

## **SECTION 1 CONSTRUCTION PLAN REQUIREMENTS**

### **1.1 General Formatting**

General formatting, copying, and submittal processes shall include:

- A. Plans shall be drawn on vellum or high-quality bond plan sheets or plan and profile sheets, 36 inches horizontal by 24 inches vertical.
- B. Each sheet shall include:
  - 1. Standard Town of Los Gatos border and title block for public projects.
  - 2. The project title appearing in the title block along with the Town's project number, if public project, or street address for private development projects.
  - 3. Sealed and signed by a Professional Civil Engineer or Surveyor, as appropriate for the project, licensed in the State of California.
  - 4. Scale, north arrow, datum, legend, date, and general notes.
  - 5. Description, location and elevation of all bench mark data available on the project site or adjacent to site.
  - 6. Improvements to be constructed shall be shown with solid lines.
  - 7. Future improvements shall be shown and labeled with dotted lines.
  - 8. Existing improvements shall be shown with screened lines.
- C. Survey control and elevations shall be in accordance with Section 1.2, "Town of Los Gatos - Basis of Mapping and Survey Control."
- D. Engineering design drawings shall be submitted in accordance with this standard system:

Cover Sheet including the following:

- 1. An overall drawing of the proposed construction area including street names and lot numbers.
- 2. Vicinity map showing the proximity of the project to major roadways or cities. Project shall be outlined on map.

3. Name of Developer.
4. Name of Engineer.
5. General notes.
6. Benchmark and Basis of Bearings.
7. Signature blocks of all involved agencies.
8. Index of plan sheets.

Detail Sheet showing all design details and specifications for construction.

Separate Sheet for storm drainage, water, sewer, grading, demolition, horizontal control, utility, and street design. Scale shall be 1" = 20' for design sheets.

E. Storm Drainage/Sanitary Sewer/Water Quality Treatment/Detention Plan and Profile

1. Label all cleanouts, manholes, and catch basins in sequential number indicating size, location, and type on the Plans. In profiles, label rim and invert elevations as well as catch basin or manhole size and type.
2. Include flow direction arrows on all storm drain pipes.
3. Label pipe size, length, material and slope in plan or profile.
4. Include horizontal and vertical datum and benchmark information on each plan and/or profile sheet.
5. Show spot elevations of pavement in parking lots, and runoff flow direction arrows.
6. Show all stub-out locations for future connections.
7. Show location of outfalls and include section details for outfalls in grading or street improvement plans.
8. Show and label the following for all stormwater facilities:
  - a. At least two cross-sections through detention pond. One cross-section shall show the control structure.
  - b. Location and detail of emergency overflows and spillways.

- c. Invert elevations of all pipes, inlets, tanks, vaults and spot elevations of the pond bottom. Call out pond volume and dimensions, and design surface elevation.
  - d. Plan and section views and details of all rock protection and energy dissipaters.
  - e. Section and plan view on restrictor/control structure; detailed, including size and elevation of orifices.
  - f. Show length, width, and bottom width dimensions for all bio-filtration and water quality swales and stormwater conveyance swales. Include sectional view, showing side slopes and design depth of flow.
  - g. Include seeding material information for erosion control.
- F. Engineering design calculations shall be submitted for review where applicable:
- 1. Water and sewer pipe sizing.
  - 2. Hydrologic and hydraulic analysis and report.
  - 3. Geotechnical and Geologic report.
  - 4. Design of roadway section.
  - 5. Traffic Impact Study.
  - 6. Structural, foundation, and stability calculations for retaining walls, bridges, embankments, etc.
- G. Erosion control plans for construction shall be submitted for review:
- 1. Temporary erosion and sedimentation control plan, showing the control measures intended to minimize the effects of erosion due to construction operations shall be submitted with the plans.
  - 2. Traffic control plan.
  - 3. Timing schedules and sequence of development clearing, including stripping, rough grading, construction, final grading, and vegetative stabilization.
- H. Before final acceptance, the Applicant shall provide the Town of Los Gatos with certified as-builts vellum stamped by a registered civil engineer licensed in the State of California within 30 days of the final inspection.

All final as-built drawings shall also be submitted as Autocad release 2004 or later version. The submittal shall be on a CD.

The as-built drawings shall include final plat information including right of ways and easements. The as-built drawings shall certify that the facility has been constructed as shown on the as-built plans and meets approved plans and specifications. They shall include but not be limited to the information as outlined in the individual Sections of these Standards.

- I. All work shall be performed in accordance with the current edition of Standard Specifications and Plans prepared by the State of California Department of Transportation and the American Public Works Association (APWA) and the Town of Los Gatos Engineering Design Standards.

## **1.2 Town of Los Gatos - Basis of Mapping and Survey Control**

The Town of Los Gatos has established 60 survey control monuments throughout the Town to be used as the official survey control benchmarks. All surveying and engineering related work shall use these monuments. All monuments are 3.5" brass disks set in concrete in a metal casing. The lids are marked "Control Monument".

Copies of full size survey control monument maps are available at the Public Works Department Office located at 41 Miles Avenue.

## **1.3 Horizontal Plan and Profile Elements**

Profile plans shall be submitted together with horizontal plans if appropriate. Horizontal plan and profile elements shall include the following:

- A. North arrow.
- B. Centerline with stationing of construction as the major line in the plans.
- C. Tics for each even 100-foot station along the centerline of construction. Stationing shall increase from west to east or south to north.
- D. Stationing at points of curve, tangent, and intersections with ties to sections and/or quarter corners surrounding the improvement. All construction features should have station and off-sets from station line.
- E. Section, township, range, lines, and breakdown to boundaries of subdivision.
- F. Right-of-way lines and width for existing and proposed roads and intersecting roads.

- G. Topographic features within the right-of-way limits and sufficient area beyond to resolve questions of setback, slope, drainage, access onto abutting property, and road and utility continuations. Contour interval maximum 2-foot. Topographic features shall show at least 50 feet beyond the limits of the project.
- H. Centerline horizontal curve data including radius, delta, arc length, and tangent distance on all horizontal curves.
- I. Lot lines and numbers.
- J. Proposed improvements including location of buildings or other structures, impervious surfaces, landscaping, and other improvements, together with finished contours and elevations.
- K. Locations of all existing underground and surface installations and utilities in relation to the centerline of construction stationing and its offsets.
- L. Existing and proposed wetlands, watercourses, drainage features, storm drainage facilities, and areas to remain undisturbed, if applicable, indicating location (station & offset) direction of flow, size, and kind of each drainage channel, pipe, and structure.
- M. For earthwork, show cuts and fills, catch points. Earthwork quantities for private development projects shall be broken down as: 1. Building Foundation Excavations; 2. Driveway and Access Road; and 3. Site Grading.
- N. Typical roadway sections of proposed road and the location.
- O. Scale shall be 1 inch = 20 feet.
- P. Street signs and pavement markings required by the current Manual of Uniform Traffic Control Devices and Town of Los Gatos Engineering Design Standards.
- Q. Location of easements, including permanent drainage easements and temporary construction easements.
- R. Entire width of both sides of adjoining streets showing driveways, wheelchair ramps, sidewalks, street lights, trees, traffic signs and any permanent markings.

#### **1.4 Profile Elements**

Profile elements shall include:

- A. Scale shall be as follows:

1. Where there is 10 feet or less of vertical differential in the street or utility design profile on any sheet, the vertical scale shall be 1 inch = 2 feet.
  2. Where there is more than 20 feet of vertical differential in the street design profile on any sheet, the vertical scale shall be 1 inch = 5 feet.
- B. Stationing in the profile shall line up vertically with the same stations in the plan as closely as practical.
  - C. Show profile of original ground lines with elevations at 100-ft. stations and at significant ground breaks and topographic features, along the center line of construction.
  - D. Provide profile of the design crown line of the new street or proposed utility lines.
  - E. Provide grades at 25-foot intervals on vertical curves, at point of intersections and at angle points.
  - F. Show the lengths of vertical curves and the gradients of each tangent.
  - G. Show superelevation criteria where utilized. For roadways, profiles for both curb lines are required.
  - H. A profile of each storm drain, catch basin, manhole, or culvert shall be shown in its entirety.
  - I. Show profiles for water, sewer and storm lines and show all utility crossings including electric, gas, telephone, and cable lines.