Engineer.

**6-08 Main Line Sewers and Building Laterals - Depth:** The minimum depth for main line sewers shall be six and one-half (6-1/2) feet. The minimum depth for building laterals shall be five (5) feet below the curb grade or center line street or alley grade at the property line.

Exceptions to the minimums set forth in this section may be made only by approval of the City Engineer.

**6-09 Manhole Structures:** Manhole structures shall be placed in the main line sewer at all changes of alignment and gradient. The maximum distance between manhole structures shall be 350 feet. All such structures shall be designed according to the standard drawings for manhole structures on file in the office of the City Engineer.

Exceptions to the requirements set forth in this section may be made only on approval of the City Engineer.

**6-10 End Structures:** End structures shall be located ten (10) feet upgrade from the downgrade lot line of the last lot served unless greater length is necessary to serve the property.

**6-11 Building Laterals:** Six (6) inch or four (4) inch building lateral service shall be provided in the street for each lot at the minimum depths provided by Section 6-08 of this section, and, in addition, such depth shall be sufficient to provide a connection to the lowest and/or farthest point of the lot with a cover of one foot and a grade of not less than two (2%) percent.

The alignment and grade of a building lateral shall be straight from the public sewer to the street property line and shall have a fall of not less than one foot in fifty (50) feet towards the public sewer except as otherwise permitted by the City Engineer.

When laid within the limits of a public thoroughfare, no building lateral shall be laid less than five (5) feet below the established grade of the same or below the surface, when no grade is established, except by special permission in writing from the City Engineer.

**6-12 Sewer - Pipe Strength:** Vitrified clay pipe used for sewers shall be:

- (a) Extra strength for sewers less than twenty (20) feet in depth;
- (b) Extra strength reinforced with concrete cradle or concrete encasement for sewers
- (c) Extra strength encased in concrete or placed inside of steel pipe backfilled with sand for sewers under railways;
- (d) Reinforced as required by the City Engineer for sewers under large conduits or other structures.

**6-13 Sewer - Pipe Kinds and Sizes:** All sewer pipe shall be either clay, or cast iron. All clay pipe shall be first-class; extra strength vitrified clay pipe. All cast iron pipe four (4) inches or six (6) inches in diameter shall be service weight or better cast iron soil pipe. Cast iron pipe eight (8) inches or larger in diameter shall be Class 150. That portion of the pipe extending from the public sewer to the property line shall be not less than four (4) inches in internal diameter.

**6-14 Construction Plans for New Mainline Sewers:** Plans are required for all new mainline sewers and shall be prepared on City Standard Plan and profile plan sheets. All substructures which will be encountered in the construction or which will be installed as part of the improvement shall be shown and designated on the new portion of the plan. Large substructures and utilities which require special treatment in the design of the sewer shall also be shown in the profile.

Soil conditions, particularly in areas known to have high ground water tables, rock, or filled ground, shall be prospected and the results shall be shown on the profile, if required by the City Engineer.

**6-15 Bench Marks:** A system of bench marks adequate to construct the work shall be shown on the profile.

**6-16 Standard Plans or Drawings:** Certain City Standard drawings that shall be used for design and construction of sewer facilities in Public Rights-of-Way are attached hereto. For items not covered by these City Standard drawings, appropriate Standard Plans for Public Works Construction promulgated by the joint committee of the American Public Works Association and the Associated General Contractors of California shall be used.