

## SECTION 3

### IMPROVEMENT PLAN REQUIREMENTS

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## SECTION 3 IMPROVEMENT PLAN REQUIREMENTS

**3-1 DIGITAL SUBMITTALS:** At the discretion of the Director, plans prepared on computer may be submitted in digital format for checking. Only plans prepared using AutoCAD (version determined by Director) will be accepted. Plans may be submitted on disc or via e-mail, as required by the Director. Digital plan submittals shall include all that is required in section 2-5 of these standards.

**3-2 PAPER SIZE AND SCALE:** All improvement plans shall be submitted on 22" by 34" or 24" by 36" paper. Only common engineering scales shall be used.

**3-3 DRAFTING STANDARD:** All plans approved by the County will be scanned and stored in a document management system. Therefore, all line work must be clear, sharp and of appropriate weight. Letters and numerals must be 0.1-inch minimum height, well formed and sharp. Line work shall not intersect numerals showing profile elevations. Sharp solid arrowheads shall terminate dimension lines.

**3-4 TITLE SHEET:** All improvement plans shall have the following information as a minimum on the cover sheet:

- A. The entire subdivision or parcel and project
- B. Assessment district limits (if applicable)
- C. City limits (if applicable)
- D. Street Names and Widths
- E. Adjacent subdivision, including names, lot lines and lot numbers
- F. Property lines
- G. Public easements
- H. Location map
- I. Scale of drawings, including scale bar
- J. Index of sheets
- K. Legend of symbols
- L. Signature and revision blocks conforming to Standard Drawing G-1
- M. Benchmark information

**3-5 TITLE BLOCK:** Each sheet within the set of drawings shall have an approved title block showing the following:

- Sheet title
- Sheet number
- Date
- Scale
- Consulting Engineer's name, signature and seal. Signature may be placed across the seal.
- Project title

The title block shall be either across the bottom or along the right edge of each plan sheet.

**3-6 DRAINAGE, SEWER, WATER AND GRADING LAYOUT:** On all subdivision plans, a separate plan is required for each of the following:

- Water
- Streetlights
- Grading and erosion control

In addition, the storm drainage, sanitary sewer, and water systems shall be shown on the plan and profile sheets. On all other plans, a composite plan layout will be acceptable but the above facilities shall be shown within the development and on plan and profile plans.

All plans showing the domestic water systems shall include signature blocks and be approved by the responsible water and fire. The signature block shall conform to Standard Drawing G-1 and shall be situated near the lower right hand corner of the first sheet of the water plans.

**3-7 PLAN DETAILS:** In addition to the other requirements of these Improvement Standards, the following details shall be shown on the plans submitted for approval. This does not in any way exempt the Consulting Engineer preparing plans from the responsibility of preparing neat, accurate and comprehensive plans in keeping with the standards of the profession.

**A. Record Information.** All existing and proposed:

- Right of Way lines
- Boundaries of lots fronting on the street
- Easements
- Both on-site and off-site right of way and easement lines shall be properly dimensioned.

**B. Existing Facilities.** All pertinent existing facilities shall be shown, including:

- Street striping
- Medians
- Driveways (on both sides of the street when within 40 feet of the median ending)
- Curbs
- Sidewalks
- Pavement shoulders
- Location and size of all underground utilities, storm, and sanitary sewer lines,
- Limits of 100-year flood plains
- Structures
- Trees (6" and larger) and other foliage
- Traffic signals and traffic detector loops

- Street lights, pullboxes, and underground electrical conduits
- Drainage ditches
- Utility poles
- Fire hydrants
- Retaining walls
- Any other features of the area which may affect the design requirements for the area.

When the potential utility conflict exists, the Consulting Engineer shall verify "as built" elevations for the utilities. For existing structural sections, the grade of the cross slope on the road and 20 feet into the property at driveways shall be shown.

- C. Contours and Elevations**--Existing contours and supporting spot elevations shall be shown on all plans. See Section 10 for offsite requirements.
- D. Profiles**--The plans shall show the existing profile of all roadway centerline, edges of pavement, gutter flow lines, drainage ditches, storm and sanitary sewers. Designs of proposed public improvements shall include profiles showing centerline elevations at 50-foot intervals and rates of grades, vertical curves and other vertical alignment data. When curbs and gutters are designed for reconstructed County roads, elevations shall be shown on the edge of the outside traveled way, or if the road has a full paved section, shall also be shown two feet from the proposed lip of gutter. Designs for vertical curves shall show elevations at 25-foot intervals. Where it exists, county stationing shall be used for profiles of public roads. The Consulting Engineer shall contact the Transportation Division of the Public Works Agency for such stationing.

The plans shall show the existing ground profile for a minimum distance of 200 feet beyond temporary street endings to insure proper vertical alignment within the proposed improvement limits. The 200-foot minimum shall be increased when requested by the Director.

- E. Stationing and Orientation**--The stationing on plan and profile shall read from left to right. Stationing shall increase from south to north or from west to east, except for cul-de-sacs, where stationing shall proceed from the intersection. Plans shall be so arranged that the North arrow points toward the top or upper 180 degrees, insofar as practical.
- F. Bench Marks**— Location, description, and elevation of benchmarks and datum shall be clearly delineated on the plans. The datum shall be 1929 North American Datum (U.S.G.S. or U.S.C.& G.S.). Consulting Engineers shall contact the Surveying Section of the Public Works Agency for location and elevation of the official benchmark nearest their project.
- G. California Coordinates System**--The Director may require that proposed improvements be tied into the California Coordinates System if monument

coordinate points are available within a reasonable distance (200 feet or less) of said improvement as determined by the Director.

- H. **Cross-Sections**--Cross sections shall be included in the plans where determined necessary by the Director. Sections shall include all pertinent structural and topographical features. Section calls shall be identified by a number and letter and the sheet on which the section appears.
- I. **Special Notes**--Special Notes shall be clearly indicated. Notes shall contain a statement regarding obtaining encroachment permits from other agencies when applicable.

**3-8 REQUIRED NOTES:** A list of County required notes may be obtained from the Public Works Agency and shall be included on all improvement plans submitted to the County for approval.

**3-9 STANDARD DRAWINGS:** Consulting engineers shall not include the standard drawings included herein on improvement plans, but shall refer to the drawing by number. If a variance to a standard drawing is intended, the drawing shall be shown with the variance noted.

